Hungarian University of Agriculture and Life Sciences

DEVELOPMENT PROSPECTS AND CHALLENGES FOR IMPROVED LIVELIHOOD IN AFAR NATIONAL REGIONAL STATE, ETHIOPIA

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Lists of Abbreviations

ANRS	Afar National Regional State
WHO	World Health Organization
ERA	Ethiopian Roads Authority
GDP	Gross Domestic Product
GNP	Gross National Product
HDI	Human Development Index
GTP	Growth and Transformation Plan
UNESCO	United Nations Educational, Scientific and Cultural Organization
GER	Gross Enrolment Rate
ILO	International Labour Organization
NER	Net Enrolment Rate
GEQUIP	General Education Quality Improvement Program
BoFED	Bureau of Finance and Economic Development
BoLANRD	Bureau of land, agriculture, and natural resource Development
CSA	Central Statistics Agency
ICT	Information and Communication Technology
GSM	Global System for Mobile
GI	Gini Index
GHE	Government Health Expenditure
M.a.s.l.	Meters above sea level
VAT	Value Added Tax

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1. INTRODUCTION

1.1. Importance of the Study

Economic development has long been considered as an important process in asserting improved life standard and prosperity. The main goal of regional and local economic development is to improve the quality of life as a result of improved economy by building the economic capacity of a region. Nowadays countries have focused on improving quality of life and standard of living and it has become a global issue (UN-HABITAT, 2013) although it is difficult to achieve it (COWEN, 2016).

According OECD (2014), regional development incorporates all aspects of development such as social, cultural, economic and environmental since taking GDP alone as a measure of regional development is criticized by several researchers (MICHALEK and ZARNEKOW, 2012) for not incorporating economic, social and environmental aspects of development, and for not explaining the income distribution, satisfaction of basic needs and social status of the community (VANDEN and ANTAL, 2014). Regional economic development requires basic infrastructures such as hard infrastructure (roads, rail, water, sewerage and drainage systems, and energy and telecommunications networks) and soft infrastructures such as social, cultural and community facilities and capacity. The availability and quality of both types of infrastructures are the cornerstones of regional economic development.

Afar National Regional State (ANRS), one of the 10 regional states in Ethiopia, has been given the opportunity of self-ruling by the federal constitution since the establishment of Regions (kililoch in Ethiopian national language) in 1995. Since then, several reforms have been made with the emphasis of stimulating economic growth to reduce the poverty level and ensure equitable growth across the country without any types of discrimination which resulted in policy development and consequently reduced the level of the poverty. Yet in many aspects of development, the region is one of least developed administrative regions in the country.

The agriculture sector, especially animal husbandry is the economic basis of the region's pastoralists. This is explained by the proportion of people in the region engaged in the agricultural activity, the fact that animals and animal products are the main sources of food, and sources of income of most of the population. Pastoralism as a system has long been considered as the mainstay of the Afar society in such a way that majority of the community has relied on it. Livestock population in the region for sampled two zones out of 5 zones was estimated to be 1.3 million cattle, 1.7 million sheep, 3.4 million goats, 474,146 camels, 102, 695 equines and 415

beehives (CSA, 2018). Besides the livestock production, agricultural cultivation such as production of maize, beans, sorghum, papaya, banana, and orange is also practiced.

Pastoralism has a significant contribution to countries national GDP (10%-44%) and worldwide over 1.3 billion people are estimated benefiting from livestock value chain (WISP 2016). According to CELEP(2017), 20 % of the national export and 90% of live animal export of the Ethiopian trade, and 80% of annual milk supply to the Ethiopian community resulted from the pastoralists.

These figures indicate that while there are suitable conditions in place to empower the region to forge its own contextualized developmental scheme, the challenges in the attempts to realize regional development plans are immense. Therefore, exploring the prospects and challenges of development in the region in different dimensions is vital for achieving targeted development objectives and goals. Thus, this dissertation is aimed at examining the prospects and challenges of development in the region.

1.2. Statement of the Problem

Improving living standard and reducing poverty is the priority of any government, therefore requires assuring sustainable development. The region is rich with untapped natural resources such as nationally recognised parks, minerals (such as potash, gold, salt, etc.), energy, and tourism destinations which can help boost the local and regional economic development and improve quality of life.

Yet the region is one of the least developed. For example, 74% of the afar people are under lowest wealth quintiles compared to Addis Ababa or Harari with 0% and 9% of their population residing to the lowest quintile respectively (UNICEF, 2019). This figure is more supported by earlier demographic report of the Ethiopian government indicating Afar region is the poorest with the same figure(CSA, 2016a).

Enrolment rate in the region at pre-primary education is only 13% and it is very low compared to the national 42.5% (UNICEF, 2019). In addition, only 48% of primary school-aged children are enrolled in the region. This figure is much lower compared to Somali region which is also a pastoral region (73%) (UNICEF, 2019). Evidence from statistical agency shows that the highest (about 69%) of Afar women are not totally educated with lowest median number of years of education for women is 0.0%.

The health services in afar region is also rated as inadequate and poorly equipped, scarce, difficult to access, and does not fit the livelihood system of the pastoral community (NEJIMU and HUSSEIN, 2013). Moreover, Nejumu and Hussein also revealed that teen motherhood is highest in Afar (23%) compared to other regions in Ethiopia. Child mortality (under five) is the highest in Afar region with 125 deaths. In addition to this, institutional delivery is lowest in Afar region accounting for 15% and skilled workers assisted are 16% in afar which is the lowest in the country. Service delivery in pastoral area is also very low indicating marginalization of the pastoralist communities by governments and policy makers (AHMED, 2011).

Though pastoralism plays a prominent role in the livelihood of inhabitants, their contribution to the economy has been ignored by national policies and focused at modernizing them by transforming the pastoralists into agriculture which is assumed to be the best way to ensure development and avoid or minimize poverty. The economic contribution of the sector has been ignored. For example, in Ethiopia, the contribution of livestock production to the agriculture was 47% in 2009 though this figure was underestimated by the nation, and this underestimation resulted from unofficial exports around the inter boarder trades (IGAD, 2013).

Despite the efforts made in the last two decades, the region's economic development and living standards of the community is low. Several research works can be taken as evidence where the people of Afar are still suffering from food security, undernourishment, lack of water and grazing areas. According to research conducted by SIRAJEA and BEKELEB, (2011) in some districts of the region indicates the percentage of population living below poverty line is as high as 64.8%. Recent study by TEKA et al. (2019) found that the level of poverty reduction in ANRS is slow compared to other regions since 1995/96 where official poverty data compilation begun. Moreover, the progress regarding reduction poverty level in Afar region since 1995/96 is much slower compared to regions who had higher poverty level by that time (TEKA et al., 2019), indicating the poverty status of ANRS is higher than the national average (DEREJE and OKOYO, 2015).

The regional development strategies and policies implemented so far such as safety Net, aids, and permanent resettlement programs didn't bring much change in the livelihood of the pastoral and agro-pastoral community. Even though the region is rich with untapped natural resources such as tourism destinations, biodiversity, minerals, energy, and cultural heritages which can help boost the local and regional economic development and hence can improve the living standard of the community (CHINOGWENYA and HOBSON, 2009), ANRS is still suffering from poverty and with poor social service provisions and infrastructural development.

It is well understood that every region has distinct characteristics which may enhance or hamper the development potential. Such distinct opportunities and challenges determine the status of the regions development by attracting investments to properly utilize the development potential of the region. It is therefore important to identify available development potentials and bottlenecks of development. This research is therefore, mainly wants to answer the following research questions.

1. Different development programs and strategies are expected to be implemented by the government in order to assure sustainable development. One of the research questions to be answered by this research will be "what are the economic development activities have been initiated and implemented since 1991"?
2. ANRS is categorized among the least developed regions in Ethiopia. Despite the establishment of self-ruling political governance in the country, the overall evaluation of indicates the low development progress in the region. Therefore, the researcher would like to answer the question "why is the region still under-developed"?
3. Wealth levels of families are expected to affect the tendency of sending children to school. Hence, this research wants to answer the question "how the family wealth levels affect child education"?
4. The majority of Afar people are pastoralists who have been dependent on livestock production. Therefore, in order to evaluate the efficiency of the current pastoral system, the researcher would like to answer the question "how the traditional pastoral system can improve the livelihood of pastoral community"?
5. The government of Ethiopia has been focused on resettling the mobile pastoral community as a long-term pastoral community development program. This research, therefore, would like to analyze why the permanent Resettlement of pastoral community is considered as necessary precondition to improve the livelihood of the community.
6. Undoubtedly every region in the country has different resources which can boost the development of their respective region. The issue that must be raised is how efficiently they have been used. Hence, this research would like to answer the question "how the region has utilized development potentials"?
7. This research will also try to look for available options for sustainable development in the region by answering the question of how the livelihood of the pastoral community be developed.

This dissertation has tested the following hypotheses.

Hypothesis One: Livelihood choice depends on several factors. This dissertation, is therefore, would like to test if the hypothesis that "there is no significant difference among male and females regarding preference of way of livelihood".

Hypothesis Two: Livelihood choice depends on several factors. This dissertation, is therefore, would like to test if the hypothesis that "there is no significant difference among age groups regarding preference of way of livelihood?

Hypothesis Three: Livelihood choice depends on several factors. This dissertation, is therefore, would like to test the hypothesis that "there is no significant difference among current livelihood system regarding preference of way of livelihood".

Hypothesis Four: There is no significant difference among female and male communities regarding importance of education

Hypothesis Five: There is no significant difference among different wealth levels regarding importance of education

Hypothesis Six: There is no significant difference among different age groups of communities regarding importance of education.

Hypothesis Seven: There is no significant difference among different livelihood system of communities regarding importance of education.

2. OBJECTIVES OF THE RESEARCH

The main objective of this research is to identify the available development potentials and the main bottlenecks linked to it so that the regional economic development is improved and livelihood of the community be enhanced. Moreover, the research specifically aims at achieving the following objectives.

1. Understanding the status of demographic factors such as population growth, fertility rates and life expectancy helps develop good policies and devise appropriate strategies. This dissertation, therefore will analyze demographic and socio-economic status of the region
2. There are different factors which halt the economic development of a region. Identifying such factors will enable decision makers to prioritize on tackling the challenges. One of the objectives of this dissertation, therefore is to analyze the determinant factors of development of the region
3. It's difficult to prepare a good plan unless the available potentials are identifies. This dissertation also aims at exploring the development potentials in the region to make sure the available key development resources are well utilized.
4. Despite there are different ways of livelihood, the majority of the afar communities have been practicing pastoralism as their main livelihood base. One of the main objectives of this dissertation, hence, is to see if pastoral system is the only option for livelihood
5. The government has been implementing different livelihood improvement programs in the region. Resettlement/villagization program was the main project the government has planned as a long term development program in pastoral areas including Afar. Analyzing its status would help decision makers to either continue with it or rethink some other sustainable development program other than resettlement. Another objective of this dissertation is to analyze the status of pastoral community resettlement programs in the region.
6. Policies and strategies play a significant role in improving the living standard of a community by utilizing available development potentials. This dissertation, therefore, aims at analyzing the development policies and strategies implemented in the region.

3. LITERATURE REVIEW

3.1. Structure of ANRS Economy and Livelihood

Similar to the national economic base, the economy of ANRS is mainly based on agriculture although the industry and service sectors have a significant share where aagriculture sector in the region constitutes mixed crop-livestock farming (agro-pastoralism) and livestock farming (Pastoralism). Agriculture remains the main source of food and cash for Ethiopians. Most of the agricultural holders get the food they consume and cash they need to cover other needs to survive. The difference between these two broad and agricultural classifications mainly stems from sources of income. Hence, the majority of the Afar community are pastoralists who solely depend on livestock and livestock products whereas there are small proportions of the afar community who are engaged in both crop farming (permanent and temporary) and livestock production for their livelihood.

Pastoralism is one of the main livelihoods in the world's dry lands through livestock production by conserving the rangeland biodiversity and protecting ecosystem on more than one-fourth of the world's rangeland pastoralists occupy (UNEP, 2014). It is a system of rearing animals such as camels, goats, cattle and sheep for milk and meat as source of food, nutritional security which is practiced by almost 1 billon poor people in developing countries (FRANS et.al, 2010). About 40% and 30% contribution to agricultural GDP of world and developing countries respectively comes from livestock (WORLD BANK, 2009).

Ethiopia is among the developing countries with huge potential of livestock where 12% of Ethiopia's 74 million people were pastoralists (CSA, 2016b). According to ABDULAHI (2019), the pastoral community in Ethiopia covers 61% of the country’s land who mostly characterized for their mobile livelihood system to cope up challenges and assure efficient and sustainable use of natural resources. Ethiopia is the leading country in Africa and 5th ranking in the world with livestock population FAO (2015), accounting for 60.39 million heads of cattle, 31.3 million sheep, 32.74 million goats, total poultry population (includes cocks, cockerels, pullets, laying hens, non-laying hens and Chicks) 60.04 million, 11.32 million equines (donkeys, horses, mules), 6.5 million beehives and 1.42 million camels, distributed in all the administrative regions CSA (2018). According to FAO (2018), 70% of the Ethiopia households fully or partially depend on livestock and livestock production.

Livestock plays an important role in the lives of the entire population, for example, 90 % of employment opportunities and 95% of the family income and security in arid and semi-arid land

of Kenya derived from pastoralism (CELEP, 2017), and has not lost its economic, political and social relevance to Afar people (TSEGAYE et al., 2013). Despite the recent recognition of its economic importance (CHINOGWENYA and HOBSON, 2009), development in pastoral area of Ethiopia (for example the Afar pastoralists) has been considered as backward system and marginalized for very long period of time (JAMES et al. 2014) due to the rooted misconception that pastoralism is not economically feasible and environmentally unfriendly way of livelihood which led government authorities to inspire pastoralists to settle. Moreover, TEKA et al., (2019) explained the attention given by policy makers as poor leaving the pastoral communities to remain marginalized despite slow improvements observed.

Hence, food security has come one of the concerns in pastoral areas of Ethiopia compared to the other areas (non-pastoralists) where the poverty level reduction is much better (MOHAMMED, 2012). Moreover, the multi-dimensional poverty became the characteristics of the livelihood of Ethiopian pastoral community (DEREJE and OKOYO, 2015; FIREHIWOT and YONAS, 2015; RETTBERG, 2010). A research conducted by DEREJE and OKOYO, (2015) found that the poverty status of ANRS is higher than the national average. Comparing the poverty level among pastoralists and agro-pastoralists, a study conducted by GEMTESSA et al., (2005) in comparison of poverty level between pastoralists, agro-pastoralists and farmers revealed that the poverty was higher in agro-pastoralists than the pastoralists. Contrary to this, recent study done by OGATO et al., (2009) showed the presence of high level of poverty, poverty gap index and poverty severity index in pastoral areas compared to agro-pastoral and farming rural communities. This result is supported by a recent study conducted by WFP (2011) indicating that the poverty level of the pastoral community is worse compared to the non-pastoral communities in the country. Another research conducted on poverty status of Kenyan pastoralists by KRISTJANSON et al., (2009) using an asset-based approach concluded that the highest poverty increase (27%) has been observed in pastoral community of Kenya such as Wajir, Marsabit and Tana River districts due to poor health and expensive health care, death of a main income earner, and death of livestock due to climate. Furthermore, ABUBEKER et al., (2012) found that about 52.5% of the 180 agro-pastoral households of Asayta who were involved in his study were living under poverty line where the poverty gap index and poverty severity index were 0.16 and 0.07 respectively. Similar research conducted earlier by SIRAJEA and BEKELEB (2011) on 120 households in Chifra district shows that 64.8% were below poverty line. These two districts are better in terms of infrastructure and location advantage as they are near to the regional capital. By looking the poverty level figures in the two districts with better access to many development factors, one can imagine what level of poverty might be in the other disadvantaged districts.

Ethiopia in general and pastoral areas in particular is rich in livestock potential which can be used as source of foreign currency. But, Poor access to marketplaces, recurrent drought, and weak infrastructure are among the factors affecting the livelihood of the afar people. This situation forced the rural pastoral community to depend on different kinds of aids (FIREHIWOT and YONAS, 2015; LEMESSA, 2015). According to NEGASSA et al., (2011), the livestock supply chain of Ethiopian market is too long due to the number of intermediaries which doesn't have any value-added activities other than cost of transactions. The involvement of intermediaries such as trackers, brokers, collector, agents, small, medium and big scale buyers, butchers etc. increased the cost of live animals and make life difficult to the end users. In the meantime, besides the transportation cost, most of the live animals move long distance which force them lose weight and decrease their quality of both meat and hide. The other important factor in Ethiopian livestock market system is distance and scarcity of well-structured market centre. Majority of the pastoralists travel long distance, most of the time more than a day to reach the market centre and forced to sell with whatever price they got as domestic livestock market system is based on bargaining. All these factors led the main actors (producers) of livestock benefit less and force them to informal cross border trade. International trade can also play an important role in Ethiopia's economic growth by creating an opportunity to export agricultural commodities which will motivate the domestic producers to produce a high-quality product in excess amount. Trade helps a developing country move from inefficient to efficient resource utilization. It serves as a channel for agricultural commodities and a raw material produced by a particular country, and thereby links the country to international markets. This in turn stimulates domestic producers to strive for global competition and hence meet world standards in their products. Most of the livestock trades in the horn of Africa are informal and unrecorded by respective government authorities and pastoralists are not able to profit from formal markets (NJUKI et al., 2011; NJUKI and SANGINGA, 2013). This is also true for the Afar pastoral community where they usually travel to the neighbouring country Djibouti to sell their animals. Besides, the government has observed limitations towards devising strong policies to keep informal trade out of track.

Pastoralism has also been affected by many factors such as political, socio-economic and cultural marginalization, poor access to infrastructure and services; unpredicted climate changes (JENET et al., 2017). The lives, choices and decisions of pastoralists have been challenged by the existing social, economic and ecological causes. The unexpected, but short period drought and weak market chain forced pastoralists to look for some other sources of income like charcoal

production besides their livestock production so as to continue their livelihood (DEVEREUX, 2006).

Replacing pastoralism by sedentary agriculture is currently challenging the sustainable development of pastoralism (JAMES et al., 2014). Agro-pastoralists and agrarians have the challenge of relying on good weather which is never reliable especially around pastoral rangelands. This makes pastoralists better be placed to survive in dry regions as the shift from pastoralism to non-pastoral way of life will be difficult for those pastoralists who used to it. Consequently, despite the dictation by several development platforms to instil agro-pastoralism, sustainability of pastoral development requires livestock mobility (SONNEVELD et al. 2017) with proper infrastructure and appropriate policies enabling pastoralists to get an access to social services (NIAMIR, 2000). Modernizing the pastoral system is very important and can be done without replacing the system by other systems like sedentary agriculture. This modernization of pastoral system can be achieved by introducing technologies such as leather and leather products' industry, Milk and milk products' processing industry, meat production and processing industries to the communities. Moreover, according to GALVIN (2009) and WORKU (2016), diversification of economic activities is a typical strategy for rural livelihood. FRATKIN (2012) also concluded that proactive sedentarization has been increasing in a search for diverse sources of income in pastoral areas and STIFEL (2010) have found a positive relationship household welfare and their participation in off farm activities. PATRICK et al., (2016) also found that there is a positive correlation between literacy level and involving in non-farming activities.

The importance of pastoral system has been recognized by many scholars despite several development platforms insist the practice of agro-pastoralism in place of the mobile pastoral system. Significant portion of the global community is engaged in livestock production and the system has long been contributing significantly to the GDP of countries. Besides, the sector has been a key player in improving the nutrition and wellbeing the urban residents.

Literatures related to poverty levels in pastoral and agro-pastoral areas show different results where majority of the research works concluding poverty is worse in pastoral areas compared to agro-pastoral. This is mostly due to poor access to marketplaces, recurrent drought, and weak infrastructures in the pastoral areas compared to non-pastoral areas. Moreover, political, socio-economic, and cultural marginalization has contributed to low level of productivity and unimproved livelihood of the pastoral community. Synthesis of researches findings indicate that sustainable pastoral community development requires better access to livestock related

infrastructures, policies and livestock mobility. Moreover, diversifications of economic activities have a pivotal role in improving the household welfare.

3.2. Social Services Development

Provision of social services plays an important role for improved living standard. Access to and good quality of social service provisions determines the economic development of a country. Hence, the literature related to social services such as education and health are presented below.

3.2.1. Education

Recently education not only has become the issue of human rights but also a key player in reducing poverty and improving living standard (DEBEBE, 2014; KADZAMIRA and ROSE, 2003). Education is the key to improve the quality of life of the people and is difficult to survive in the current knowledge led competitive world. It is a way to fill the gaps observed between communities across the nation on political understanding, socio-economic progress which in turn will enhance the local and regional economic development (PETROS, 2015). This idea supported by a research finding from GYIMAH et al.(2005) that education have a positive impact on growth of household per capita income. But, the majority of pastoral community have low enrolment, retention and literacy rates (KRATLI, 2000; MAXEY, 2006). As an evidence, a research report compiled by CARR-HILL et al., (2005) on nomadic communities of African countries such as Djibouti, Eritrea, Ethiopia, Kenya, Tanzania, and Uganda revealed that the enrolment rates of the pastoral children was below their respective national average. According to Carr-Hill (2012), there are 21.8 million pastoralist children worldwide who are not attending schools of which 20% in EFA Fast Track Initiative countries. Carr-Hill in his earlier research came up with only 11%-39% of pastoral school aged children attending the in schools (Carr-Hill, 2005). Net enrolment in pastoral areas of Kenya was found to be only 36.2% which is very low compared the national average of 93% (REGLAP, iied, 2012). OXFAM (2005) reported that lack of teachers to work and live in harsh environment which is a characteristic of pastoral areas is among the factors affecting the pastoral education. Moreover, Lack of trained teachers, limited school time and poor teaching/learning due to lack of inputs, are among the main challenges in the education sector of Turkana pastoralists in Kenya(YIRO et al., 2017).

Pastoral societies, including Afar pastoralists, in Ethiopia have been abandoned for a long period of time. Provision of social services such as education, health and other infrastructural development was insignificant. Although several development plans and strategies have been drafted and implemented, education for pastoralists got a special attention in the third Education Sector Development Plan (2005/2006-2010/2011). Despite the work that has been done by

different stakeholders such as federal and regional governments, and other agents to improve access, equity and quality of education, what is to be done is far from what is achieved particularly in ANRS. MASINO and NINO-ZARAZU´A (2016) concluded that constructing school buildings without proper educational facilities alone cannot improve the enrolment rates.

Since 1995, although there have been improvements in the education sector in ANRS, completion rates and achieving the intended goals are very low. There are different challenges to this low rate of educational attainment in the region. Early marriage, livelihood system(BIRHANU, 2017; UNICEF, 2019), lack of interest of parents to send their kids to school, lack of teaching-learning facilities, libraries, are among the challenges encountered outside the school (BIRHANU, 2017). Moreover, BIRHANU also indicated that lack of water resources where majority of the nomadic are highly dependent on, and absence of pastoral well-fitted education policy in the region are key challenges to low level of literacy. In addition to this, recurrent droughts which severely affected the region, lack of awareness of the community are the major reasons for such low level of literacy in the region. Long distance to schools due to low population densities in pastoral areas and the need of pastoral children for work makes unsuitable to attend in schools in static manner. The standard distance to accessing Education in rural areas of Ethiopia was set to be within 2.5 and 3km (MOE, 2008) which is very difficult to implement in pastoral areas due to the sparsely settled pastoral community. JACKSON (2011) also found that lack of teachers is a challenge to pastoral education and distance of the school from home of the children is another challenge which affects retention, completion and transition to another level of schooling. According to KRATLI and DYER (2009), all household members including children are responsible in improving the livelihood of their family by devoting their time in helping their family. Therefore, family responsibility at early age has halted the school enrolment rates in pastoral areas. The curricula imposed in pastoral areas are not compatible with the value of the pastoral community. OXFAM (2005) has emphasized on inclusion of the pastoral communities preference of mode and kinds of learning they require rather than imposing what has been implemented in other part of the countries. Recent study by MORTON, (2010) has also concluded the incompatibility of western mode of education and the socio-culture of the pastoral community.

Synthesis of several research findings shows that education is as important as any livelihood improvement programs for the pastoral community. This has long been understood by the respective government and non government agencies and hence several educational policies have been devised and implemented. But, the literacy level of pastoral community, enrolment and completion rates of pastoral children has been low due to inappropriate pastoral education

policies, lack of educational inputs and lack of motivated teachers to work on a hard environment. To overcome this, Kenya has devised nomadic education policy that allows flexible calendar and other modes educational delivery which takes into account the time the children might spent helping their families (GOK, 2010). Such situation will enable to integrate the formal and informal education as well as other needs of the pastoral family.

3.2.2. Health

It is crucial to improve the health of the population in order to achieve development goals (PANDA and THAKUR, 2016; OBRIST et al., 2007). According to RAM (2012), health is not only a determining factor to development, but also it is a human right.

Access to health services is a multifaceted concept which is based on assuring delivery of high efficiency and high-quality service. In general access to health care is all about its availability, accessibility, accommodation, affordability, and acceptability. Although the Ethiopian government have been working towards improving access and quality of health services to achieve the goal set by universal access to public health centres (BALABANOVA et al., 2012), yet NEJIMU and HUSSEIN (2013) pointed out that the health services in afar pastoral community is rated as inadequate and poorly equipped, scarce, difficult to access, and does not fit the livelihood system of the pastoral community. Poor infrastructural development, weak distribution system and low quality of services have been key challenges to the health service (CHAYA, 2007).

According to OLYAEEMANESH et al., (2019), the highest GI of GHE per capital, 0.268, was registered for ANRS compared to the Dire-Dawa (0.152) city administration and Tigray regional state. This is an indication that there is a great variation in GI of GHE per capita. The sources of this variation might be due to the capacity of the implementing institutions, accountability (COSTA and NOVELL, 2007), and access to financial and other related resources. A study conducted in Uganda by MUGISHA and NABYONGA (2010) found that the amount spent for wages were higher than the amount spent for the expansion of health-related infrastructure. This is particularly true in ANRS with most of the regional areas have additional wage allowance due to the climate which reduces the investment of building and equipping health centres.

These days, there is an improvement in the health system, thus far not very satisfactory. According to studies conducted by DUBALE (2007) and MORTON et al., (2007), the pastoral communities are the least benefited from the health improvements packages compared to the agrarian population in Ethiopia. EL SHIEKH (2015) in his research on Sudanese pastoralists

found that the main reasons for such poor utilization of institutional delivery were poor health facilities, nomadic livelihood system. Similar conclusion has been drawn based on a study conducted on Ethiopian pastoralist by DUBALE (2007).Moreover, inadequate information, insufficient infrastructure, lack of skilled persons and poor quality of services are the main factors for low utilization of institutional delivery in many developing countries including Ethiopia (WILUNDA et al., 2014; KABA et al., 2016; RORO et al., 2014).

According to AHMED, et al., (2019), Socio-cultural factors are the main barriers of utilization of institutional birth delivery in pastoral community of ANRS. Several studies conducted on different countries such as WILUNDA et al., (2014) on Uganda; SARKER et al., (2016) on rural Bangladesh and SHIFERAW et al., (2013) on Ethiopia found that the high social trust on Traditional Birth Attendants and traditional medical practitioners are among the key factors of low utilization of institutional birth delivery. Moreover, lack of awareness and knowledge were also found to be additional reason for low utilization of institutional delivery in Ethiopian pastoral community (SHIFERAW et al., 2013; FEKADU and REGASSA, 2014; BIZA and MOHAMMED, 2015). In addition to this, lack of privacy where male are the birth attendants and weak transportation infrastructure (WILUNDA et al., 2014; KABA et al., 2016; SARKER et al., 2016; SYCHAREUN et al., 2012; BOHREN et al., 2014) are the main factors to the low level of institutional birth attendance in Ethiopia, Uganda, Laotian, Bangladesh and other middle income countries. Other studies also mentioned poor transport infrastructure, low quality of services, traditional practices and low decision-making power of women as hindering factors to maternal health in ANRS (ALEMAYEHU et al., 2016; YEBYO et al., 2015; WARREN 2010).Furthermore, Women occupation, their nomadic lifestyle and lack of knowledge and awareness about skilled health services, distant health centres and inadequate transportation facilities, insufficient waiting areas in health facilities, trust and quick presence of traditional birth attendants were some of the determinants of low utilization of skilled birth attendance delivery (IBRHIM et al., 2018).

Literatures related to health service provisions in pastoral areas shows that the service provision has been increasing although there have been difficulties in achieving the standards. Lack of health facilities, distance to health centres due to the sparsely located mobile communities and financial constraints. Moreover, despite the importance of keeping citizens healthy, analysis of different literatures regarding pastoral community health services shows the pastoral health system has been affected by economic and socio-cultural factors. The low GHE, mobile lifestyle and preference to traditional medication were among the key factors of the health sector in

pastoral areas. Capacity of implementing institutions, lack of skilled health professionals has also found to be main challenges to pastoral health services.

3.3. Infrastructure Development

According to the definition stated in Classification of Functions of Government in the Government Finance Statistics Manual of the International Monetary Fund, infrastructure is a combination of all networks supporting economic and social activities such as transport, water, sanitation, power, and information and communication technologies. Infrastructure is one of the main enablers for economic growth of African countries. It has a significant contribution to poverty reduction, assuring food security and sustainable development. The role of infrastructure in enhancing the economic growth is mentioned as it is a prerequisite for any development. It is very difficult to assure sustainable growth without proper infrastructures.

FAN and RAO (2003), based on several studies, indicated that public spending in rural infrastructure is one of the most powerful instruments that governments can use to promote economic growth and poverty reduction. Since 1993/94, the Ethiopian government has been implementing various reforms that have involved the processes of structural adjustment programs along with commercialization of agriculture, private sector development, and a number of related poverty alleviation program. Good infrastructural system is a necessary precondition for successful implementation of the programs.

Although it is difficult to construct and fulfil the necessary infrastructures at the same time, prioritization of the most important types of infrastructures is a wise way to achieve the goal. Usually countries prioritized their infrastructural needs based on their economic source. A country like Ethiopia with more than 79% of rural inhabitants engaged in agriculture and being landlocked prioritizes the transport and power infrastructure in order to boost its economy. Although it is good to focus on the economic activity where majority are involved, it is also better to identify the sectors which can attribute to the current needs of the country.

3.3.1. Transport Infrastructure

Different views have been forwarded by scholars on transport and its nature. BRAIN (1998) defined as basic part of geography as an interface between areas where the degree of communication depends on the status of the transportation facilities. It is a means of safe travel from place to place such as from work to home, from marketplaces to home etc and vice versa. On the other hand, WORLD BANK (2003) described it as a factor to promote the overall development. This is explained as transportation facilities promote the production of goods and

services and ensures their proper distribution channel in order to avoid regional inequalities and scarcity of goods and services. The limitation of transportation facilities and systems leads into remoteness which will impact the economic development engagements across the regions.

3.3.1.1. Road Transportation

Road transportation infrastructure deals with the overall process of construction and maintenance of road transport system. There have been several improvements in Africa not only in building the road infrastructure but also in developing and enhancing the system implementing institutions. Road transportation costs associated with logistics in East Africa are higher than in any other region in the world. In African countries like Ethiopia, much attention has been given to improving the road accessibility although not well-covered and quality of the roads and the system remains as a challenge.

Likewise, roads serve as key infrastructural units, which provide linkages to other modes of transportation like railways, shipping, and airways. ADMASU et al. (2015), in his study concluded that the availability of good quality roads increases the attractiveness of towns which in turn will attract companies that can positively impact in the creation of jobs, increase income and decrease poverty. According to HALLAERT et al. (2011), developing countries export can be increased by only 10% improvement in the transport infrastructure. According to NAGY et al., (2020), improving the transport access is one of the solutions recommended to improve the livelihood of rural Ethiopian community including Afar community. Besides, availability of good quality transportation access and other infrastructures attract tourists to the country which will be a source of foreign currency earning to a country.

It is well understood that the impact of public infrastructure differs based on the quality and quantity a country wants to build. Since the overthrow of Dergue, the government of Ethiopia invested a huge amount of money on several infrastructural developments such as mining and energy, road transport and information and communication, health and education. Transportation has also a pivotal role in achieving sustainable economic growth. TEKLEBIRHAN (2015) has strengthened the importance investing on public infrastructure concluding its significant impact in boosting output growth.

According to FOSTER et al., (2011), only one in three rural Africans have access to road across all the seasons and about the remaining half share found in developing. There have been several improvements in Africa not only in building the road infrastructure but also in developing and enhancing the system implementing institutions.

Even though Ethiopia has made significant progress in infrastructure, there are several challenges which need to be solved. According to FOSTER and MORELLA (2011), the contribution of infrastructure to the growth of GDP per capita of Ethiopia was only 0.6% in the last decade. YETNAYET (2012) also discovered the existence of inadequate levels of infrastructure in the rural areas of Ethiopia. According to FOSTER and MORELLA (2011), only 10 percent of the African rural population lives within two kilometres of all sided roads directions indicating the remaining percentage lives in more than 2km which makes it very difficult to carry stuffs to marketplaces. In order to improve the livelihood of the rural community of Afar it is important to improve the transport access. The region's population are pastoralists and agro-pastoralists, and hence needs better road access connecting the rural farmers in order to enable them reach marketplaces, easily access education, and health centres.

Synthesis of transportation related research findings concluded that the transport infrastructure in pastoral areas is poor despite transport facilities play a significant role in improving the livelihood of the rural community. Majority of the rural African pastoral community doesn't have access to all weather roads. The cost of transportation, access to road and poor transportation system has halted the implementation of development projects and livelihood improving activities of the pastoral communities. In accessibility of roads and absence of transport services makes difficult to get to market places.

3.3.2. Information and Communication Technology

ICT deals with the systems of implementation of the services, construction of the physical infrastructure, improvement, and maintenances of the communication system. The Ethiopian information and communication technology services coverage is one the lowest in the continent. Few of the Ethiopian population can access the ICT services. According to FOSTER and MORELLA, (2011) only 10% of Ethiopians have access to GSM signals and GSM subscription rate is only 1.6 percent of the population in Ethiopia compared to benchmark of low-income countries 48%. In addition, FOSTER and MORELLA (2011) implied that the internet access is also among the lowest with only 0.3 megabits per second per capita while the benchmark for similar low-income countries is 5.8 megabits. According to FOSTER and MORELLA (2011), the financing of Ethiopia on infrastructure is similar to other African countries except for the ICT sector which Ethiopia has invested less preferring to power and transport.

With the impact of globalization, access for telephone and internet is becoming very important to ease the economic development activities (VIDA et al., 2020). Hitherto, the internet access to in

ANRS is very low. Since most of the people are living in rural and far from the cities with nomadic way of life, accessing the internet and telephone service is poor. This situation influenced the development activities in the area.

3.4. Energy and Mining

Energy is one of the main factors to foster economic development since it is a source of foreign currency earnings, and can enhance the industrial construction. It also ensures the safety of the environment and the health of the rural community. Moreover, energy eases the life of communities. Ethiopia is one of the few countries in Africa with high and diverse energy potentials although mostly depends on petroleum imported. The county's untapped energy potentials include geothermal, solar and wind which can fully cover the demand of the country.

Such resources are mostly found in the rift valley and in Afar depression of ANRS. Of the estimated 700MWe geothermal energy potential of the country, the about 530MWe (75.7%) is found in the ANRS. Utilization of this geothermal energy potential will speed up the east African countries' development in general, and Ethiopia and ANRS in particular. The region is also rich with salts, potash, and manganese (TADESSE et al. 2003) and gold mineralization (GEBRESILASSIE, 2009), occurrence of hydrocarbon (VINAY, 2010; KACEWICZ et al. 2009).

Very recently, exploration of potash in the northern part of the region has been done by several international organizations such as Yara, PHP, ICL (Israeli company). Moreover, there was a gold mining company called black gold mining in the region. Sustaining these companies was difficult despite the presence of the resources.

Energy is one of the main factors for industrial development. Besides, energy for rural Ethiopians has a significant impact on their health, education and other socio-economic activities. That's why Ethiopia has been investing on building dams to generate energy. Besides to building dams depending on rivers which are solely dependent on rain, utilization of other sources of energy is a wise move to make despite the high cost it may need. Among these energy types, ANRS is endowed with geothermal, wind and solar energies. But, the exploration utilization of such energies in the region is low. Besides energy resource, ANRS is endowed with mining potentials although the level of exploration is poor due to several reasons.

Research findings shows that the region is endowed with natural resources such as energy and mining. Yet, sustaining companies investing on exploration and generation of such resource is

poor and hence the livelihood of the rural community living around the resource potential has been affected.

3.5. Tourism

Diversification of economic development activities is vital to register higher growth rate. Therefore, focusing on one of the untapped sectors of development such as tourism sector is vital. To achieve the required output from the sector, there is a need to identify the key development potentials besides to the economic activities where majority of the community are engaged in.

Tourism is one of the rapidly growing smokes-less industry in the world and Africa is one of the richest in the sector. This sector plays an important role in creating jobs for both skilled and unskilled labour especially for less developed countries and hence playing a pivotal role in boosting the economy of a nation. According to UNWTO(2014), in 2013, 6% of world export, 9.9% of employment, and 9% of GDP was registered from tourism sector. Compared to 1997, the Ethiopian tourism earning has increased by more than 1 billion USD in 2012 (MoCT, 2013). It is, therefore, an indication that tourism sector has a significant role in creating employment opportunities and enhances the economy of a nation. Yet, according to YABIBAL (2010), Ethiopia's performance in tourism sector low and a report by WEF (2013) put Ethiopia 120th in world where countries like Kenya, Egypt and Uganda with less diverse tourism potentials are ranked in better position with 11.9% GDP contribution to their economy while Ethiopia's tourism sector only contribute 4.8%.

ANRS is one of the least developed regions in Ethiopia despite several tourist attractions worth visiting. The first national park of Ethiopia, Awash, a place for several archaeological findings such as Hadar, a place where Lucy (Australopetucus Afariances), the oldest full human skeleton, home for Ertale lava lake and Dalol, one of the earth's lowest place with 116m below sea level, etc., are some of the tourist attraction areas. Yet, the impact of tourism industry is not significant.

As it is indicated above, the tourism sector is one of the most critical sectors for an economic growth; however, it has been facing several challenges. Focusing on the Ethiopian tourism industry, lack of infrastructure such as road, power, consistence utilities like water has been mentioned by GEZACHEW (2013), while TESHALE (2010), concluded political uncertainty as one of the key problems. According to JACKIE (2013), the development of Kenyan tourism sector has been challenged by poor infrastructure, African political instability, poor connection and high costs. A research conducted by NABIL (2003) on problems and prospects of

sustainable tourism of OIC(Organization of Islamic Corporation) member countries found that lack of knowledge and awareness, and fragile promotion system as bottlenecks of the tourism sector. According to TEKABE(2016), compared to African countries, the mechanisms employed in Ethiopia to promote the tourism sector is backward. In addition to this, Tekabe indicated that the road infrastructure, the network and its system was rated as poor by the international tourists included in his study. Lack of skilled and experienced manpower in the sector is another problem mentioned by the researcher. His conclusion towards the hotel availability indicates that the access is better in the capital Addis Ababa, but low in the tourism spots.

One of the challenges of tourism sector in Ethiopia is lack of set price for tourists. This situation creates distrust for the tourists and of course even creates an opportunity to the guides to ripe tourists off. Lack of human resource and commitment by tour stakeholders is another challenge to the tourism industry.

The contribution of tourism sector to country's GDP and employment is very significant. Synthesis of literature related to tourism sector generally shows Ethiopia in general and Afar region in particular have a huge and diverse tourism potential compared to other countries. But absence/poor tourism related infrastructure such as road to destination areas, standard accommodation, network and its system have played a significant role for low performance of the sector. In addition to the above challenges, lack of skilled and experienced manpower in the sector, poor management and lack of set prices are among the main challenges.

4. MATERIALS AND METHODS

4.1. Description of Study Area

ANRS is one of the nine Federal states of Ethiopia with about 72,053 sq. km., area and a population of around 1.9 million (estimated in 2018). Compared with other regions, it is a vast and sparsely populated area, with 22.2 persons per square kilometre. As presented in figure 1, the region is located in the north eastern part of the country.

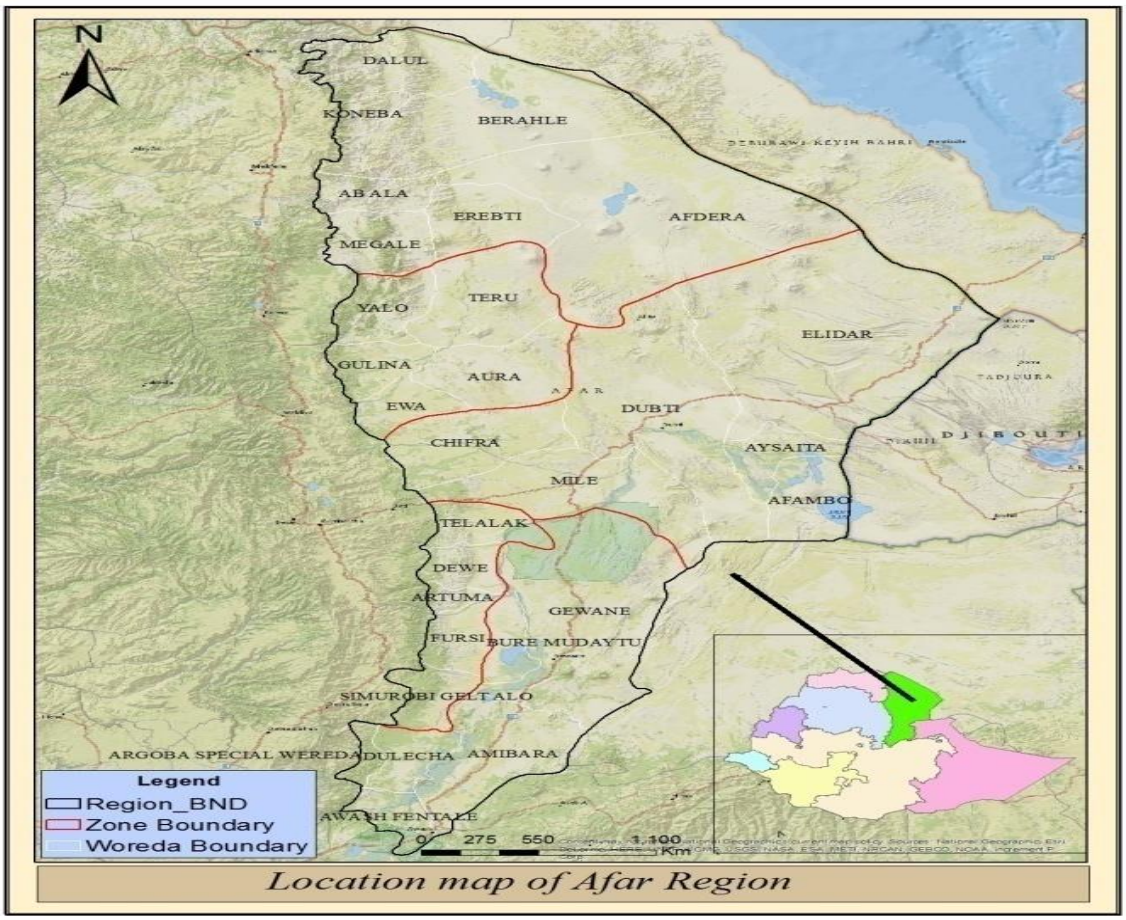


Fig.1: Administrative map of ANRS
Source: Bureau of culture and tourism, ANRS

The Afar region is located between 39°34′ and 42°28′ East (longitude) and 8°49′ and 14°30′ North (latitude). It is characterized by high temperature (25°C–48°C) and flat landscape with an altitude range of 116m below and 1600m above sea level. There region comprises five administrative zones and 35 woreda including recently added three woredas where woreda is the third hierarchy of government authority after region and zone level administrations. It borders the countries of Eritrea in the north-east and Djibouti in the east, as well as Ethiopia's Somali regional state in the south-east, Tigray, Oromia and Amhara in the north-west and in the south-west respectively.

About 90% of the population bases their livelihoods on livestock and livestock production, with limited irrigated agriculture along the river basins and in low-lying areas. For the Afar, the basic livestock units are cattle, camels, goats, sheep, and donkeys. In general, the Afar communities participate in livestock production not only for economic reasons but also because of its social and cultural significance, and its relationships to social values and the kinship systems.

4.1.1.Topography of the Region

The topography of Region is a land of outstanding and unique nature in the country dominated by extensive area of open plain land. The most remarkable land feature of the region is the Great Rift Valley that runs along the region towards the south. A series of Narrow highland complexes are found along the western edge of the region boundary adjacent to the Amahara and Tigray Regional States. The Lower Awash River Valley and the final destination of Awash River are found in the Region. The altitudinal variation of the Region extends from the lowest point at-Dalol (Afar Depression) 116m below sea level to the western highland area 3000m above sea level. The Region gets low and erratic rainfall, ranging from 561 mm to 225 mm. Temperature is usually high and ranges from 18^{o}C to 45^{o}C, May, June and July being the hottest months, and January and February the coldest months. Generally speaking, the Region is classified as a lowland area (under 1500 m.a.s.l.), and has one of the lowest and hostile areas in the world, Dallol Depression or Dallol Sink, 116 m.a.s.l.

4.2. Sample size

To determine the Sample size, the researcher took the simplified sample size determination formula suggested by YEMANE (1967).

$$n = \frac{N}{1 + Ne^2}$$

Where N is the population size of the region(Based on 2007 census)and e is the level of precision. Accordingly, for a 95% confidence level and e. = 0.05, size of the sample we get the sample size as

$$n = \frac{1376600}{1 + 1376600 * 0.05 * 0.05} = 399.9884 \approx 400$$

4.3. Sampling and source of data

The study has two different study clusters. One group of clusters will be clusters of pastoral community with mobile livelihood and the other group of clusters will be is semi-pastoral

community. In both resettlement centres were included to study resettlement program related questions.

Samples were taken using multistage cluster sampling. At the first stage, the total sample size was proportionally allotted to every zone based on the population projection of CSA for Afar region for the year 2018. In the second stage, three woredas from each of the five zones were randomly selected where the sample size of every zone was proportionally distributed to the selected woredas. Finally, since the population of each district was not available both at national and regional level, the sample size allotted to each woreda was equally distributed to three districts from each woreda which were selected using simple random sampling.

Table 1: Sampled areas with sample size, population of the woredas in 2007census.

Zones	Name of woreda	Urban	rural	total	Sample size proportional to size
Zone 1	Dubti	32914	32400	65314	57
	Asayta	16048	31162	47210	42
	Afambo	800	23329	24129	21
	Total	49762	86891	136653	120
Zone 2	Berhale	6098	28647	34745	23
	Dallol	1757	82162	83919	56
	Afdera	3566	28647	32213	21
	Total	11421	139456	150877	100
Zone 3	Amibara	32086	31194	63280	31
	Awash fentale	16844	12931	29775	15
	Dulecha	1189	19494	20683	10
	Total	50119	63619	113738	56
Zone 4	Yallo	789	46670	47459	20
	Ewa	1230	45965	47195	20
	Teru	1838	73504	75342	32
	Total	3857	166139	169996	72
Zone 5	Dalifaghi	4977	31174	36151	18
	Telalak	1949	36011	37960	18
	Semurobi	935	31079	32014	16
	Total	7861	98264	106125	52
Regional Total					400

Source: Own Calculation

In this study survey, analysis on source of income of both pastoral and semi-pastoralist households were done in addition to this, this survey tried to determine the availability and quality of social services in ANRS. Moreover, development potentials of the region were explored and the factors determining the regional development were also analysed. To do so, both primary and secondary source of information was used. Primary source of data was mainly collected from pastoral and agro-pastoral communities in ANRS using structured questionnaire, in-depth interview, focus group discussions and personal observations with the help of 7 paid enumerators who are able to speak and write in three languages namely English, Amharic (Federal government working language) and 'Afar af' the language of the local communities where this study is conducted. Secondary data were collected from different national and regional government offices such as Central Statistical Agency, National Plan Commission of Ethiopia, National Bank of Ethiopia, and ANRS regional and woreda level offices. Moreover, reports and documents were also used.

4.4. Research Design and Data Analysis

Exploratory, descriptive, and explanatory research designs are used in this study where frequency and percentages tables, charts, and graphs were used to analyze the data. Moreover, t test were used to test hypothesises mentioned above. The focus group discussions were done in a way that all categories of the community with different age groups and gender can be listened. Hence, there have been three group discussions in every selected 15 districts in the region. The groups were classified in to two broad categories based on their age. Those under 45 years old as one category and those above 45 years old in another category were grouped, where both male female sex household heads were systematically included. After having the focus group discussion with both of the groups, the research team forms a third focus group discussion with relatively high number of participants to discuss on the differences observed. All the focus group discussions were done similarly in order to reach into consensus on the issues raised so that appropriate conclusions can be drawn. The in-depth interviews were also done with key informants who have detailed information about the sector. Besides, some regional bureau heads and experts from woreda and regional offices were also included in order the research to be inclusive. Hence, 13 key informant interviews, and 38 expert-based interviews were done.

5. RESULTS AND DISCUSSIONS

5.1. Socio-Demographic Characteristics of Respondents

Albeit the survey was not intended to specifically address the socio-demographic characteristics of survey participants, for better understanding of the characteristics of survey participants the socio-demographic characteristics are presented below.

5.1.1. Gender

As it is shown in table below in table 2, 175(43.75%) of survey participants of this study were female while the remaining 225(56.25%) were males.

Table 2: Gender of respondents

Sex of respondents	Frequency	Percent
Female	175	43.75
Male	225	56.25
Total	400	100.0

Source: Own survey result

5.1.2.Age Group

The age group of participants of this survey is displayed in table 3 below. Consequently, while the age of participants varies between 19 years (the youngest) and 75 years (the oldest), relatively the majority of the respondents were between age of 35 and 44 with 35.25% of the total participant. This study tried to include all active age groups who in real terms can understand current and past situation of the region. Accordingly, 11.25% of the participants were aged under 25 years, 81(20.25%) of them aged between 26 and 34, 35.25% of them were aged between 35 and 44; 21.25% were aged between 45 and 54 while the remaining 12% (48 participants) were 55 years and older allowing the researcher get wide spectrum of information about the regional development practices.

Table 3: Age group of survey participants

Age of Respondents	Frequency	Percent
Under 25	45	11.25
26-34	81	20.25
35-44	141	35.25
45-54	85	21.25
55 and older	48	12

Source: Own survey results

5.1.3. Family size

Family size of respondents is shown below in table 4 indicating about 12 percent of the respondents are either single or married, but without child. The majority (58.25%) of the

respondents have a family size of 6-10 followed by 24.5 of respondents having family size of 3 to 5.

Table 4: Family Size

Family Size	Frequency	Percent
At most two family members	48	12
3-5 family members	98	24.5
6-10 family members	233	58.25
More than 10	21	5.25
Total	400	100

Source: Own survey results

5.1.4. Marital Status

Table 5 below shows marital status of respondents. Accordingly, the majority (91%) were married while the remaining 7.25%, 0.5% and 1.25% of respondents were single, divorced and widowed respectively.

Table 5: Marital Status of respondents

Marital status of respondent	Frequency	Percent
Married	364	91
Single	29	7.25
Divorced	2	0.5
Widowed	5	1.25
Total	400	100.0

Source: Own survey result

5.1.5. Occupation

According to figure 2 below, about 53 percent of the respondents were pastoralists followed by semi pastoralists constituting 45.25%. The remaining percentages of respondents were daily labourers and private employees.

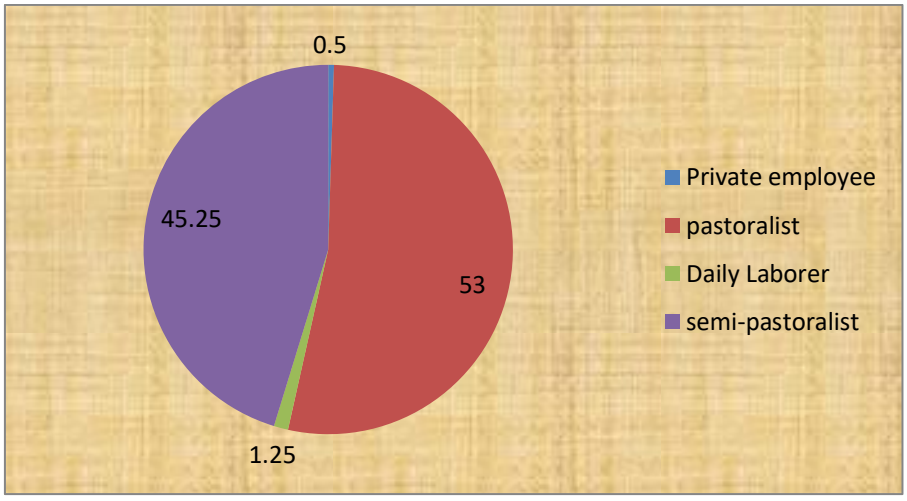


Fig. 2: Occupation/livelihood base of respondents

Source: Own Survey

5.1.6. Wealth

In this research, wealth status level for both pastoralists who solely depend on their livestock population and those communities who are engaged in both agricultural and livestock production was determined by interviewing and consulting the clan leaders called Makaban. It is agreed classification at all part of the region. Hence, in the past, a person who has more than number of 1000 camel, more than 2000 cattle, uncounted number of goat and sheep, and hundreds of donkey were used to be called as wealthy-while those who have less than 5 camels, less than 20 cattle, less than 50 goats and sheep used to be called as poor community. Nowadays, a person who has50 camel, 100 cattle, 300 sheep and goats grouped as rich while those who have number of only 20-30 goats and sheep is levelled as poor. Those community members who are in between are levelled as moderately wealthy community. To determine the wealthy level, the values (exchange) of a camel with cattle, cattle with sheep and goat has also been taken in to consideration due to the fact that there are people who have high number of cattle, but low in camel, sheep or goat and vice versa. Accordingly, one camel is equivalent to 2 cattle regardless of the sex; one cow is equivalent to 20 sheep or goats. On the other hand, while such classification in wealth also works for agro-pastoralists, those who produce and sell after consumption are categorized under rich while those who even couldn't feed themselves are categorized as poor. The wealth level of the survey respondents was obtained based on the above categorization. Accordingly, as it is shown below in the fig 3, half of the survey participants (about 51%) were poor while 39% were medium and the remaining participants 11% were rich.

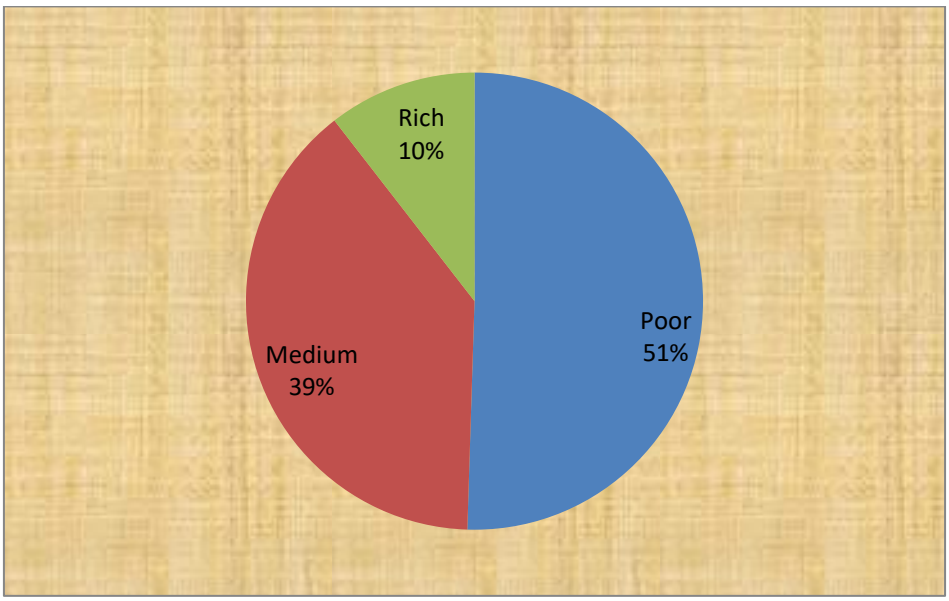


Fig 3: Wealth Status of respondents

Source: Own Survey

5.1.7. Educational Attainment

Fig. 4 displayed below shows the educational attainment of respondents of this survey. Accordingly, the majority (about 84%) of the respondents were illiterate who totally cannot read and write while the remaining 16% were high school completed (2.5%), diploma holder (9.75), bachelor degree holders (1.75%) and 2% of the respondents were those with Masters degree.

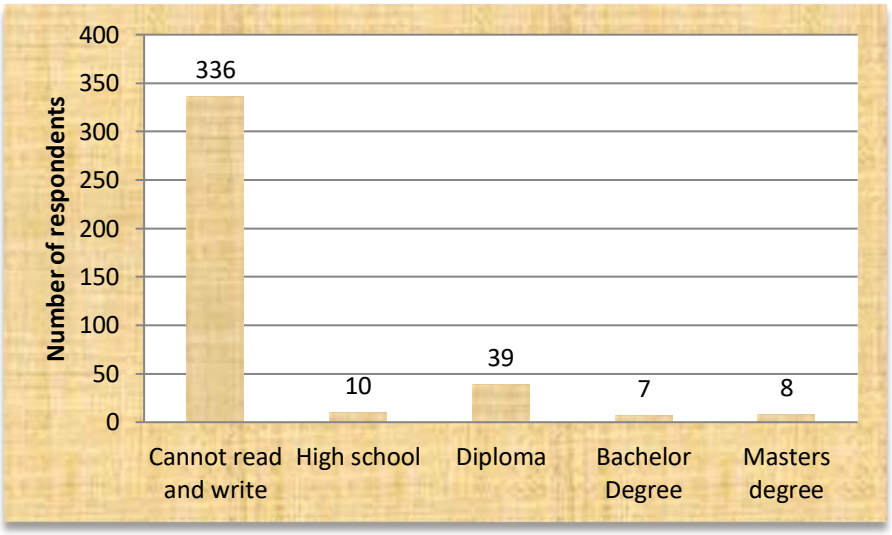


Fig 4: Educational attainment of respondents
Source: Own Survey

5.2. Economic Development status of ANRS

The main focus of economic development is assuring sustainable and improved living standard of a community by reducing social and economic gaps. Economic development has long been measured by GDP. Regional GDP as measure of economic growth is defined as the sum of the values of all produce and services produced in a country/region in specific period. GDP is one way of measuring a size of economy of countries. The higher the GDP, the higher the income of the people is, and hence higher standards of living. People are likely to earn and spend high and hence people will feel better off. Based of GDP estimates, one can see how the economy of the region is performing and the level utilization of resources so as to prioritize and restructure the sectors lagging behind the economic sectors and reformulate policies and strategies. Hence, the GDP data obtained from BoFED of ANRS presented above shows that both real and nominal GDP of the region has been increasing on average of 7.965% and 22.9% respectively.

Agriculture, Service and Industry are the main economic structures of ANRS where agriculture is the mainstay in the region which a source of livelihood for the majority of the people. Accordingly, as presented in table 6, agriculture takes the lion share of the real GDP contributing

on, average, 56%, while service and industry sectors follows with an average contribution of 26.4% and 17.6% respectively.

Table 6: GDP and sector contribution from 2013/14-2017/18, ANRS

GDP and growth rates	Budget years					Average
	2013/14	2014/15	2015/16	2016/17	2017/18	
Real GDP at constant price in million birr	11701.92	12364.73	13457.73	14638.82	15894.84	13611.6
Real GDP Growth rate		5.664079	8.839719	8.776278	8.580069	7.96504
Agriculture	6919.47	7249.47	7464.57	8146.25	8458.25	7647.6
Growth Rate (%)		4.769151	2.967113	9.132207	3.829983	5.17461
Service	2809.6	3063.3	3592.26	4011.02	4499.32	3791.48
Growth Rate (%)		9.029755	17.26765	11.65729	12.17396	12.5322
Industry	2002.51	2084.58	2437.09	2520.07	2981.55	2405.16
Growth Rate (%)		4.1	16.9	3.4	18.3	10.675
GDP at current basic price in million birr	22035.61	25456.79	30095	39095.35	50034.54	33343.5
Nominal GDP Growth rate		15.5257	18.21996	29.90645	27.98079	22.9082
Agriculture	14481.24	16005.67	17214.01	19638.5	21555.71	17779
Growth Rate (%)		10.52693	7.54945	14.0844	9.762507	10.4808
Service	4666.11	6170.4	9564.98	14888.6	22951.8	11648.4
Growth Rate (%)		32.23863	55.01394	55.65741	54.15687	49.2667
Industry	2940.61	3352.03	4267.26	4677.23	5662.76	4179.98
Growth Rate (%)		4.1142	9.1523	4.0997	9.8553	6.80538
Population In millions (growth in %)	1.723	1.768(2.6)	1.813(2.55)	1.857(2.4)	1.902(2.4)	1.76(2.5)
Real GDP Per capita (birr)	6791.6	6993.6	7422.9	7883.0	8356.9	7489.6

Source: Own calculation, BoFED data, ANRS

As it can be seen from table6, the growth rates of service sector is the highest followed by industry and agriculture indicating slow growth rate of agriculture. Although the improvement of sectors other than the labour-intensive sector is a good indication of inclusiveness of development sectors and utilization of other development potential, relatively slow growth rate of agriculture sector will significantly affect the livelihood of the community. But, with real GDP growth rate of 7.695% and average population growth rate of 2.5, the region's overall performance can be levelled as good.

The USD to Ethiopian birr exchange rate in 2017/18, on average, was 35.03 birr. Accordingly, the USD equivalent average per capita income of Afar from 2014/15 to 2017/18 was $267.2. Although globally Ethiopia is levelled among the low-income countries the region's per capita income of $267.2 is very low compared to the nation per capita of $862 in 2016/17. Despite the progress seen, this figure indicates that the region is one of the least developed in the country.

Although GDP is an important measure, it is not necessarily the only measure as it does not encapsulate the key features of human wellbeing. Therefore, it requires additional measures in addition to GDP which allows measuring the other aspects of improved livelihood (HORSLEY et al., 2015). The main reason that countries, regions, local areas to develop is to improve the overall wellbeing of their population. Hence several development concepts has been developed based with the focus of factors that determine the wellbeing the community such as Human Development Index (HDI) (UNDP, 1990); Weighted Index of Social Indicators (WISP) (ESTES, 1997); Rural Access Index (RAI) (ROBERTS et al. 2006); rural/rural development index; (MICHALEK and ZARNEKOW, 2012) are some of the indices developed.

The inclusion of different aspects of life such as literacy, health and living standard measured by GNP in HDI attracted several researchers (KOVACEVIC, 2011; SAGAR and NAJAM, 1998). Although HDI attracted several development scholars, yetis have limitations in addressing all aspects of economic, social, political dimensions. To avoid such gaps, most recently, eighteen regional development indicators which are categorized into four broad groups have been identified by MEYER et al., (2016) after reviewing several related research findings and testing them on South African context. These four categories and indicators are demographics (Population Growth, Household Size, Population Density, Level of Urbanization); social development (HDI, Gini Coefficient, Poverty Levels, Literacy levels, Basic Infrastructure Index, Informal Housing, and Crime Index); labour (Economic Active Population, Unemployment); and economics (GDP Growth rate, Trade surplus, Average Household Income, Tress Index).

Due to lack of data in the region, only demographic, labour and economic aspects of the indices developed by MEYER et al., (2016) are used to in this research. Hence the result for ANRS is presented below.

Table 7: Social dimension development indicators' index score

Index score	0	1	2	3	4	5
Human Development Index	<0.4	0.4-0.54	0.55-0.64	0.65-0.69	0.7-0.79	0.8-1.00
Poverty level	60%+	51-60%	41-50%	31-40%	21-30%	0-20%
Literacy	<60%	60-74%	75-84%	85-89%	90-94%	95-100%

Source: Mayer et al.; 2016

The formula to obtain was derived from the UNDP human development report, 2015. Accordingly, the required dimensions and actual values of ANRS are given below.

Table 8: Indicator cut points for social indicators

Dimension	Indicator	Minimum	Maximum	Actual values
Health	Life expectancy in years	20	85	66.7
Education	Expected years of schooling	0	18	12
	Mean years of schooling	0	15	9
standard of living	Gross national income per capita	100	7500	262

Source: UNDP

Therefore,

$$\text{Dimension index} = \frac{\text{Actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

Education and health aspects of HDI are calculated using the above formula while the income aspect needs natural logarithm to calculate.

$$\text{Dimension index} = \frac{\ln(\text{Actual value}) - \ln(\text{minimum value})}{\ln(\text{maximum value}) - \ln(\text{minimum value})}$$

Finally, HDI is obtained using geometric mean.

$$\sqrt[3]{\text{I health} * \text{I education} * \text{I income}}$$

Where I is dimension index calculated above

Given Life expectancy 66.7 years (projected for the year 2018-2022) from CSA, expected years of schooling 12 years, mean years of schooling 9 years (from the regional education bureau) and the per capita ($PPP) = $267.2 from BoFED, ANRS HDI is calculated as follows.

$$\text{Expected year of schooling dimension} = \frac{12 \text{ years} - 0}{18 \text{ yeas} - 0} = 0.67$$

$$\text{mean years schooling dimension} = \frac{9 \text{ years} - 0}{15 \text{ yeas} - 0} = 0.6$$

Averaging the two sub dimensions will determine the education aspect of HDI. Therefore, the average of 0.67 and 0.6 is 0.63. Therefore, Index for education dimension is 0.63.

$$\text{health dimension} = \frac{66.7 \text{ years} - 0}{85 \text{ yeas} - 0} = 0.72$$

The income dimension is calculated as

$$\text{Dimension index} = \frac{\ln(\$267.2) - \ln(\$100)}{\ln(\$7500) - \ln(\$100)} = 0.22$$

Finally, the HDI for ANRS is

$$\sqrt[3]{0.72 * 0.63 * 0.22} = 0.464$$

Therefore, according to the indices classification, the HDI is levelled at index 1 indicating the human development in the region is low. On the other hand, the poverty rate in the region is found to be 30.3 which is levelled at index scores of 3 which is moderate while the literacy is

indexed with 0 indicating worst scenario in the region. In general, demographic aspect of development in region is low which needs special attention especially low level of literacy and low Human development, it will be tough to properly plan and execute development plans and projects.

The size of economically active population and level of unemployment rate have a significant impact on a country's economic development. The labour sub dimension index score is presented below in table.

Table 9: Index score for labour development indicators

Index score	0	1	2	3	4	5
Economic active population	0-10%	11-20%	21-30%	31-40%	41-50%	50%
Unemployment rate	>30%	26-30%	16-25%	11-15%	6-10%	0-5%

Source: Mayer et al.; 2016

The unemployment rate and percentage of economically active population of ANRS is 23.6% and 66% respectively. Hence, the availability of economically active population is too high which is a potential for development. In contrary, the unemployment rate in the region is high with index score of 1. Taking both indicators into consideration, albeit there is high proportion of economically active population, yet the high unemployment rate is an indication of low level of development in the region. More specifically, the unemployment rate for urban areas of the region is 20.3 (CSA, 2020), which is levelled as index 1 which illustrates low level while the proportion of economically active population is more than 50% falling under the index showing high labour development level in urban areas.

Economic sub dimension includes GDP per capita, growth rate, household annual income, trade surplus, and tress index. But due to lack of data and difference in development status, only GDP growth rate has been used for analysis and the index score presented below in table 10.Therefore, according to data obtained from BoFED of ANRS, the average GDP growth rate for 2017/18 was 7.965 which fall under index score of 5 indicating high economic growth in the region.

Table 10: Index score for economic sub dimension

Index score	0	1	2	3	4	5
GDP Growth rate	<0%	0.-1.0%	1.1-2.0%	2.1-3.0%	3.1-4.0%	4.0%

Source: MAYER et al.; 2016

By analysing the three dimensions, it can be concluded that the regional development status is low since the majority of indicators show low level of development. In addition to this, with such indicators in mind, the respondents were asked to rate the regional development status as low, moderate and high based on the literacy level, life expectancy, food security status, their income, infrastructure and social provisions they access. Hence, as results under table 11 shows the majority(89.3%) of respondents development status of the region rated as low while the remaining 10.8% rated as moderate.

Table 11: Respondents perception on development status of ANRS

Development status		
	Frequency	Percent
Low	357	89.3
Moderate	43	10.8
Total	400	100.0

Source: Own Survey

5.3. Prospects and Challenges of Development

ANRS is one of Ethiopian regions with huge development potentials. Yet, as it was presented earlier, the development status of the region is low. It is therefore, very significant to identify the main potentials and challenges of the region's economic development. Hence, for purpose of better understanding, the prospects and challenges of the development are presented below in four categories such as demographic, labour, social and economic dimensions.

5.3.1. Demography of Afar National Regional State

It is well recognized in many researches that demographic changes have a significant impact in development planning and overall economic growth of a country. Population growth can either promote or restrict economic development of a region where the age group characteristics is a defining factor for the overall development potential and challenge. The development of a region with high proportion of economically inactive population such as large population size of children and elderly is expected to be negatively affected. But, although the development of a region might be affected by the presence of high young inactive population, it has also a big advantage in the long run if the proportion of economically inactive children is higher than the elderly population. But, there should be high labour market and encouraging policy environment in the region. On the other hand, high economic development is expected in a region when there is high economically active population albeit unemployment rate is controlled by the government.

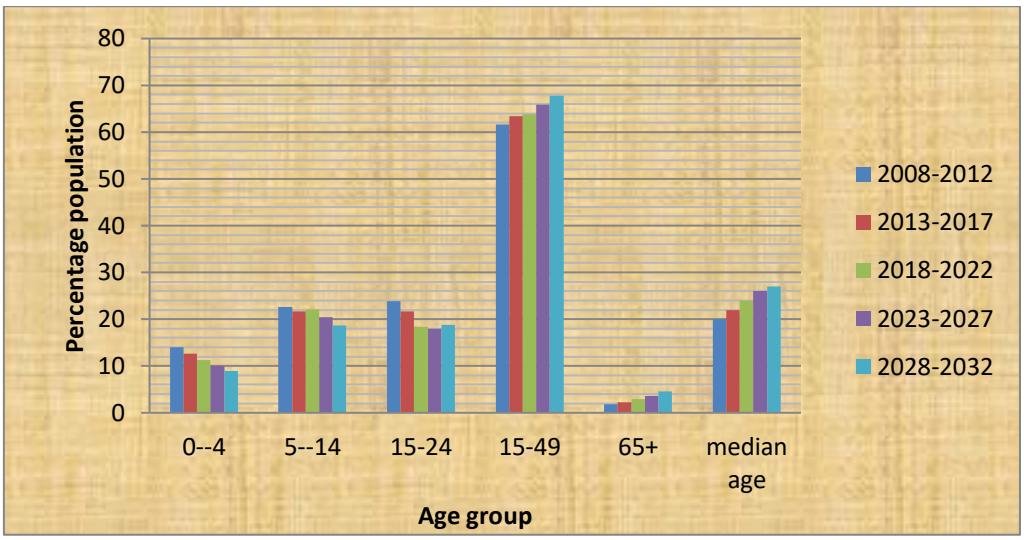


Fig. 5: Population projection for ANRS by age groups
Source: Own calculation, CSA data

As it can be seen from the figure 5 above, the percentage of the younger age group is higher compared to the aging population both in the past and in the projected years. The economically active age category has also seen as advantage for the regional demography. Appendix 1 describes how the population size of Afar region looks like with less than cumulative frequency calculating approach. Hence, the size of the afar younger population (less than 15 years) is 558,100; 677, 830 and 683,906 for 2007 (base year), for the projected year of 2022 and 2027 respectively while the aging population (65 years old and more) is only 1.54% for the base year, 2.9% for 2022 and, 3.66% for 2027. Accordingly, the incoming population is almost double of the aging population for the projected years.

Increase in life expectancy, and decreasing mortality rate will have a positive impact on regional economic development. The regional GDP per capita will increase with the increasing life expectancy and decreasing mortality rate. It is therefore important for the regional government to focus on the main contributing factors on improved life expectancy and decreased mortality rates such as health and education sectors in order to register higher sustainable economic development hence to reduce poverty.

Table 12: Fertility rate, Mortality rate and Life expectancy of ANRS with projection

	2008-2012	2013-2017	2018-2022	2023-2027	2028-2032
Fertility Rate	4.11	3.57	3.13	2.79	2.55
IMR	61.8	53.3	45.6	39.5	34.3
U5MR	95.2	80.1	66.5	55.9	46.9
Life expectancy	61.8	64.3	66.7	68.7	70.6

Source: Own calculation, CSA data

The main challenge of prospect of the region's development regarding the demographic characteristics is the decrement of fertility rates and the high level of infant and under-five years' old mortality rates that have been seen in the past and in the projected years. As it is presented above in table 12, although the life expectance has been increasing, the infant and under-five year mortality rates has been decreasing and are expected to decrease over the years, the level of mortality rates are still expected to negatively affect the regional development.

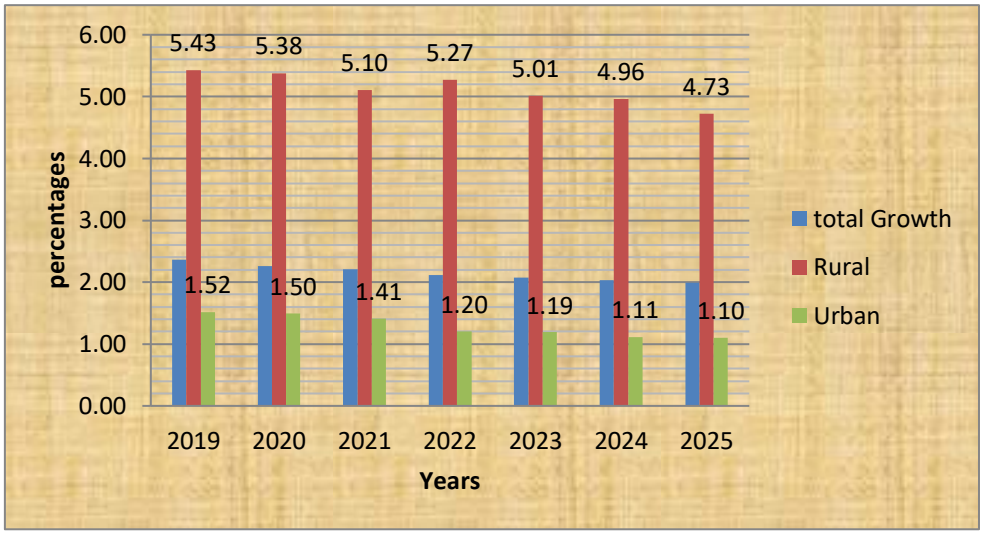


Fig. 6: Projected population growth rates for ANRS, 2019-2025
Source: Own calculation, CSA data

Figure 6 presented above shows the projected population growth rates for both rural and urban population of ANRS based on 2007 census report. According to the figure, the population growth rate of the Afar people shows a decreasing value. While specifically coming to the growth rates of urban and rural population albeit both showing a decreasing trend, the rural population growth is much faster than the rural population.

The decreasing population growth for the region will have a negative impact on the economic development of the region. Due to the mortality rates that has been registered and the frequent droughts the people faced the total growth rate is and will be decreasing. Therefore, a lot of food self-sufficiency and economic development programs should be devised and properly implemented. Otherwise, if such situation continues for the upcoming decades, the presence of this ethnic people will be history.

Moreover, the low level of urbanization in the region is very low where only 22.8% (based on projection for 2020) people are living in urban areas. Such situation might be due to the livelihood system of the community where pastoralism is the main economic activity in the region. Since high level of urbanization is an indication of better performance of local economic

development (MEYER et al., 2016), a lot has to be done in the coming years to improve the figure and enable the community to be benefited from the benefits that can be gained by living in urban areas.

5.3.2. Labour Force in Afar region

Labour force status of a region is among the key determinants of regional development. As it has been mentioned by several regional economic development theories, labour is one of the production factors hence play a pivotal role in the economic development activities. Labour is a human capital which determines the production and consumption of productions.

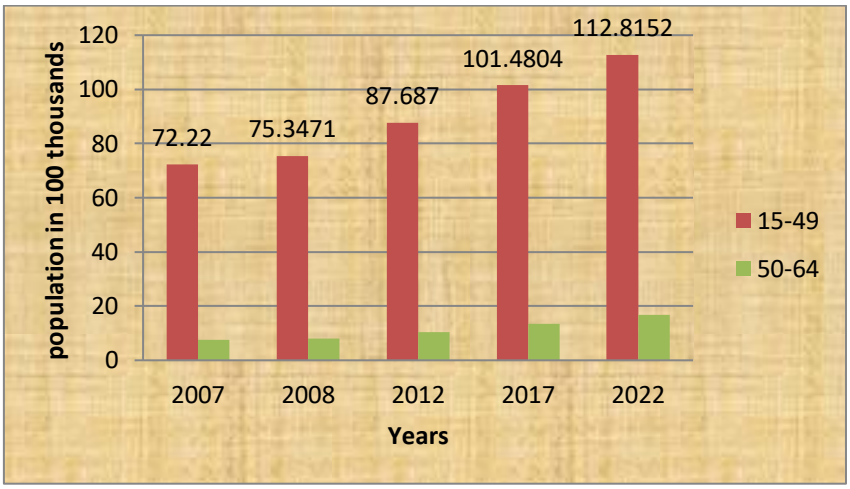


Fig. 7: Active population Size of ANRS, 2007-2022 (projection)
Source: Own calculation, CSA data

Afar region have higher active population age category (15-49). According to the figure above, the overall growth of active population age over the years is higher than those exiting the working force for pension. The growth rate of population aged 15 years and below is higher than the growth rate of people aged 65 and more. According to CSA (2020), economically active (10-49years) population of urban areas in 2007 was about69.7%, which is very high while about 9.75% of active population ages is aged 50 years old and more.

Moreover, figure 8 shows the active population size projection based on the last census held in 2007. Accordingly, compared to 2007 active population size, the active population size of the region is expected to increase by about 24% in 2022 and by about 27% in 2027. Such increase in active population age will have a significant impact on the economic development of the region albeit it needs a huge effort in creating job and huge investment in the region.

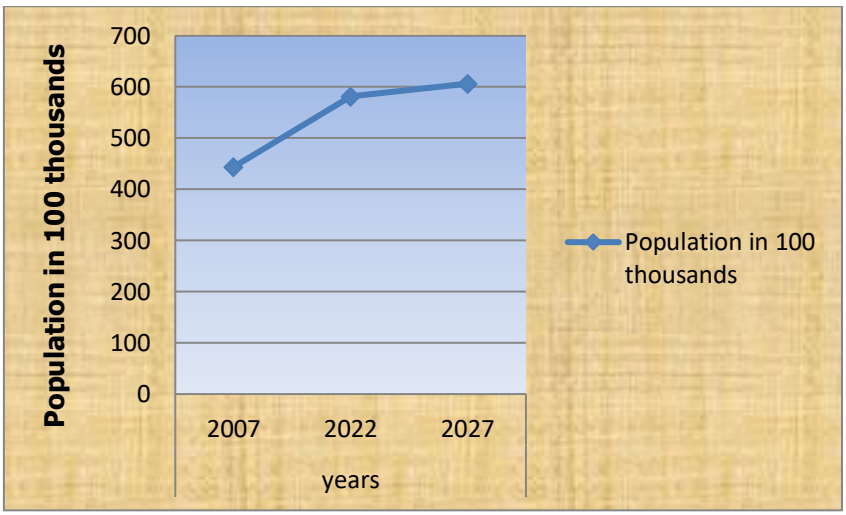


Fig. 8: Active age in 100 thousand, population projection, base year 2007
Source: Own calculation, CSA data

The definition of economically active population used by CSA categorizes as those aged 10 and above. CSA (2020) report shows that, out of the total urban population of Afar region, about 56.4% are economically active population indicating the total activity rate of the region.

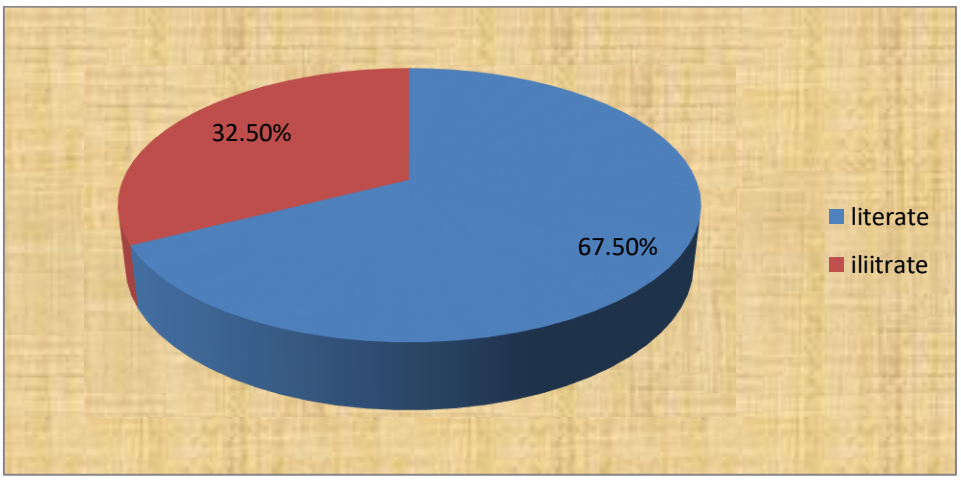


Fig 9: Active population rate of urban areas of ANRS, age ten years and above by literacy
Source: Own calculation, CSA data

On the other hand, economically active population in rural areas was about 66% in 2007, 68.7% in 2012 and projected 69.3% for the year 2022. Among the urban economically active population size, figure 9 shows that about two third are literate while one third are illiterate.

Besides identifying the economic activity rate, it is very important to have detailed information on the level unemployment in order to plan and create jobs. Unemployment rate give us the size and quality of human capital which is unutilized due to several reasons.

Figure 10 shows a decreasing unemployment rate among the active population. The unemployment rate is higher at both edges of population although it is higher in the lower age

group compared to the edging population. More specifically, the unemployment rate for the most fertile age group (15-44) is high.

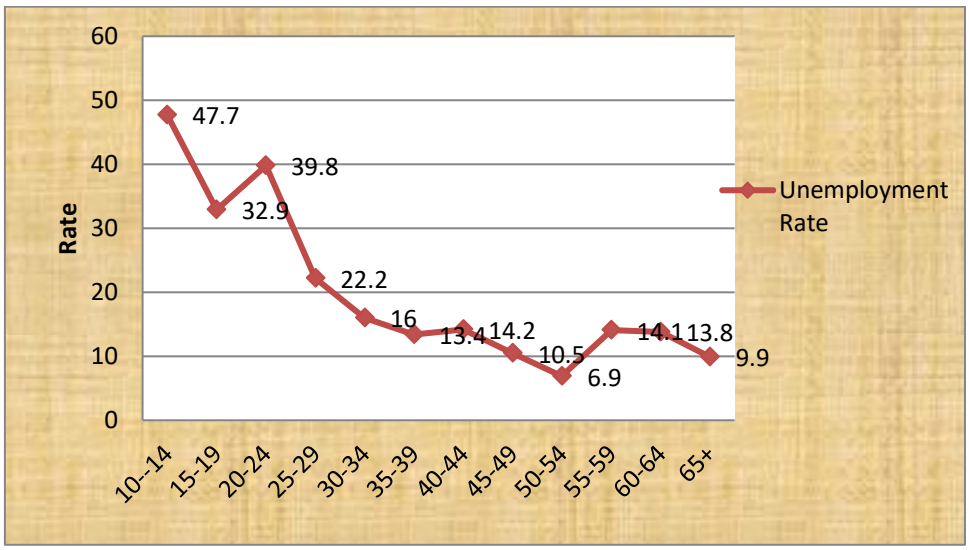


Fig. 10: Urban Active population Unemployment Rate, ANRS
Source: Own calculation, CSA data

This indicates there is huge unutilized labour potential in the urban areas of the region. Higher unemployment rate is an indication of loss of productive work which can contribute to the growth of regional Gross Domestic Product. Bringing the unemployed people to employment will positively impact the economy of a region.

Depending on the level of literacy in urban areas, 18.3 % and 24.4% of the unemployed afar urban residents are literate and illiterate consecutively. Of this unemployed size, female unemployment takes a larger proportion with 30.3% and the male unemployment rate is 12.9%. This indicates the literate jobless people in urban areas. According to focus group discussions, there are jobless native people who have different level of academic qualification.

According to the participants most of the offices, especially at woreda level, are held by either forgery holders or by illiterate relatives of the heads of offices. Besides, the perception of the educated people towards where they prefer to work is another reason for such level of literate unemployment rate. The educated person expects higher office positions where they can have better living environment. They don't want to work at woreda levels.

As it is presented in the CSA (2020), youth unemployment rate in Afar region's urban areas is high with29.9% of the youth (15-29) are not employed. This age group is the most effective age group that should properly be utilized. Yet, the region is not properly utilizing them. CSA report (2020) also shows the unemployment rate is higher at all age categories for females compared to their male counterpart. This is also an indication that gender disparity even among the literate is

higher. According to interviews held both sexes, traditional belief of the families has affected them not to look for jobs. The way they were raised forced them to marry and have children. Home responsibility is totally left for the women.

CSA (2020) indicates that the activity rate is lower for younger ages less than 19 years and higher for the age group 45-49. The size of both economically active and economically not active population has a significant impact on the development of a region. The larger the size of active population size, the better the potential for development is and vice versa. Although the table above only limited to the urban population, looking to the number of young population of the region indicated in Appendix 3, there is a huge potential for development.

Table 13: Reason for Not Being Active urban population, ANRS: by sex

Reason for not unemployed	Sex		
	Male	Female	Total
Economically Not Active	36,396	60,169	96,565
Home maker	405	19,199	19,604
Pregnancy/delivery	-	4, 360	4,360
Student	31,061	29,756	60,817
Disabled	369	72	441
Illness/ Injury	1,548	1,705	3,253
Too young	692	818	1,510
Old age	842	3,539	4,381
Pension	303	86	389
Remittance	293	119	412
Others	884	515	1,399

Source: CSA, Urban employment unemployment Survey

The main reasons for not being economically active among the urban population are given above in table 13. Consequently, the main reasons are home maker, pregnancy, student, disability, illness, too young, old age, pensioned, remittance and other reasons. Among these reasons, being student takes the lions share for not being active. While analyzing the gender effect, the total number of economically not active population are females and the main reason for female for not being active is student, home maker and old age respectively with approximately 49.5%, 32%, and 5.88% respectively.

In order to specifically understand the future potential of development of a certain area, it is good to identify and calculate the dependency ratio of its population. Economic dependency ratio has

been defined as the proportion of economically not active population to economically active population over all age distributions. In addition, it can be calculated not working to working population. Economic dependency ratio provides us with significant information regarding the proportion of total population who is dependent on those who are working. The ILO definition of employment has defined worker as a person aged 15 and above who is employed. As the government of Ethiopia defines a person is employed or active starting from the age of 10 who engaged in productive work for at least an hour in a week. Hence, dependency ratio will be calculated as follows. This formula is directly taken from the CSA report.

Economic Dependency Ratio (EDR)

$$\frac{\mathrm{U} + \mathrm{I} + \text{Age } 0-9 \text{ years}}{\mathrm{E}} * 100$$

Where U = Unemployed Persons (age >=10 years)

I = Person Not in the Labour Force (age >=10 years)

E = Employed Persons (age >=10 years)

Age 0-9 years = Children Age 0-9 years

Economic dependency ration of ANRS is presented in the table 14 below.

Table 14: Economic Dependency Ratio (EDR) of Urban Population, ANRS and Sex: 2020

	Economic Dependency ration			Employment to population ratio		
	Male	Female	total	Male	Female	Total
Ethiopia	120	222	163	-	-	-
Afar	127	289	187	57.8	32.7	45.0

Source: UEUS report, 2020.

Hence, the table shows that there are 163 dependents per 100 household at country level while in the urban areas of the region, there are 187 dependents for every 100 persons. In other words, there are 163 and 187 unemployed people for 100 employed people at national and afar region respectively. Moreover, the dependency ratio is higher for females for both the national and regional urban population.

The CSA (2020) urban employment unemployment report shows majority of employed people of Afar urban residents are employed in elementary occupations followed by service and sales workers where females' participation in every occupation group is low. Moreover, among the totally employed workers, about 55 percent are paid employees either from government or other employers where only 0.2 percent of totally employed persons are employers who run their own

business.

5.3.3. Social Services Provision in Afar Region

The availability and accessibility of basic infrastructure and social services such as water, road, education and health are key factors of development and improved living standard of a community. Socioeconomic development usually measured by one/or composition of education, occupation, health, life standard of a nation and income. As the socioeconomic status affects the health, and other life related issues, a great attention has been given to the improvement of cultural, economic and social aspects (PIKE et al., 2007).

5.3.3.1 Education

Education is the key to achieving all development goals and includes the overall livelihood of a community. Education is the basis of other development activities not only in the economic sector but also governance gaps (PETROS, 2015). It influences health status and income generation. It is therefore very important to reach out the whole community despite the distance they are living from towns and the way of their livelihood. Access to education in ANRS is improving over the past ten years. It can be said that all districts of the region have schools. According to MOE (2019), there are more than 718 primary schools in the region of which only 35 are private schools. Moreover, according to an interview with high expert in the regional education bureau, there are more than 400 alternative basic education schools and 50 high schools in the region. Despite such number of schools, schooling at some places is delivered under tree sitting on the ground without formal house. As indicated by MOE (2017), the region is ranked last among the regions and city administration in the country accounting for only 11.7% pre-primary and 66% GERs for primary education. Although MOE (2019) report indicates teacher to student ratio is 1:19, an interview with high expert in the bureau of regional education reveals that, in most cases, the teacher to student ratio is 1:120 far from the national standard which is 1:40 which is significantly affecting the quality of education. Table 15 shows the access and quality of education in the selected study areas of ANRS. Accordingly, access to education is rated as good by majority (89.25%) of the respondents while 9.75 % and 1% of survey participants rated as Moderate and worst respectively. This shows that the community have a better access to education.

Table 15: Access to and quality of education, ANRS

Social Service	Access			Quality		
	worst	Moderate	Good	worst	Moderate	Good
Education	4(1%)	39(9.75%)	357(89.25%)	400(100%)	-	-

Source: Own survey result

When coming to the issue of quality of education, all the participants agreed as worst. While taking about educational quality, there are two main parts to consider: the physical and soft part. The hardware (physical) infrastructure of almost all schools is not well equipped with school facilities such as chairs, water, toilets, playgrounds, libraries, and no smart classes at all. Unavailability of water and toilet in schools more affects females. For example, they even cannot change their clothes in time of menstruation which might cause health problems such as wart.

Shortage of books has also been observed as one of the main challenges in the quality of education since the change of curriculum medium of instruction from Amharic into mother tongue 'Afar af' in 2014. Moreover, according the focus group discussion with school teachers the quality of content of the books is poor. As an example, they mentioned that the examples used in some books are not relevant and they don't use familiar explanatory words or pictures like using camel instead of horse. School teachers don't have lesson plans a teacher without lesson plan is like a soldier without gun. The implementation of continuous assessment mechanisms is poor. The national educational policy of student-centred approach is not feasible for pastoral community where there is no light and other educational inputs with students having a lot of additional responsibilities after school. Without guaranteeing quality of education, attaining access to education simply means reproducing the available illiteracy (UNESCO, 2014).

In figure 11 is presented the trend line for primary and secondary schools in ANRS. The figure shows that the primary school enrolment has been higher over the years compared to the high school number of students enrolled. Comparing gender wise enrolment, the number of male students attending both primary and secondary school is higher than females.

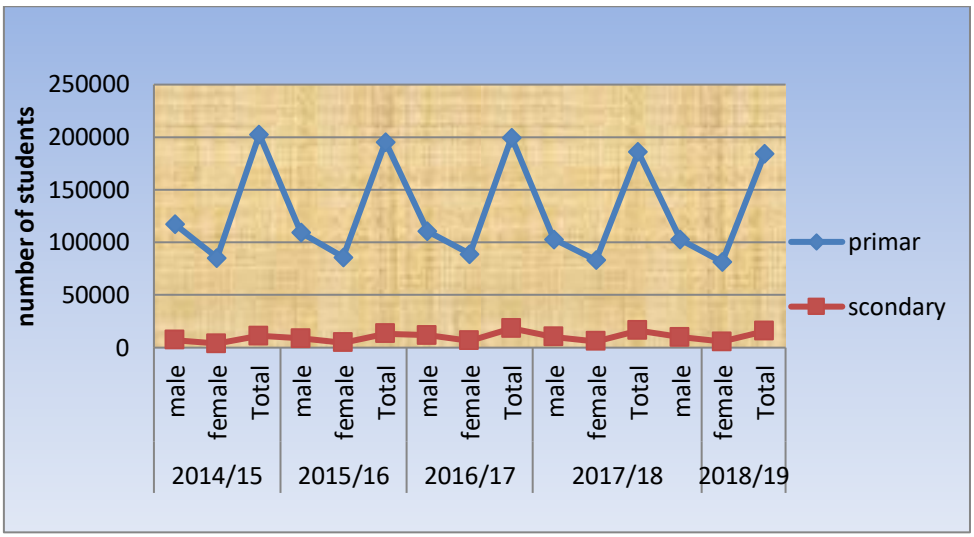
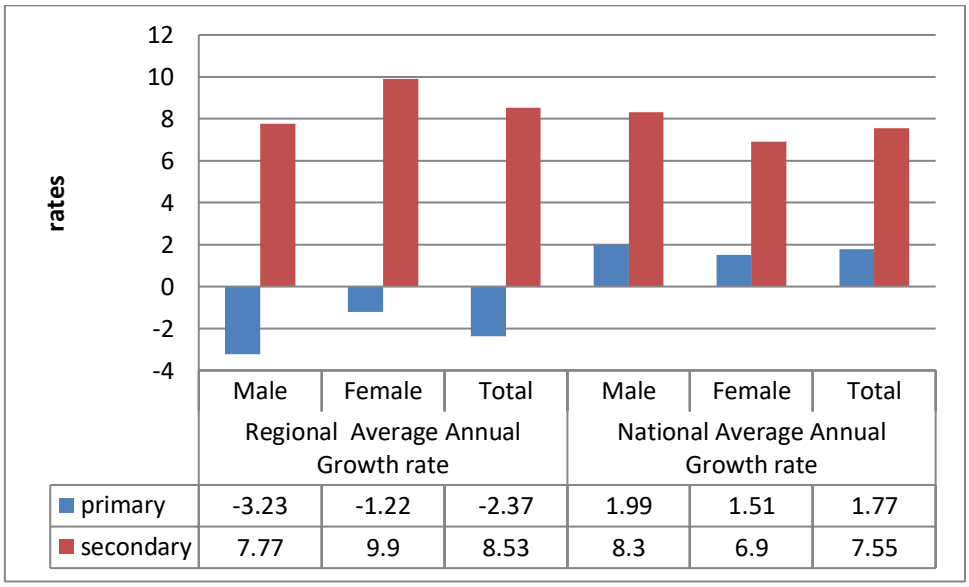


Fig. 11: Primary and secondary school enrolment of ANRS, 2014/15-2018/19
Source: Own calculation, MOE data

The overall average annual growth rate of both primary and secondary schools in ANRS is presented above in figure 12 with the national Average annual growth. The average was calculated from 2014/15-2018/19 academic years.



	Regional Average Annual Growth rate			National Average Annual Growth rate		
	Male	Female	Total	Male	Female	Total
primary	-3.23	-1.22	-2.37	1.99	1.51	1.77
secondary	7.77	9.9	8.53	8.3	6.9	7.55

Fig. 12: Average annual growth rate for primary and secondary schools, sex, ANRS
Source: Own calculation, MOE data2018/19

Accordingly, the average annual primary school enrolment growth rate for ANRS shows negative figure with -3.23 for male and -1.22 for female while overall average annual growth rate is -2.37 which is very low compared to the national average which is 7.77, 9.9 and 8.53 consecutively for male, female and total. On the other hand, the average annual growth rate for secondary school in ANRS higher than the national average both for male and females. But, compared to primary school enrolment, the enrolment growth rate for secondary school is low. This trend is more supported by the current survey result presented below.

Table 16: School Aged and school attending children

Total School Aged children			Total School Attending children			Percentage		
Male	Female	Total	Male	Female	Total	Male	Female	Total
707	605	1312	352	145	498	49.78	23.97	37.96

Source: Own survey result

Although there is access to education in the study area, yet the enrolment rate is low. As it can be seen in table 16 above, only 37.96% of the school aged children in the study area are attending schools even this figure is low for females compared to male students sent for school. According the MOE report 2018/19, the gender parity index for primary and secondary school ANRS was 0.94 and 0.7 respectively which showing a huge gap between male and female student enrolment. This figure is strengthen by a previous study done by UNICEF in 2019 indicating only 3.9% of secondary school aged girls are enrolled compared to the national 16.2%. There are different challenges to this low rate of educational attainment in the region. Early marriage, livelihood system(BIRHANU, 2017; UNICEF, 2019), lack of interest of parents to send their kids to school, lack of teaching-learning facilities, libraries, are among the challenges encountered outside the school (BIRHANU, 2017). Moreover, the number of students entering to Universities is very limited. For example, according to official data from the regional education bureau, about 84.5% of high school students were failed to pass the University entrance examination in 2017. This might be due to several factors, but most important one is the low quality of education affected by several other factors. In some areas where the researcher has an opportunity to visit, several schools were empty, neither teachers nor students were available. The only available thing was the building not to mention the quality of the school buildings. In some rural areas where there is a better settlement history, the schools are only limited to grade six which the family will be forced to send their children to nearby urban areas. This situation also forced them to send their male children, only if they have the financial capacity.

Table 17: T test for perception of importance of education difference among different Sex

Variables	t	Sig. (2-tailed)	95% Confidence Interval of the Difference	
			Lower	Upper
sex	-1.027	.305	-.379	.119

Source: own survey result

At 5% alpha level of significance a test is conducted to test the null hypothesis that there is no significance difference among different males and females towards perception of importance of education. Hence, table 17 shows that the p value is greater than 0.05 for sex indicating absence

of any evidence to reject the null hypothesis. Hence, it is concluded that there is no significant difference among males and females regarding the perception of importance of education.

As indicated in the table 16 above, only about half (49.78%) of the total male school aged children were able to attend school while a very low percentage for the counter female part is observed with only 23.97% of total female school aged children attending school. This is an indication of presence of gender discrimination although the males are not fully enrolled as their age allows them to go to school. According to the focus group discussions, gender equity in school is very poor. Boys are more preferred to girls. Among those who send their children to school, most of family members in cities relatively send their kids to school, but follow up is very low. Compared to their awareness, the level of follow up urban residents is poorer than the rural families. Once they send to school, they don't ask them what they have learnt and what homework they have. This is due the illiteracy of the family members.

In order to improve the enrolment rate gap, the regional government proposed they will give 3 litres of oil for one girl in addition to the home to home mobilization of school aged children. This motivational activity of course improved the enrolment rate of girls. But, the number of boys attending school started to drop down because the boys replaced the girls at home works. Therefore, there should be proper division of works for all family members.

Table 18: Reason for not sending children to school

Reason	Frequency	Percent
preference to study Qura'an	83	33.1
children are needed for help	168	66.9
Total	251	100.0

Source: Own Survey result

There are several reasons for school aged children not to attend schooling. As it is indicated above in table 18, in ANRS, the main reasons for not sending the school aged children to school is they are required to help their families and preference to study Qura'an (Islamic Holy Book)) with about 66.9% and 33.1% of respondents respectively. The focus group discussions and interviews show that there is still a gap in the families' attitude towards understanding the importance of educating children. They prefer their children to look after their livestock and focus on religious education. According to some of the families, the end of everything is death and for this reason they prefer to value their religious values and after life questions of their God.

Table 19: T test for perception of importance of education difference among different wealth level and livelihood base

	t	Sig. (2-tailed)	95% Confidence Interval of the Difference	
			Lower	Upper
Wealth	-1.818	.070	-.358	.014
Livelihood base	-2.098	.037	-.570	-.018

Source: Own survey result

The 5% alpha level t test was conducted to test the hypothesis that there is no significance difference among different wealth level and livelihood base (pastoral, semi pastoral, daily labourer, private employer) towards the importance of education. Hence, as shown in table 19, the P value is for wealth level is greater than 0.05 indicating existence of significant difference among wealth levels on the perception of importance of education. On the other hand, the p value for livelihood base is less than 0.05 indicating there is no significant difference among pastoralists, semi pastoralists, daily labourers and private employees about the perception of importance of education.

The cross tabulation of wealth level, livelihood systems (pastoral, semi pastoral, daily labourer and private employee), number of school aged and school attending children is presented in Appendix 2. Accordingly, there is a significant difference in sending school aged children to school based on the livelihood and wealth level. The semi pastoralists relatively send their school aged children compared to pastoralists. The interviews and focus groups discussion results also indicate that the main reason for such better performance in sending school aged children is the livelihood system where the settlement history of semi pastoralists is better and they are more advantageous in easily accessing the schools. When it comes to the effect of wealth level of the survey respondents, the numbers of school aged children sent to school are higher for the medium level of wealth holders while the rich pastoral communities tend not to send their school aged children. Moreover, among the school aged children, the number of students sent to school from poor pastoralists is higher than the number of students sent to school from the rich. The main reason revealed by the focus group discussion and key informant interviews was that the children are required to keep the livestock resources. Furthermore, the rich people think that the end goal of learning is to get employed and lead life from salaries. Although reached an agreement such kinds of attitude towards the importance of education affects the livelihood of the community, but this is an indication that there are people who undermine the importance of education since they link it up with just getting money rather than understanding the importance of education towards the overall personal development. This is a contradicting result with the

globally understood scientific result where the higher the wealth level, the higher number of students attending school. For example, according to AUMA et al., (2013), financial constraints of pastoral communities are one of the hindering factors to access to education.

Although there have been improvements in the education sector in ANRS, the rate of finishing schools and achieving the intended goals are very low. Despite low level enrolment rate, many students don't finish their schooling. As presented below in the table 20, the net enrolment rate is lower than gross enrolment rate for both at national and regional level at all levels of schooling. But, comparing the level of GER and NER for all education level, O class net enrolment is much lower.

This is more explained by the repetition and dropout rates. Hence, according to the MOE report in 2018/19, the repetition rate for primary school was 7.2 while the dropout rate was 19.3. In both rates, females take the higher proportion. This illustrates most of the enrolled students are not finishing their school. Several reasons can be mentioned for low retention rate at school. The nomadic livelihood system, recurrent droughts which severely affected the region, lack of access to safe drinking water where majority of the nomadic are highly dependent on, lack of awareness of the community are the major reasons for such low level of literacy in the region.

Table 20: GER and NER for different schooling levels, ANRS, 2018/19

Education level	Afar region			National		
	male	female	Total	male	female	Total
GER High school	12.5	8.8	10.8	34.2	29.8	32
NER High school	7.9	6.2	7.2	26.1	24.5	25.3
GER primary	60.82	52.62	56.9	109.93	99.23	104.64
NER primary	48.3	43.1	45.9	98.9	90.5	94.7
GER pre primary	13.2	12.4	12.9	41.8	39.7	40.7
NER pre-primary	6	5.6	5.8	24.5	23.3	23.9
kindergarten GER	4	3.8	3.9	11.3	10.8	11.1
Kindergarten NER	3.1	2.8	3	10.4	10	10.2
enrolment O GER	27.3	25.9	26.6	83.3	78.7	81
O class net	8.4	8.1	8.3	34	32.1	33

Source: MOE, 2018/19

On the other hand, as presented in the figure below 13, GER in first cycle of primary and secondary school is higher than GER for the second cycle at both schooling levels. This shows that, a significant number of students stop going to school at grade 4 and those who continued

stop at grade 10. Joining technical and vocational training and failure to pass the national examination are the main reasons for those who stop at grade 10.

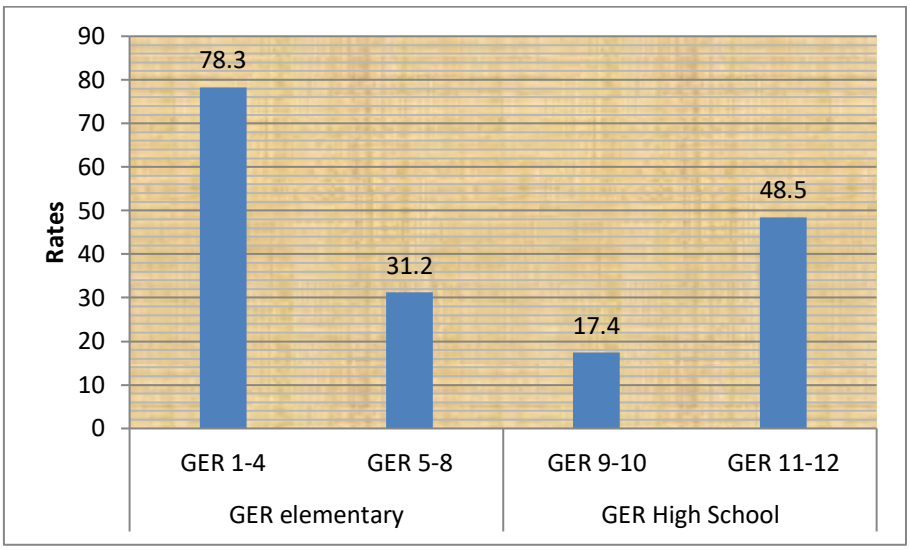


Fig. 13: GER and NER, for primary and secondary cycles, ANRS, 2018/19
Source: Own calculation, MOE data,2018/19

Interview and focus group discussion results revealed that the rural community thinks it is enough to learn as long as one can read and write. Additionally, most of the children start education late and as they reached 13-14 years old when they reach grade 4 and this age is the time where male children are expected to take family responsibilities alone by looking after animals, searching water and grazing areas and female children are expected to get married. Therefore, taking full family responsibility and early marriage are among the main reason for higher dropout rate. This result is similar to the research findings of BIRHANU, (2017) and UNICEF, (2019).

Moreover, another reason for the failure in retaining registered students is lack of flexible schedule. For example, in some rural areas, some families need their children in the morning shift while school time is only limited to morning shift. Although the negative effect of the hot weather is significant, the interest of families should be considered and options should be available.

It is obvious that Policies and strategies play an important role to register a good performance in economic development. But, when looking at the Ethiopian educational policy, the policy was the same for both pastoralists and other livelihood practitioners for a very long period of time while the nature and livelihood system of these communities differ. The educational policy devised for other regions doesn't fit Afar regions educational procedure. The policy problem of pastoral education program has also been reported by BIRHANU, (2017). After a very long

period time, education policy specific to pastoral community has first proposed by the government while developing the fourth Education Sector Development program (ESDP IV).

Among the key element of the education policy, learning by mother tongue was the most important. The issue of learning by mother tongue is a democratic right given by the currently implemented federal constitution to every nation and nationalities in the country. Books were changed into the local language. The problem of this educational policy change encountered because of lack of teachers who can teach with the local language. Because the majority of teachers were from the neighbouring regions and they don't have the skill to teach in local language. The number of local teachers is limited as the salary of teachers in afar region in is very low for very hot environment which requires additional incentives and the localities are not interested in becoming teachers. In addition to this, there is only one underutilized teachers' college in the region where the number of graduates is limited to 150 teachers per year while the minimum size that should be graduated per year should be at least 600. While doing the regional educational policy change, there was no prior analysis on the challenges that might be encountered as a result of it. The decision didn't include all stakeholders such as teachers, professional in the area and most importantly available resources potential were not analyzed. There were no induction programs prior to policy implementation.

As an alternative pastoral education policy, the regional government has implemented mobile education system where teachers and school inputs are moved with the community with the help of camel as a means of transportation. Mobile schools have motivated a lot of families to send their children to school. Despite this, the government has arranged transfer strategy for student travelling long distance with their family due to livestock grazing in order students to continue learning wherever they settled. But, this program is failed due to the low salary allotted to such teachers.

The government has been trying to improve the availability of educational inputs in collaboration with financial support of GEQUIP program. Besides to this, low quality of teachers and high attrition rates are among of the key factors of worst level of quality education in the region. According experts in the regional education bureau, there was significant size of teacher with forged educational certificates. Besides, according to MOE report of 2018/19, attrition of teachers both at primary and secondary school were highest in the region compared to other regions with attrition rate of teachers 6.5 at primary school and 7.9 for the high school while 2.2 and 2.9 for the national respectively.

Poor planning is another challenge to education sector in the region. Although the structure of school management includes parent teachers' association in every kebele who are responsible for the overall extracurricular activities of the school, planning about the sector is done by one or two individuals and there is no way the community is involved. The planning approach is top down disallowing the community to add their views. Such situation opens a room for improper utilization of the very limited capital budget allotted to the sector. All the woreda planning approach is poor where every woreda sector doesn't have any program budget. They simply plan the activities without the budget required for every activity. Moreover, there is no proper monitoring and evaluation system in place. According to one of the interview conducted with education sector employees, the monitoring and evaluation is done whenever they don't like the person who is in charge of the school or the woreda. This personalization of monitoring affects the overall environment of the sector. The other gap observed in planning is some activities might rejected while compiled by the immediate boss and so on until it is approved without notifying why to the respective bodies. Those who planned are simply has to plan again when they exactly know the amount money allotted to them. In addition to this, the budget is directly allotted to woreda administration in general rather than allocation to every sector according to their plan and priority which allows the woreda head to allocate higher amount based on intimacy rather than prioritized challenges of the woreda.

According to one of the higher officials in the regional education bureau one of the main challenges in the education sector is limited budget allotted. Of course, the budget looks high in number, but most of it goes for salary of teachers and school leaders. The remaining small amount cannot cover the activities of the education sector. The teachers training college is underutilized due to lack of budget to enrol more students than what they enrolled while they can triple the current enrolment capacity with the current infrastructure. The other challenge is the timing of printing books. According to him, printing books is done prior to budge allocation in other regions in Ethiopia while in Afar region the education bureau is responsible for printing from the budget allotted to them. Moreover, lack proper utilization of budget in woreda is another gap. The usually do not spend the money on purchasing school inputs.

Education sector in general and schools in particular need inclusiveness of different stakeholders if level of literacy is to be improved. In doing so, parents take the upper hand as children spend most of their time at home. Besides parents, a regular meeting and follow up is required by parent teacher association, teachers and other stakeholders working on education. Ethics of teachers also must be improved as most of the teachers seen chewing chat and watching football

matches with their students. Therefore, keeping the respect of teaching profession is mostly the responsibility of teachers.

One of the main challenges in school improvement program is poor management of the schools. Educational leaders are not usually instructional rather they are like bosses. They are mostly engaged in attendance taking rather than creating sense of belongingness and ownership. Moreover, in some woredas, students have been paying money to teachers so that they can get help to pass the regional and national examination. School and education sector leaders should know who they are leading and should regularly meet with parents and school leaders specially should monitor the overall activities in the school. In addition to checking if teachers have entered to classes to teach, they should make sure on whether the teacher has properly utilized his time in class.

Frequent change of education bureau heads is one of the main problems. According to one of the middle level managers of the bureau, seven heads and six vice heads has led the offices in the last 10 years. Besides, the way leaders assigned to offices is not based on their profession rather it is political. This means, appointed leaders didn't have enough time to understand the environment of the sector, put their efforts to improve the overall management and improve the net enrolment rate. The commitment of government in improving access and quality of education is high. Other stakeholders also have a key role in improving the education sector.

5.3.3.2. Human and Animal Health

Similar to other social services, access to health facility is a key to local and regional economic development since it affects the productivity of societies including the pastoral. Improving well-staffed healthcare accessibility is one of the important things to ensure population health and hence improve productivity. However, accessibility issues are common public health concerns, especially in under-resourced countries including Ethiopia. Measuring status of healthcare accessibility and related resources will help policy and decision makers improve the public health service delivery which will eventually enable them to achieve the universal health coverage and millennium development goals.

For pastoral and agro-pastoral communities livestock is an important asset thus needs to be productive. Animal health is among the important factors of livestock production where lack of such services will negatively affect the productivity of the livestock sector which will in turn lead the pastoral and agro-pastoral community to food insecurity and poverty. There is a positive relationship between animal health and livestock productivity. The productivity of animals

significantly affected by accessibility and quality of animal health services. Table 21 shows the number of animal health centres across zones in the year 2018/19. As it can be seen from the table, there are about 242 animal health centres where zone 1 has the highest number followed by zone two while the lowest number of animal health centres are in zone 5 and zone 3. In addition to this every woreda in the region has one animal health clinic for except three woredas. According to regional bureau official report, the average coverage of animal health centres and animal health clinics in 2018/19 was 66.33% and 81.04%. But, according to the focus group discussions and field observations done, a significant number of animal health centre and clinics were not properly functioning due to either lack of professionals, or animal health inputs.

Table 21: distribution of animal health centres in ANRS, 2018/19.

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
Animal Health centre	67	57	38	43	37

Source: Agriculture and Pastoral development bureau, ANRS

Regarding the human health service in the region, currently there are about 372 health posts, 96 health centres and 9 hospitals in the region (presented in table 22). According to the observation analysis after visiting the health centres in the study area, the functionality of the health posts and health centres is under question mark.

Table 22: Human health facilities, Number and type, by 2020/21

Health posts	Health centers	Hospitals		
		General	Primary	Maternity(target)
372	98	2	5	2

Source: ANRS Health Bureau

According to focus group discussion with community, there are buildings without professional health workers and without medicine. Medicines are sold, they health posts and centres are dirty and total it looks impossible to work there. The doctors or nurses visit the health posts and health centres most once or twice a week and they don’t come on time. As the nurses and doctors work at private clinics, they are not patient while working. It seems like they are focused on marketing and business oriented.

Presented below in the table 23 is the available health centre types where A type health centres are those health centres equipped with pharmacies and laboratories serving at least 50 person day and these types are mostly located at highly populated areas of the region with more than 50000 inhabitants. Whereas Type B are those centres who can deliver a service for about 30 persons per

and they might be with or without laboratories and pharmacies while C types are those health centres without laboratories and pharmacies able to serve about 10 person per day. Accordingly, about 42.86% the health posts are C type health centres, 20.41% B type and the remaining 36.73% are of A type. Relatively lowest number of health centres is found in zone 4 while the large size is located in the northern part of the region, Zone 1 followed by zone 2 with 25. As the figure indicates, the highest proportions of the health centres are the C types indicating inexistence of laboratories and pharmacies. This is an indication of poor quality of health services in the region and people are forced either to stay at home or travel long distance for medication costing them high money and time.

Table 23: Health Centre by type

Zone	Health centre type			Total
	A	B	C	
01	11	6	10	27
02	09	03	13	25
03	7	6	6	19
04	05	1	6	12
05	04	04	07	15
Total	36	20	42	98

Source: ANRS Health Bureau

One of the common problems encountered by developing regions like Afar region was inaccessibility to health services (EPSTEIN and BING, 2011). Although there has been improvements on access to human and animal health in ANRS the coverage is far from what is required. Table 24 presents survey results on the status of access and quality of human and animal health in the study area.

Table 24: Access to and quality of human and animal health, ANRS

Social Services	Access			Quality	
	worst	Moderate	Good	worst	Moderate
Human health station/ Post	122(30.5%)	278(69.5)	0	323(80.75%)	77(19.25%)
Animal Health station	135(33.75%)	230(57.5%)	35(8.75%)	367(91.75%)	33(8.25%)

Source: Own survey result

Accordingly, access to human and animal health was rated as worst by 30.5% and 33.75% participants respectively while 69.5% respondents rate access to human health as moderate. Moreover, 57.5% of the respondents rated the access to animal health as moderate while the

remaining small percentage (8.75%) of participants rated it as good. This indicates the accessibility of both human and animal health services not as such bad although the percentage of respondents rating the access as worst is significant. Low level of accessibility of human health has also been addressed by EPSTEIN and BING (2011). Although access to human and animal health has been improving, the quality of is very poor. As indicated in the table 24above, majority of the respondents agreed quality of these two services as worst (80.75% for human health and 91.75% animal health) while the remaining 19.25% and 8.25%) of the respondents replied as moderate. The interview held with health service workers and focus group discussion held with the rural community revealed poor health facilities at health centres, poor access to ambulances and absence of majority of medicines are the main challenges of the health sector. Hence people are forced to look for better health facilities which will incur them additional costs and more of their time.

Table 25: Accessing health facility, ANRS.

Do you visit health centres?			when do you go to the health centre	
				when sickness goes worst
Yes	373	93.25	Frequency	373
No	27	6.75	Percent	100
Total	400	100.0		

Source: Own survey result

Even though the quality of health facilities is not attractive, as presented in table 25, about 93.25% of respondents visit health centre seeking medication whenever their sickness goes worst. Those who decided to go health post has to travel on foot for at least 2 hours.

Table 26: walking time to health centre, ANRS

Time to health centre	Frequency	Percent
About 2 hours	113	28.25
Between two-three hours	64	16
More than three hours	223	55.75

Source: Own survey result

As it can be seen in table 26 presented above, majority of respondents said that they travel long distance to reach the health centres. In order to get to the health centres, they usually travel on foot for about two hours (28.25% of respondents), between two to three hours (16% of respondents), and more than 3 hours (55.75% of respondents) to health centre.

In addition to those who do not visit health facilities, those survey participants who visit health facilities were also asked about the main reason of the community for not going to health facilities. Accordingly, table 27 shows the main reasons for either not going to health centre were lack of money for the majority (with 82.75% of respondents) at the time of sickness while 12% of the respondents replied that the distance from health centres is the reason for not going to health centre.

Table 27: Reason for not going to health centre, ANRS

Reasons	Frequency	Percent
Lack of Money	331	82.75
Preference to tradition medication	21	5.25
Distance from my location	48	16
Total	400	100.0

Source: Own survey result

The remaining small proportion of the survey participants think preference to traditional medication as the main reason for not going to health centres. According to focus group discussions, the qualities of services at health centre were also mentioned as the main reason for not going to health centres. Some of the communities even go to neighbouring areas for better health services.

Due to the fact that there is poor quality of services and the distance people have to walk for medication, significant portion of the community dies either before reaching the health centre or simply die at home. This might be the main reason for high mortality rate registered in the region. In addition to such low level of community's interest to go to health centres, home based maternal health service delivery is not available at all. Pregnant women are expected to deliver at health centres, but due to the distance and lack of transportation services, they are forced to deliver at home. This result is similar to the conclusions of AHMED (2011). Besides, ambulances which were primarily brought to serve the health centres are used by leaders for the purpose of transportation other than transporting patients.

Moreover, as it can be seen in table 28, gender sensitive service delivery is not available in the selected study areas. But, there are health extension workers who are paid every month. Their responsibility is to educate the rural community and promote preventive mechanisms. But, their effort is very low. On the other hand, there are mobile health workers who relatively better in supporting the rural community. But, there is still a huge gap in properly utilizing all of them.

Table 28: Maternal health service delivery in ANRS

Home-based skilled maternal health services			Gender sensitive service delivery	
	Available	Not available	Available	Not available
Frequency	-	175	-	400
Percent	-	100%	-	100

Source: Own survey result

It can be concluded that the health service in the region is poorly equipped similar to the study conducted by NEJIMU and HUSSEIN, (2013). There are several reasons for such poor quality of human health services in the region. Service delivery has come to one room in many of the rural health posts and health centre as they don't have all equipment. There is no laboratory equipment in most of the health centres. If there is a laboratory centre, they are only in the centres of the woreda. In those health centres that have laboratory equipment, they lack detergents to function them. Due to lack of facilities, most of the professionals usually leave the place for better option. Such problems of the health centres force people to travel to neighbouring woredas sometimes to neighbouring regions where they face several challenges such as language barrier and they usually exposed for theft. Lack of transport and road access is also another problem where the rural community gets difficulty to get to health centres. In some areas, for example, in zone five it is very difficult to reach the health centres through transportation. People have to go through some other woredas in order to reach districts they administer.

There is no proper distribution of medical inputs across the region and monitoring and evaluation of the distribution of such inputs. According to in depth interview with some of the health professionals and focus group discussion held with rural residents, medicines are mostly sold out before they arrive to the centre. What arrives at the health centre is enough to treat patients. Besides to this, they sell nutritionally good food expected to be distributed for children.

Lack of proper management is among the reasons mentioned for poor status of the health services. The leaders of the health posts, health centres and hospitals are busy with political responsibilities. In some of the study areas, there are more than 100 workers in one small health centre which is too exaggerated to believe. They simply pay salaries. According to one old man in an interview, the leaders even take salaries in the name of dead people.

There is also lack of health professionals in the region. Lack of skilled staff was one of the main problems in ANRS with median of health officers and midwives per health centre below the

minimum threshold (ETHIOPIAN STANDARD AGENCY, 2012). The median skilled health workers (SHW) for ANRS were 23.03%, below the minimum standard set by WHO (LECHTHALER et al.,2018). The density was only 11.08 % of the WHOs 44.5 SHWs minimum standard to achieve the millennium development goals. These situation can hamper not only the access to health service, but also the quality to be delivered (OLYAEEMANESH et al., 2019).This is an indication that a lot must be done in the future than what has been achieved so far in the region. In order to fill the health worker gap, a lot of health professional comes to work in the region. These professionals don't speak the local language which makes communication very difficult with the local patients. Lack of medical inputs and creational facilities are the main problems the medical professionals raise as a reason for not interested to stay at health centres. Retaining them is very difficult. Relatively, Yallo woreda health facilities are better compared to other woreda facilities. On the other hand, those health professionals who are working (health workers and health facility leaders) at the different areas of the region are exposed to drug addiction such as chewing chat and such condition forces them not to stay at their respective stations in working time. The focus group discussion participants came in to agreement that majority of the health workers lack sense of servant. Sometimes they take the stamp with them making referral very difficult. But according to respective leaders, they go to other areas for printing due to lack of office inputs such as computers and printers.

Lack of health professionals could have easily been solved by improving the only available health Science College in the region. But, the college is producing very few graduates due to budget constraints. But, those students who are graduating from the college are, most of the time, those students who failed to pass grade 10 national examinations. Although the teachers in the college do their best to make the students as professional as possible, the prior capacity of the students can be questioned with the quality of education they actually came through. Besides to this, significant number of students who academically failed to continue in the government health science college has been graduating from private health Science College. Therefore, the life of the Afar community is at risk. It is, hence, tough to properly manage and execute development plans. Healthy people are required in order to assure sustainable development. Achieving the national millennium Development goals and the 2030 agenda of the health sector will be hindered if regional performance is poor.

According to in-depth interviews held with respective government authorities at different level, low budget size allotted to the health bureau was mentioned as a reason for the poor performance of the sector. But, while cross checking the size of non-governmental organizations working in the region in collaboration with the regional health bureau, the budget problem becomes

insignificant. Hence, several NGOs have been working towards achieving the millennium development goals. According to a study conducted by AMREF (2009), the general health status of the people of ANRS was poor with maternal (720/100,000) and under five years child (229/1,000) mortality rates indicating the vulnerability of women and children. Dissatisfaction of the people in the service delivery of the available health centres were high due to the absence of the health workers whenever they are wanted (AMREF, 2009). The frequent absence of health workers from the centre was due to their frequent travel to nearby cities or towns for better housing and other services such as safe water and foods. The level female genital mutilation in the region was 94.5%indicating poor awareness creation and implementation (AMREF, 2009). Furthermore, according to the data source from the region's health bureau, for example since 2014, about 100 health related projects have been planned and implemented, some are still ongoing projects, by nongovernmental organizations targeting all the regional population; pastoralists and semi-pastoralists, children, women, etc. Despite such number of projects, the level of health service in the region is poor.

Regarding Animal health, despite the initiation by the federal government to devise the livestock master plan to reduce animal diseases, enhance animal welfare, and develop better animal health system (SHAPIRO, 2015), poor access and long distance to animal health post, poor access to transportation, electricity, low number of veterinary professionals are yet among the main challenges mentioned as bottleneck of the animal health.

5.3.3.3. Water

For the Afar people water means life. With the hot weather condition of the region ranging from 22-55 degrees, access to safe drinking water and water for their livestock is among the priority needs of the community. According to DAVIES et al., (2016), access to water is the most important factor for the livelihood of pastoral and agro-pastoral communities including afar people. But, according to focus group discussion and interviews despite the dictation the policy of the federal government to ensure availability for all communities, yet access to both human drinking water and water for animals is very limited.

Based on the current national standard for both urban (with in half km radius and unlimited water per day) and rural (1km radius and 60litres per day) access to safe drinking water, the regional coverage was only 36%.There were 577 water points in the region in 2018/19. Of which, about 39.5% (228 water points) were electricity or generator power dependents, 10.7%(66 water points) were solar power dependent, 48.2% were hand pumps and the remaining

small proportion were among other types. But, about 17% of these water points are not functional due to technical problems.

Comparing the Zone level water point distribution, and its functionality presented in the figure 14 below, Zone one (Awusi resu) has the highest number of water points and zone three (Gabi resu) has the second highest, while zone four (Fanti resu) has the lowest number of water points. Looking at the percentage of functional water points, zone two has the highest size of functional water points with approximately 95% are functioning while zone 5(Harri resu) has the lowest proportion of functional water points. Digging water points alone cannot assure the accessibility of safe drinking water. Therefore, it is important to make sure they are functioning all the time in order improve the health and livelihood of the community.

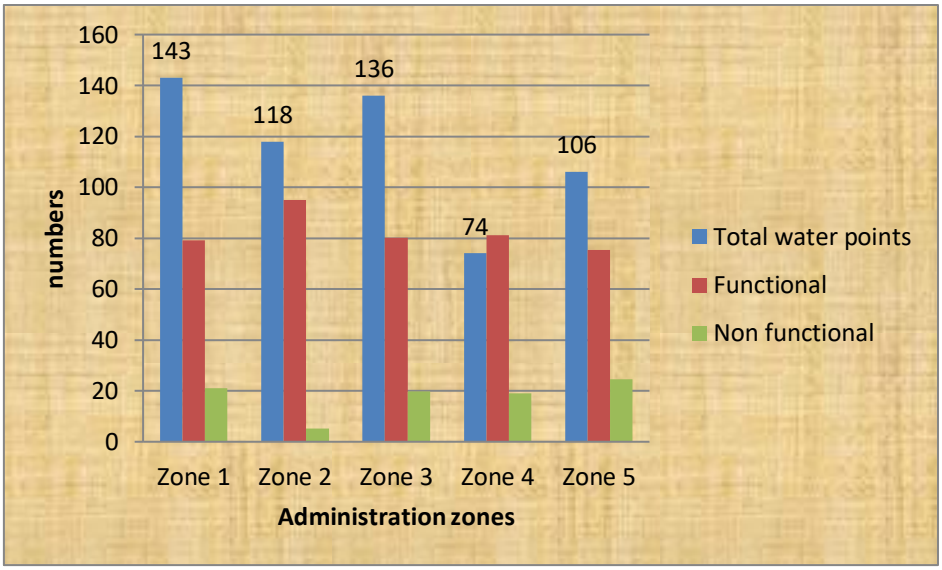


Fig. 14: Water points in ANRS, 2019/20
Source: Own calculation, Water Resource Bureau data, ANRS

Moreover, presented figure 15 below shows the highest number of those hand pump ground waters accessed with the help machineries are located in the zone 1 followed by zone 5 while zone three is the list. On the other hand, most of the hand pump ground waters dug with hand is located in Zone 5. Furthermore, the figure below shows, the highest number of motorized water points are located in zone 1 followed by zone 3 while zone 5 has the lowest number of motorized water points. This is mostly due to proximity to cities with access to electricity and fuel stations for the generators.

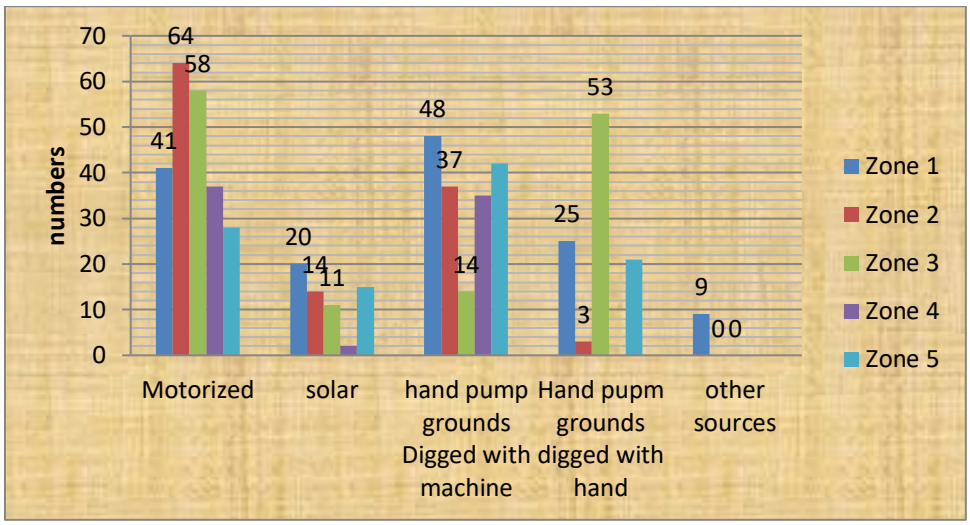


Fig. 15: water points, and their type in ANRS
Source: Own calculation, Water Resource Bureau data, ANRS

As it is shown in table 29 below access to drinking water is rated as worst by 61.5% of survey participants while about 38.5% respondents rated as moderate. On the other hand, access towater for animals were rated as worst by 39.25%, moderate by 40.25% and rated as good by 20.5% of the survey participants. Those who rated access to drinking water and access for water as moderate are mainly located in either woreda cities and/or around the awash basin where access to all types of water is better.

Table 29: Access to water, ANRS

Services	Access		
	worst	Moderate	Good
Drinking water	246(61.5%)	154(38.5%)	-
Water for Livestock	157(39.25%)	161(40.25%)	82(20.5%)

Source: Own survey

A lot of effort has been exerted to improve access to safe drinking water by digging several holes across the rural areas with depth level as deep as 640m in some areas to produce average of 90litres/second although the water can be found within the range of 9m to 12 m. Although there are around 1272 boreholes in the region, yet access to safe drinking water is very low in most rural areas.

In addition to access to safe drinking water, the survey includes questions about the source of water both for human drinking and water for animals and the majority of the rural community gets water both for drinking and for their animals from borehole and it is shown in table 30.

Accordingly, about 74.25 of the respondents replied borehole as the main sources of water for drinking while 9.25% uses birkad, 6.5% uses pipeline, 5.75% uses communal hand pump, and 4.25% of the respondents get water from river. The majority of those pipelines are located in towns, but almost all the rural resident access drinking water from borehole.

Table 30: Sources of water for human and animal, ANRS

Source of water	For Human		for animals	
	Frequency	Percent	Frequency	Percent
River	17	4.25	181	46.05
Pipeline	26	6.5		
Borehole	297	74.25	212	53.95
Birkad	37	9.25		
Communal hand pump	23	5.75		

Source: Own survey result

With regard to sources of water for animals, the mobile pastoral community (about 54%) included in this study totally depends on borehole in majority of the year for expect some time in the rainy season while the remaining 46% get water for their animals from rivers. Based on this survey result, all those who get drinking water never treated the water before drinking. Such scarcity of water in the region affects the health of the community since they are forced to use dirty water from rivers. On another survey done by CSA in 2016, only 0.07 percent of the community has a habit of water boiling before drinking and only 4.2 percent purifies the water with chemicals before drinking. The remaining majority of the community doesn't treat water before drinking, and hence exposed for several diseases. Such think also happens due to poor sanitation where sanitation is another problem in the region. The people have been suffering from dust water as they drink without treating it. According to some of the people interviewed in Asayta and Afambo woreda, the water coming from the awash dam is affecting their health. According to them, awash dam is very dust due to the by-products of factories joining the river and stayed as long period as it produces bacteria. Once the dam was filled, they opened the way and lands in the areas where the people is living. They call it "Abihe bad" literal meaning bad smelling sea as they see it as sea. They believed that a lot people got sick and died out of it. Therefore, the government should frequently check and taste the awash dam and monitor its flow.

With the poor quality of health service delivery in the region, the probability of the community from water related diseases is high. This will totally damage the demography of the region which in turn will negatively affect the regional economic development.

According to the study survey presented below in table 31, drinking water is fetched by adult women and girls in the study area where the majority (51.75%) of respondents replied that the these adult women and girls travel at least 3 hours to fetch drinking water while 29.5% of the respondents replied that fetching water takes between an hour and two hours while 15.5% and 1.25% of the respondents replied fetching water takes less than an hour and between an two hours and three hours respectively. Based on this, more than half of the respondents replied that adult women and girls are forced to walk for more than three hours in a single route every three days. But, the standard set by GTP I regarding the average diameter of accessing water has been improved by the second GTP of Ethiopia from 1.8km radius to 1km. yet, it is difficult to achieve this goal in afar region where the majority of the community residing in the rural areas.

Table 31: Time to fetch water, and treating water, ANRS

Time taken to fetch water			Way treating water			Drinking Water fetched by		
Hours	Frequency	Percent		Frequency	Percent		Frequency	Percent
less than 1hr	62	15.5%	Never Treated	297	100	Both girls and adult women	400	100
1hr-2 hrs	118	29.5%						
2hrs-3hrs	5							
More than 3	207	51.75						
Total	400							

Source: Own survey result

As it has been seen from the tables 31above, the overall status of access to safe drinking water in the study area is very low. Several reasons could be mentioned here for such low status. Every problem related to water sector starts from poor planning. There are no appropriate strategies to improve the livelihood of the community as all development demands are not initiated from the community. Lack of stakeholder involvement in planning and execution of the project is a key determinant factor for worst access to water in the region. The leaders simply impose the good experience of highlanders. The federal plans are not customized. There is no prioritization of sectors and activities in woreda administration while allocating the budget. Even though there is a simple plan, the focus of the leaders is not on activities planned rather they are focused on the total budget requested.

The other challenge is the unique geology of the region and quality of water available in most of the areas where water has been obtained. There are no advanced technological options to search and locate water. The water accessed after digging, in some areas, contains high amount of manganese, salt, high fluoride and sulphur affecting the quality of water. Therefore, the experts are forced either to stop or to build another treatment reservoir. There has been practices of construction of water treatment reservoirs in the region so that water can be treated and assure its

safety for drinking. But, the cost of construction of the treatment plan is very expensive and the people are not able to cover the chemical costs by their own. The small amount of money they collect cannot fulfil the fuel need of the generator. Therefore, they prefer to search for the other sources of water they traditionally used. Even if the water quality is good at some areas, the hot weather of the region as a result of rift valley usually damages the pump minimizing the life of the pumps and then reduces the accessibility of the water at some point in time.Several challenges has been mentioned by the experts participated in an in depth interview. One of the key challenges is the imbalance between the budget allotted and the demand. Although the bureau requests appropriate budget to the regional cabinet, the budget allowed is far from what is requested.

Another challenge observed over the period of accessing water the site location where good quality water is available. Sometime, the area where the water located becomes a graveyard which triggers conflict among the field workers and the rural community forcing implementation of the project to take longer time to do the job as it requires reaching into a consensus to resettle the bodies buried. Sometimes this is the result of unprofessionalism of the employees developing the coordinates of the sites as they do it at office without prior field visit. The professionals didn't provide enough evidence how and why they provide that site. Moreover, in some cities where good quality water is found, pipeline distribution was seen a challenge as the master plan of the distribution and the city plan doesn't meet. In such situation, the implementation distribution of pipeline takes longer time until either the master plan is changed or the community's' request for compensation is paid. This is mostly due to lack of stakeholder involvement in planning phase.

Moreover, lack of culture of water management was another challenge where the community doesn't have awareness on how to properly benefit from the already available water for a longer period. Sometimes the water transmission line is found broken although not known by whom. Despite this, once it is damaged it is very difficult to repair in short period of time due to poor capacity of the professionals in every woreda. According to one of the key informants involved in this research, the number of professionals in every woreda is very limited and is maximum of three who really need frequent skill training in order to enable them solve problems encountering in the main water reservation. To solve such kinds of problems, in the rural areas where there is water, the management is done by committee members selected from the community and they are responsible for overall administration of the water. They decide and collect monthly fee so that they can buy fuel and cover the repairing cost when necessary. In such activities, women are better than their counter parts.

Furthermore, lack of electricity and long distance to and lack of transportation access to reach fuel station to buy diesel for the generators used for water pumping is another contributing factor for low level of water access. Hence, they are forced to travel between 80km to 250 km even to neighbouring regions to get gas stations which are very costly even worst due to lack of transportation access. This situation usually opens a room for money theft from the government while buying the diesel.

5.3.3.4. All-Weather Road and Transport system

Road transport is supposed to create a network over a wide array of infrastructural facilities. In addition, the road transport sector is essential for developing countries since provision of other advanced means of transportation is expensive. Well-developed road transport sector in developing countries is assumed to fuel up the growth process through a variety of activities of the development endeavours of a nation. Among these, creation of market access opportunities for agricultural and livestock products is the major one. Moreover, road transport facilities play a role in both the production and consumption decisions of every household in their day-to-day activities. Besides, road transport facilities are essential for expanding education, health service provision, trade facilitation both within the country and the export market, and better public as well as private service provisions, including banking and insurance services, to the destitute and marginalized rural dweller.

The region is responsible for constructing the rural roads and it has a region level bureau. The unpaved rural roads are constructed by the region while the paved ones are constructed by the federal government. Road infrastructure in the region is very limited where majority of the people are forced to walk long distance. According to Ethiopian Roads Authority data, the distribution of road network is lagging in Afar region while the region hasfavourable environment for investment opportunity and tourism potentials. The coverage of paved road is a little bit higher in all the regions for except ANRS. The paved roads size in Afar region is limited to main roads connecting the region from the other regions.

Table 32: Roads distribution, ANRS

Road type	Constructed by	Length and status	
All-weather roads	ERA	Paved	Unpaved
		1560 km	535 km
	Regional Government	-	722km
Dry season road	Community (woreda)	-	1347km

Source: Report of Afar region rural roads Authority, 2020.

Table 32 above presents the road status in ANRS. Accordingly, of the total all-weather roads, about 2095km (74.36%) were built by the ERA where 1560 kms are paved. The regional government and the community built 722 km and 1347 km respectively. This length of road is too short for a rural community living in a wide range of area.

As it is presented in table 33 below, access to all weather road is rated as worst by almost half of the respondents while the second large proportion of the respondents (36.25%) rated as moderate. There are only 13% of the survey respondents who rated the access to all weather-road as very good. Compared to zone level access to all weather road, zone one has a better access while zone Four is the least according to the percentage of respondents. Even there is access to all weather road in some of the study are districts, transportation access is rated as worst, moderate and very good by 28.5%, 43.75 and 37.75% respectively. This indicates that, the in those districts where there is access to road, the transportation facilities are limited. As a result people cannot move from place to place whenever they want at the same time limiting business opportunities and even worsen the possibility of reaching health centres.

Table 33: Access to all weather road and transport

zones	Access to all weather road			Access to transportation		
	worst	Moderate	Very	worst	Moderate	Very Good
Zone 1	0	77	43	13	53	54
Zone 2	79	21	0	0	48	52
Zone 3	0	47	09	4	47	5
Zone 4	71	0	0	71	0	0
Zone 5	53	0	0	26	27	0
Total	203(50.75%)	145(36.25%)	52(13%)	114(28.5%)	175(43.75%)	111(37.75%)

Source: Own survey result

Besides to this, the access to all-weather roads connecting woreda to woreda, woreda to district and district to district is limited. The limited road availability in the region has significantly affected the regional development. In the absence of well-constructed roads, it is not possible to mobilize and improves business activities and limits revenue generating capacity.

Improving the access and quality of transport is the key challenge the region has been facing. Financial constraint is another bottleneck in the process of increasing the access to transport and improving the available once including through maintenance. There are several problems in improving the regional road construction and transportation system. Among this, budget is the main problem. Bearing in mind that the construction of road access requires a huge investment, the nature of road construction itself requires a huge amount of budget and the region allocates

very limited amount. Most of the time, the region allots far below the required amount. With this amount, the bureau can't do much work. Even if they start to construct with the allotted amount, transportation service starts before the project is finished and it damages the road. Hence, every year the allotted amount is spent to repair the damaged one.

The other challenge is lack of machineries to construct the road. The existing ones are old and the bureau s forced to rent in order to construct the roads. Besides to this, the bureau doesn't have well skilled professional due to low salary scale. The maximum payment of the rural roads bureau for the professionals who can manage the machineries is 5000 birr while private companies pay 15000 birr which is three times bigger.

According to experts in the regional roads authority, the regional office never consulted about the paved roads constructed by the federal government. The regional experts come to know a road is constructing in the region only when there is disagreement between the community and the company constructing the road. This is due to lack of participation in the planning although the president is informed about it perhaps the bureau head.

There is a weak link between the regional bureau and the respective woreda and has created a communication gap in planning and execution. In addition, the other problem observed in the road construction sector is the structure of the bureau where the regional rural roads bureau is responsible for designing, contracting, consulting and monitoring. Such merger of responsibilities opens a door for government theft and poor performance of the sector.

5.3.3.5. Bank and Credit Services

Access to saving institutions (banks) is among possible coping mechanisms to recurrent drought and unexpected shocks where the communities can sell their assets in bad times so that they can save their money. Moreover, access to credit service can enable the pastoral communities to diversify their source of incomes since financial capacity is the key factor to diversify source of income (OUMA, 2017).

Banks have a significant impact in enhancing economic development. In most of the region, the banking service is limited where the government bank (Commercial Bank of Ethiopia) is the one who is relatively accessible. Whereas the private banks are concentrated in and around the capital city of the region and very few of them are accessible in zone city. As it is presented in table 34, about 50.75 of the respondents rates access to banking services as worst while significant proportion (34.25%) rated the access to bank as moderate. Only 15% of the respondents who rated as the access to banking service as good are mostly from zone one and

zone three where these areas have a better access to all weather road and transportation relative to the other zones.

Table 34: Access to bank and credit services

	Access to banking services			Access to credit services
	worst	Moderate	Very Good	worst
Zone 1	23	55	42	120
Zone 2	77	23	0	100
Zone 3	0	40	16	56
Zone 4	64	5	2	71
Zone 5	39	14	0	53
Total	203(50.75)	137(34.25%)	60(15%)	400(100%)

Source: Own survey result

Table 34 also presents level of access to credit services in the study areas. Accordingly, credit access in the study area hardly exists. Of course, there are microfinance centres whose aim is to smooth the credit service for the regional community. But, most of them are located in the capital of zones which are not accessible by the community. Even in those cities where they try to deliver the credit services, their requirement for credit request is strong especially for the rural community who doesn't have fixed assets or basic regular salaries. Livestock assets are not used as an asset to get credits where most of the rural community's asset is limited to their animals. Moreover, the need for trade certificate is also another challenge of the microfinance centres. The other reason for inexistence of the credit services is low level of awareness about the importance and detail procedure of the credit service. Furthermore, the credit system by itself needs to be free of interest as the religion of Afar people (Islam) prohibits paying and accepting interests for loaned money. Although the government officials and experts of the area try to explain the system accommodates the religion's commandment, it seems the religious leaders are not on the same side with the government authorities. Therefore, it is necessary to either readjust the system or convince the religious leaders about the system so that religious leaders can convince the community. In addition to this, a system allowing livestock asset to be used for credit services should be devised and implemented.

5.3.3.6. Access to ICT and Electricity

There is no question of the importance of electricity in improving the wellbeing a community. It is a source of light, cooking energy, and an engine for activities that require electric power. Accessible electric power can improve the reading habit of students, health of households, and can ease the use of different medium of communication which in turn will improve the

awareness of the rural community towards the global movements and hence will increase the level of their involvement in all aspects of development activities.

According to Ethiopian Electric Power data, improvements have been observed towards accessibility of electricity, especially in urban areas. It can be concluded that most of the towns of the woredas have access to electricity despite its frequent on/off of the power. As it can be seen in the figure below, among the kebeles in the study woredas, Dupti woreda have a better access to electricity followed by Amibara woreda and Ewa woreda.

While drawing zone level analysis from figure 16 presented below, Awusi resu (zone 1) have better access to electricity compared to the other administrative zones in the region. On the other hand, Harri resu(zone 5) has lowest coverage. The main reason for better access to electricity in the aforementioned woredas is their proximity to the main road and the capital of the region.

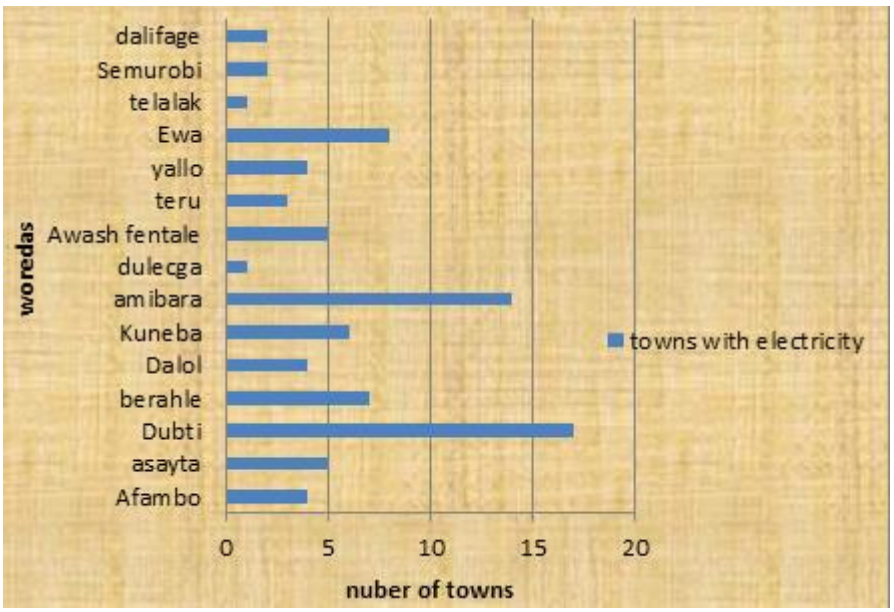


Fig. 16: Towns with electricity in study area

Source: Own calculations on the basis of Ethiopian electric Power Service data, ANRS branch

Besides the secondary data obtained from the Ethiopian electric Power service, the survey participants were asked to rate the level of access to electricity and it is presented in table 35 below. Accordingly, access to electricity is rated as worst by the majority of respondents. About 40.75% of the respondents rated the access to electricity in the region as moderate. Comparing access to electricity among zones, the responses are almost similar. This indicates the availability of electricity is poor in the region. Such low access to electricity has a significant impact on economic development activities of the region. Industries totally depend on power; the region's weather condition forces the residents to have cooling system which also requires electricity. Besides, with the growing technologies in the world, home equipment are becoming electronic which also requires electricity.

Table 35: Access to ICT and Electricity in ANRS

Zones	Access to ICT		Access to Electricity	
	worst	Moderate	worst	Moderate
Zone 1	86(21.5%)	34(8.5%)	48(12%)	72(18%)
Zone 2	100(25%)	0	62(15.5%)	38(9.5%)
Zone 3	56(14%)	0	39(9.75%)	17(4.25%)
Zone 4	71(17.75%)	0	46(11.5%)	25(6.25%)
Zone 5	53(13.25%)	0	44(11%)	9(2.25%)
Total	366(91.5%)	34(8.5%)	239(59.25)	161(40.75%)

Source: Own survey result

ICT plays a pivotal role in easing communication and working environment. For the Afar community, it enables them to have market information by replacing the existing tradition daagu system. But, accessibility of ICT is extremely poor in ANRS. As shown in table 35, large majority of the respondents rated access to ICT as worst while less than 10% of the respondents rated as moderate.

The main source of cooking afar community is presented in the figure 17. Accordingly, firewood is the main source of cooking followed by charcoal. The community mostly uses firewood by collecting from their surroundings.

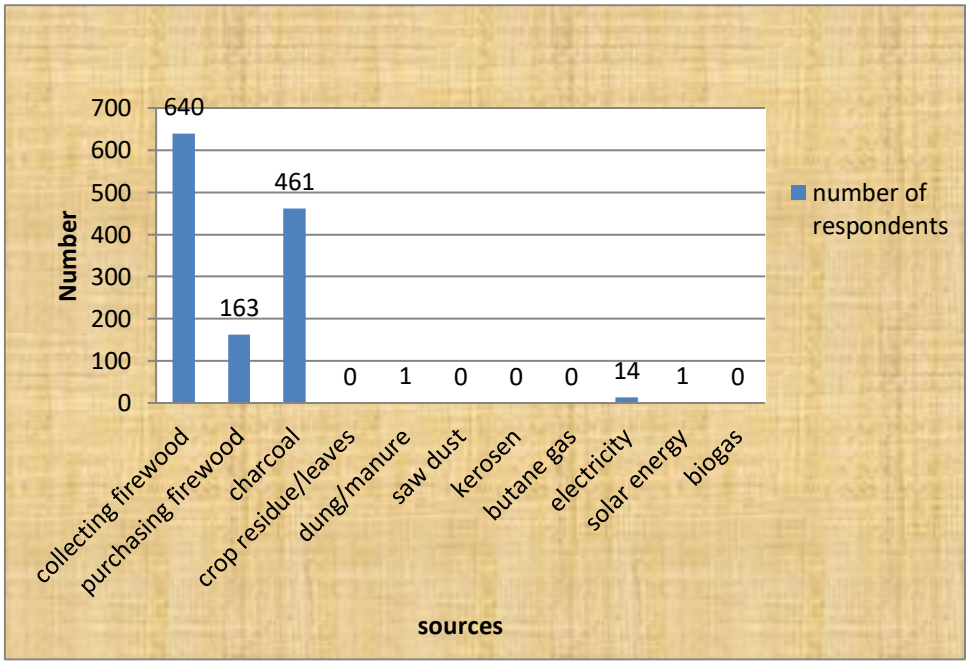


Fig.17: Main source of cooking
Source: Own calculation, CSA survey, 2020

As it can be seen from the graph, the number of electricity users is insignificant while it can be said there are no solar energy users for cooking. Both access to electricity and ICT is relatively

better in urban areas compared to the rural. In rural areas, it can be said access to both electricity and ICT is very poor. Moreover, the ICT infrastructure requires electricity. There are several bottlenecks for such low level of accessibility of electricity and ICT infrastructure in the region. Among these, the old electric poles used to transfer the electric power, the imbalance of the capacity of the transformers with the grown population in towns and low focus given by the government are the main reasons for such low access to electricity. Due to this, the number of industries and factories in the region are very limited and those industries in the region are located in the urban areas where they can easily access electricity. Such situation reduces the employment rate of the rural afar and hence hindering the economic development of the region and diversification of sources of household incomes.

To overcome such challenges, Ethiopia had announced the construction of a great electric power dam since 2012 which is expected to generate about 6000 megawatt every year. Besides, there have been inaugurations of small-scale dams across the country in the past 10 years which boosted the economic growth. The accomplishment of the construction of Ethiopian Grand Electric power Renaissance Dam will solve the power limitation of the country and is expected to increase the access to electricity of the rural Ethiopians. Besides, expecting Ethiopia to export some of the power to the neighbouring countries, the foreign currency to be earned will play invaluable role in enhancing the economy of the country and the region by creating job opportunities as a result of the investment to be attracted. Besides to the dams built by the federal government for electricity available huge energy potentials should be effectively utilized. The region is endowed with potentials such as solar, geothermal and wind energy which can improve the living standard of the rural communities. According to ministry of water, irrigation and electricity of Ethiopia, with different solar system types, about 1193 solar home systems has been installed in Afar regional stat with the rural electrification project in 2016. A lot of students don't have the chance to read at night and mothers are forced to cook through firewood which directly affects their health. There are a lot of mother and young girls who have eye sickness due to the smoke generated while using firewood.

5.4. Tourism in Afar Region

Tourism is one of the rapidly growing smokes-less industry in the world and Africa is one of the richest in the sector. Ethiopia is one the least developed countries that has several UNESCO registered heritages and other resources worth visiting. The country owns very hospitable people with different culture, tradition and languages. Besides, Ethiopia is the land of Lucy, the oldest full human skeleton not to mention the wonderful landscape. The country is a pride of Africa for

its independency in the colonial era and the capital of Africa where the African Union head quarter is located. Yet, the underdeveloped tourism of the continent in general and Ethiopia in particular is unable to attract tourist across the world compared to its resources and the contribution of the sector is not adequate relative to the resources the country own.

Afar is the cradle of mankind and it has various natural, anthropological, historical and cultural assets, which make it a region full of multi choice tourist sites. It is a collection of flora and fauna and ancient stone-made-hand-tools show prehistoric and Cultural evolution of man at his earliest. Afar, apart from the source of Lucy recognized World Heritage Sites registered by UNESCO, has diverse actual and potential tourist attractions which can catch the attention of many national and foreign tourists.

Figure 18 presented above shows the several natural attraction sites in the region. Lake Abbe, Lake Loma, Allalobad hot spring, Tendaho artificial lake are natural attraction sites found in afar region of zone 1. Lake Abbe located in the border of Djibouti is well known for pelicans and hippos while lake Loma is famous for its calm and cold water, Ostriches, Zebras and field goat. The Allalobad hot spring has unique boiling mud and color that attract locals as well as tourists for its medicinal values. Besides to this, Tendaho Artificial lake is among the natural attractions found in zone one of Afar region.

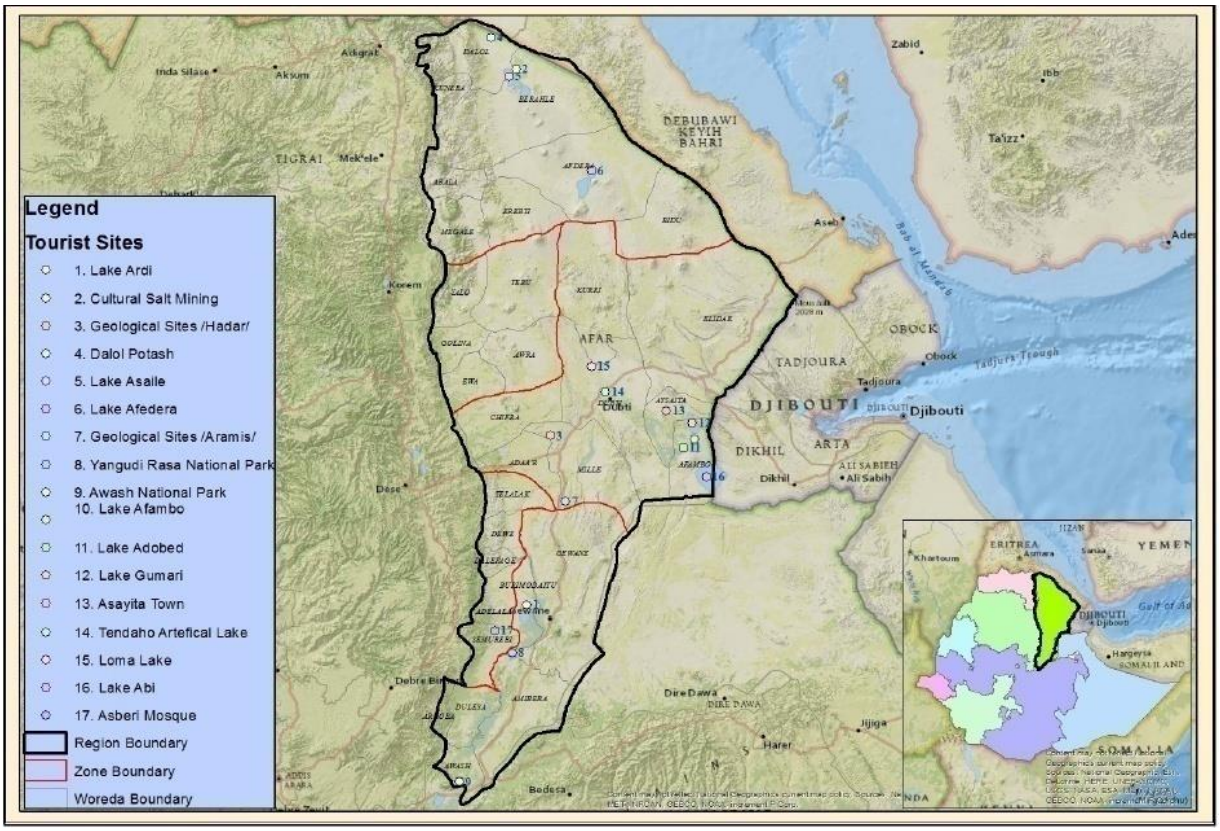


Fig.18. Tourist destination areas, ANRS
Source: Bureau of culture and tourism, ANRS

This lake is a good place for boat trip. Moreover, Dalol Depression The lowest point on earth, Dallol Depression (120 meters below sea level) is found on the northern part of the region. Traditional Salt production, Ertale Active volcano, lake Afdera and lake As'aléare among the natural attraction found in zone 2 of Afar region. Ert'ale(Northern part of the Region) is one of the few places on planet earth where one can see active, live, continued and dramatic volcanic eruption/ movement. This region is also known to as one of the lowest and the hottest points in the world. Natural attractions such as Awash National Park, Yangundi-Rassa national park, Lake Yardi, Doho Hot Spring, Filwoha Hot Springs, Awash falls are found in Zone 3 of the region.

The region is also endowed with historical attractions. Historical attractions such as The Palace ofSulatanYayo and his son Sultan Mohamed Yayo(Garegorie castle, Gasigen Castle), The palace of Sultan Mohammed Hanfere (Adale Gub Caste), The Palace of Sultan Ali Mirah are found in Zone one of the regions.

In addition to this, the region is well recognized for its anthropological and archaeological attraction sites. Afar region is well known globally as a cradle of mankind. Following are among the well-known archaeological sites found in the region.

Ad'ar/Hadar is UNESCO registered world heritage site where the fossil of Australopithecus afarensis (local Amharic name, Dinknesh) with estimated age of 3 to 3.4 million years is found which can be taken as an evidence that the region is the cradle of mankind. The other archaeological site is Aramis which is known for a fossil finding (Ardipithecus ramidus) with an estimated age of 4.4 million years. Moreover, Gona site which is a place where Ardipithecus and Ardipithecus kadabba fossils are found, Herto Bouri where Australopithecus garhi and Bodo sites are among the well-known archaeological sites in the region.

Although the region is endowed with several tourist attraction resources, yet the revenue generated is low and the livelihood of the people living around these destinations have not been improved. Access to tourism destination areas were better for Awash valley regions and Awash national park while access to the tourism destination areas in the northern part of Afar to Dalol and to the living volcano, Erta'ale(the Smoking Mountain in the local language, Afar af) is difficult where the transport option to the northern part was with 4 wheel drive, on foot or with camel.

The main challenges of tourism sector in ANRS are shown below in Table 36. Accordingly, the main challenge hindering the region from getting significant amount of revenue from the sector

is lack of good road access linking all tourism destinations in the region. About 42.5% of the respondents pick road access as the main problem to the sector. This result is supported by previous research outputs on tourism challenges. Hence, GEZACHEW, (2013) mentioned lack of infrastructures such as access to road, power, and consistence utilities like water as the main problem in the tourism sector in the region.

The second most important area where the development of the sector is affected by is lack good promotion with 34% of respondents single out it. NABIL (2003) signified the research result by identifying lack of knowledge and awareness, and fragile promotion system as bottlenecks of the tourism sector.

Table 36: Challenges of tourism sector development

Challenges	Frequency	Percent
Accommodation	73	18.25
Promotion	136	34
Transport Access	21	5.25
Road Access	170	42.5
Total	400	100

Source: Own survey results

Accommodation and transportation access are also key challenges of the sector. There are not comfortable accommodations in the tourist destination areas where their quality is low. Those tourist standard hotels, motels and lodges are only found in the capital city and its soundings. The transportation access is also a key issue for the domestic visitors who would like to use public transport which is not available at all. There are no local tour guides in the region. The level promotion done is very poor. Lack of good governance, weak private-public partnership and absence of successful private sector are additional challenges of the tourism sector. It is important to have community organization around tourist sites in order to assure successful management in tourism sector and to benefit the community. There is no direct link with tourist coming to the region. One of the most significant elements that tourists always ask is information about the destination. Yet, the information is mostly obtained from Addis Ababa and availability of good tour guide is low in the region. According an interview with experts from tourism sector and tourist destination areas, most of the time tourists contact tour guides in the capital city, Addis Ababa and they don't have any link with the available local tour guide. Consequently, the local tour guides are used only for security purposes and benefited less. At the same time, the tourists do not get the real history of the destination as they are mostly guided by third persons and due to lack of language skills, and low level of academic qualification to briefly explain the

destinations. According to KASSAHUN (2018), an increase in academic qualification points out an increasing understanding level of tourism experts on the tourism development policy issues (suitability, acceptability and feasibility). Similarly, tourism experts who have worked more than ten years in the industry have better understanding of the tourism development policy than those who have served less than ten years. The poor enforcement of regulations and rules were common in the operations of Tourism Council, hotel associations, Medium and small-scale enterprise and other tourism establishments on the destination. Supported by a clear and achievable tourism strategy, the implementation of a suitable tourism policy, and an immediate prioritisation of destination development of Addis Ababa, tourism could be effectively developed.

There are huge potentials for further tourism park development in the region where there are several wild animals living in unprotected areas of the region. For example, in some areas of zone 1 and vast areas of zone four are among the potential for tourism park development.

5.5. Livelihood system in Afar region

Agriculture is the main engine of Ethiopian Economy. Ethiopian agriculture is a composition of two sectors such as crop production and animal husbandry. Many research findings, (ZEWUDU and BAMLAKU, 2014; BEZABIH et al., 2014; ROBINSON et al., 2013; WAGESHO et al., 2013) revealed the importance of agriculture to economic growth and its important role in reducing poverty.

The majority of rural afar communities are engaged in livestock production while a small percentage of the regional population are partially involved in both temporary and permanent crop productions. As its indicated in Table 37, the livelihood base of the majority of survey participants (53%) is animal raring where cattle, goat, sheep and camel are the main animal kept by the Afar community while significant portion of the respondents (45.25%) depend in both crop and livestock production for their livelihood. According to the cross tabulation result also shows that the majority of those who depend only on livestock production(pastoralists) are poor compared to those who are engaged in both crop and livestock production. About 5% of those pastoralists are rich. On the other hand, there seems a balance of wealth status distribution among semi-pastoralists where 30.9%, 36.5% and 32.6% of the pastoralist communities who produce both crop and livestock production are poor, moderate wealth level and rich respectively.

Table 37: Cross tabulation: wealth level and sources of income

Sources of Income					
Wealth status	Daily wage	Temporary Crop production	Cattle, Goat, sheep, camel production	Both crop and livestock production	Total
Poor	0	0	138	56	194
Moderate	5	2	63	66	136
Rich	0	0	11	59	70
Total	5	2	212	181	400

Source: Own survey results

All the pastoral and semi pastoral survey respondents use their income both household consumption and for sale from whichever the source is. Moreover, among those engaged in both crop and Livestock production, the wealth level of 30.1% of survey participants were poor, 36.3%, and 32.6% of the respondents were moderate and rich respectively. Among the livestock producers, the majority are poor while only 5.2% of the survey participants were rich.

Table 38: Aim of production, production per year, land status, and uses of technology

Zone of study area	Both for household consumption and sale	production time per year			Farm land		Use of Improved seeds		Utilization of fertilizers	
		Once	Twice	Three times	Own land	Rented	Yes	No	Yes	No
Zone 1	120	0	76	24	92	8	0	100	45	55
Zone 2	95	0	0	25	21	1	0	25	18	7
Zone 3	56	18	20	18	56	0	3	53	35	21
Zone 4	71	0	0	0	-	0	0	2	0	0
Zone 5	53	-	-	-	-	-	-	-	-	
Total	395	18	96	67	172	9				

Source: Own survey result

In most of the region where crop farming is practice, maize, wheat, tomato, onion and cotton are the main ones produced in the region. But, as presented in Table 38, the level of production is low as most of the producers produce once or twice in a year for both household consumption and for sale in order to get cash for other needs. The main reason for low level of productivity is poor access to fertilizers, improved seed, poor support from extension workers and use of traditional production system. Long ago (in the Dergue regime) where the mechanized farming was first introduced, tractors was used to plough the land whereas smallholder farmers used to plough their land using camel. But, with such a long experience of crop farming around the awash basin, yet the level of proper farming and food self-sufficiency is poor.

Access to land and its natural resources are among the most relevant things for both pastoral and agro-pastoral communities (HELLAND, 2006). Several development scholars have recommended the use of both crop farming and livestock production as a means to improve the livelihood of pastoral communities. Of course, crop production is among the main source of animal feed. The majority of the semi pastoralists have their own farming land although they don't engage themselves in ploughing, rather, they agreed with others who can do the farming and take their share based on their agreement either one-third or half of the total amount produced. The main reason for not engaging themselves in farming was simply laziness even though the number semi pastoral communities who plough their land have been increasing significantly as the living cost is increasing from time to time. Agricultural land is also given to people who want to invest on production of cotton and oil seeds. But, the benefit of the community living around the big farms is poor.

The main problems in the semi pastoralist are poor access to market and market information. The issue of market access is more relevant for a region like ANRS where the majority of the population resides in rural areas engaged in mostly in livestock production for both the domestic and international market. There are no cooperatives to which the producers can directly sell.

Table 39: Agricultural technology use and market information

	Equipment used in production process		I get market information		Cell to cooperatives	
Zone of study area	Traditional	Technology	Yes	No	Yes	No
Zone 1	55	65	70	50	8	112
Zone 2	72	28	1	94	0	95
Zone 3	22	34	15	41	0	56
Zone 4	68	3	0	71	0	71
Zone 5	53	0	0	53	0	53

Source: Own survey result

As it can be seen from the Table 39above, majority of pastoralists and semi pastoralists participated in this survey replied that they don't have access to market and information about current price of products. According to focus group discussions and interviews held with both pastoralists and semi pastoralists, access to and poor quality of roads, distance to main market areas and poor access to transportation are among the main factors of poor access to market. They only get information about the market from colleagues who visited any market through daagu traditional communication system. Besides, the government doesn't provide modern technologies. Sometimes, the temporary crop productions such as tomatoes are sold for

individuals from neighbouring regions with cheap price. These traders sold it back to the local community with high price as has come from long distance.

5.5.1. Animal feed

Rural residents of afar community use mobile livelihood system to cope up with the environmental challenges. Since their livelihood is mostly dependent on livestock productivity, they move from season to season searching for grazing area for their livestock. As they go from place to place, school aged children are affected. Therefore, the importance of availability of grazing areas is of paramount necessity. The focus group discussion held with the respondents revealed that the issue of grazing area for their livestock is one of the main challenges contributing to low productivity of the livestock.

Table 40: Access to animal grazing areas, ANRS

Zones	Access to Grazing Areas	
	Worst	Moderate
Zone 1	32	88
Zone 2	78	22
Zone 3	44	12
Zone 4	55	16
Zone 5	47	6
Total	256(64%)	146(36%)

Source: Own survey result

Table 40 presents the level of access to grazing area in the study areas. Accordingly, although it differs from season to season majority of the respondents (64%) rated access to grazing land as worst while the remaining 34% of the respondents rated access to grazing area as moderate. This indicates the rare availability of grazing area forcing the pastoralists to move from place to place. Although there are several reasons for such low access to grazing area, the most important one is the climate change effect in the region. The region's average annual rainfall is very limited where they only get water in the rainy season and as a flood from neighbouring regions.

The community uses open grazing where all livestock herds use the same land for grazing. When they don't have food for their animals, they move up to 4 days long distance and stay as long as their original place start growing grass. This movement increases the number of children dropping out of school although the regional government has arranged a transfer system. Although free use of land for grazing and crop production by pastoral and agro-pastoral communities in Ethiopia including Afar is recognized by both the federal and ANRS

governments, the land administration policy lacks clear demarcation on the use of rangelands and therefore, pastoral communities couldn't properly use their rights of rangeland use. Due to this, there have been conflicts in the region which need sustainable and mutually benefiting solution.

According to an in-depth interview with one semi pastoralist who had several opportunities to travel across the country, in some areas of the country there are unutilized grasses which are simply burnt. Therefore, Animal feed which are used in other part of the region should be collected and brought to the area where there is a shortage. There are a lot of livestock holders who are involved in highly productive works who can buy the feed. Besides to this, the regional government can devise mechanisms of sowing and bringing animal feeds from areas where the grass is unwanted. Furthermore, the government should have a food bank for the livestock resource of the community. There is only one grass growing centre in the region governed by the regional government which is located around the capital city (DuptiWoreda). The region has large size of arable land where cooperatives and the government itself can use for producing the grasses.

5.6. Development Programs Implemented in ANRS

Pastoral communities are marginalized and left from decision making because of their geographic distance from the central government, livelihood system and hence policies developed so far are against their usual livelihood system (DE HAAN, 2016). Due to such ignorance by policy makers, the livelihood of the community has been affected as their vulnerability increased. Several pastoral development projects have been drafted and implemented in ANRS with the focus of livestock commercialization, improving access to social service, and focus of resilience to disaster. But, all of the projects were brought to the community without prior discussion and inclusion of social institutions and traditional indigenous knowledge of the beneficiaries in the ground.

5.6.1. Resettlement/ Villagization Program

Since 1991, several pastoral and agro-pastoral development policies programs have been initiated by the government of Ethiopia. Poverty Reduction Strategy Paper (PRSP); Sustainable Development and Poverty Reduction Program (SDPRP) (2002–05); Plan for Accelerated and Sustained Development to End Poverty (PASDEP) (2006–10); Growth and Transformation Plan (GTP I and II); and the Livestock Master Plan (LMP) of 2015 are the main policy documents devised by the federal government. But, as long-term pastoral community development package

all of the policy documents were mainly focused on improving the livelihood of the pastoral communities by settling them.

The previous government's resettlement programin Ethiopia was for the sake administration. But, since 2002 for almost 10 years, the current government started resettlement program along river banks where the main focus was to improve the livelihood of the communities who lost their livestock due to several reasons. This means the policy was not actually meant for the real pastoral community with livestock. Lately, the government tried to improve its pastoral community related policies.

When it comes to sustainability for pastoralists, it is a means of living in a way that it is their power to keep their livestock and its productivity, their resources, and assurance of political security and their economy. Their sustainability is determined by their practice on livestock mobility. Pastoral societies are proud of their system which is a main livelihood system for a very long period. The attitude of the pastoralists towards understanding the importance of settlement/sedentarization is not to the level expected by the government. So far, there have been both voluntary and involuntary settlements where these pastoral communities settle to get the occasional benefits from the government and leave until the next round of support comes. Besides, the pastoral community was forced to settle by the local authorities where the local authorities are expected to achieve the goals given by the higher-ranking officials.

Regarding the pastoral policy development approach implemented by the government, majority of the scholars in the region who are participated in this survey said that transforming the pastoral community in to agrarian is only for the benefits of the government itself. The reason they provide was the strong bond of the pastoralists with their animals and the benefit they got from them is high. Besides, they rose as a concern that involving them into a new system of production is not best approach. Moreover, they believe that the government is doing so seeking free area for investment.

In 2016/7 and 2017/8, 23, 140 households were settled in 151 resettlement centres in ANRS (ETHIOPIAN NEWS AGENCY, n.d.). With the increasing sedentarization of pastoralists, the reduction in labour input in mobile livestock rearing may lead to a shift from multiple pastoralism toward solely pastoral farming or agro-pastoralism production, which is an indication of high loss in diversity of the pastoral system and consequently the system has been down weighted. If these situations continue, it is likely that pastoral societies across the world will have more unpleasant fates in the future. Even though sedentarization of pastoralists have a positive impact when it comes to getting better access to education, healthcare and water sources,

the social values of the pastoral community will be lost as a result of decrement to their livestock size to cope up with the environment. Several researchers (INKERMANN, 2015; RETTBERG, 2010; YOHANNES and MAHMMUD, 2015) found that resettlement program is one of the main challenges impacting the livelihood of pastoral community.

Even though Settlement of pastoralists has a positive impact when it comes to getting better access to education, healthcare and water sources, the social values of the pastoral community will be lost as a result of decrement to their livestock size to cope up with the environment. According to an interview with elderly mobile people, mobile/transhumant way of life is better to get better nutrition than those who settled even though those who settled ones have an advantage over the nomads in getting access to education and healthcare facilities which contradicts to the policy aims in alleviating poverty. In addition to this, as the size of livestock decreases, the contribution of the sector to the economy will be minimized and even with the recurrent climate changes where the decrement in rainfall amount the community will not be able to feed themselves.

Among the respondents of this survey from the settlement centres presented in table 41, only 20.9% of the resettled community were voluntarily settled while the majority were not settled on voluntary base. But, although they were settled involuntarily, more than half of the settled community replied that their life has not been improved as a result of lowincome. Therefore, they are not satisfied with the settlement area.

Table: 41: Resettlement program implementation and its impact on Afar people

Responses	voluntary settlement	satisfaction in settlement area	Income has increased	Life has improved	Settlement is better than mobile livelihood
Yes	32 (20.9%)	66(43.2%)	66(43.2%)	66(43.2%)	66(43.2%)
No	121	87(56.8 %)	87(56.8 %)	87(56.8%)	87(56.8%)

Source: Own survey results

A t test was conducted to test if there is a significant difference among males and females regarding preference of way of livelihood (mobile or settled). Hence, based on the test result presented in the table 42 below there is no evidence to accept the null hypothesis stating absence of significance difference among males and females. This indicates the presence of variation among males and females. Female are more interested to settle than to live with mobile livelihood. According focus group discussions, the burden of women in search of water and house activities is the main reason albeit they insisted the availability of grazing area and water for their livestock as precondition to settle which the opinion of both is.

Table 42: t test result for preference of livelihood mode among sex, age, livelihood base, wealth

Variables	t	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
Sex	1.939	.053	.129	-.002	.260
Age	9.522	.000	13.793	10.945	16.641
Livelihood base	-2.951	.003	-.217	-.362	-.073
Wealth	-25.248	.000	-.924	-.996	-.852

Source: Own survey results

T test also conducted if there is significance among different age groups and different wealth status regarding preference of way of livelihood and both tend to accept the null hypothesis that there is no significance difference among different age groups, livelihood base, and wealth levels regarding the preference of way of livelihood. Hence, preference of way livelihood cannot be determined by the level of wealth, livelihood base and age of the community.

The community were promised access to social provisions such as water, education and health and sanitation etc in the settlement centres since the implementation of such program requires prior investigation of appropriate settlement area before moving the community. Among previously mobile community participated in the survey, 47% of them are still practice the same way of livelihood. On the other hand, 26.6% of previously settled communities participated in the study survey have left from their settlement and started to practice mobile livelihood. According the focus group discussions and interview, they chose the mobile livelihood due to lack of animal related resources such as water and feed and poor provision of promised services.

According to official data from the regional government, the office of resettlement planned to settle a total of 5160 household in 2018in which the plan was to settle 666 households in a 7 new settlement centres, 80 households in 4 old centres in 2009, 3144 households in 52 old settlement centres in 2010, 170 households in previously established 4 centres for sustainable development goals, 1100 new settlers in 11 settlement centres under sugar production program. But, the government only achieved 448 households from the 77 centres. This achievement level is only 8.7 percent which is an indication of low success level of the resettlement program.

Moreover, table 43 presented below shows the resettlement program plan for the year 2012/13and 2013/14. As it can be seen from the table, the achievement in both years compared to the plan is very low with only 48.4% in 2012/13 and 74% achievement in 2013/14 budget year. On average, in the two years of settlement program, the achievement was only 58%. Furthermore, the table shows the number of residents in 2018 indicating only 1.1% increment

compared to 2014. This can be taken as evidence that the development program is not going on the right way.

Table 43: Resettlement program achievement ANRS, 2012/13-2015/16.

Zones	2012/13		2013/14		2012/13+2013/14		Total Number of residents by
	Planned	Achieved	Planned	Achieved	Planned	Achieved	2018
Zone 1	8995	3665	4860	3987	13855	7652	2387
Zone2	-	-	-		-		3726
Zone 3	4580	3894	3767	2156	8347	6050	3014
Zone 4	2160	56	773	771	2933	827	5129
Zone5	0	0	600	518	600	518	2548
Total	15735	7615	10000	7432	25735	15047	16804

Source: Villagization/resettlement program implementing office, ANRS

There are several reasons for such low achievement of resettlement programs in the region. As indicated in the table 41 above, among the survey respondents who have changed their livelihood system from mobile to settled way, about 79% of them were settled involuntarily although about 43% of them are satisfied with the settlement, since their income has increased and hence their livelihood has been improved. But, there are significant proportions of these settled communities who are not satisfied. About 56.8% of these settled households think that their standard of living has not improved and they prefer mobile livelihood system to settlement. According to focus group discussions held with the community who settled, they have been suffering due to lack of basic social services the government promised to fulfil. There is frequent on/off of electricity, and as a result of it they can't access water. Moreover, they prefer to have to have their livestock with them. But, due to lack of grazing area they couldn't bring all their livestock with them. They left part of their families with the animals. A survey conducted by CSA in 2019 in ANRS indicates that about 93.5% of the respondents faced food shortage due to crop failure in the semi pastoral areas, and reduced income of household member.

The survey participants were also asked with open ended question which way of livelihood system would improve the living standard of the community. Accordingly, majority of the participants in pastoral areas, those currently mobile, and those who settled following resettlement program, replied that mobile livelihood system would be better for the pastoral community. This result supports previous research findings (INKERMANN, 2015; RETTBERG, 2010; YOHANNES and MAHMMUD, 2015), who concluded the resettlement program as a challenge for improved livelihood of the pastoral community since there were not enough water and grazing area for their livestock. With vast majority living far from awash basin, it is difficult

to settle in the remaining areas of the region where there is scarcity of required resources. But, they also have indicated that livelihood of the afar community cannot be improved with the traditional pastoral system. Hence, modernizing the current practice of pastoral system with inclusion of technologies and other inputs that can improve the productivity of the livestock is required. Results of focus group discussion also supported the results of open-ended questions.

5.6.2. Safety Net program

Ethiopia has implemented several programs to alleviate poverty and improve the living standard of her people. Among the poverty reduction programs in Ethiopia, Productive Safety Net program was started as a pilot project in 18 pastoral woredas of Ethiopia in 2005 including six woredas of Afar with the aim of assisting food insecure pastoral communities by providing food in a form of work for food and direct support of food for those who can't participate in the work for food program. Moreover, the program also aims at improving access to water, market etc which will support the prevention of key pastoral assets. But the implementation of the program was started late in 2009 and the program is still under implementation in ANRS as a means of supporting the food insure pastoral community who is vulnerable to recurrent drought.

Moreover, since 2016, about 23 projects have been implemented by development partners in ANRS in collaboration with BoLANRD in order to improve the livelihood of the community. The amount of budget these projects were running was too much to bring a significant improvement in the livelihood of the community. Although positive changes have been observed in some part of the region, the overall performance is not to the level they are expected to bring. The project types and specific activities are shown in table 44.

Although such development projects have been implemented in the region, yet the living standard is low. According to figure 19 above, the current living standard of Afar people, majority replied that their living standard is either worse now compared to the last five years and the same compared to the last twelve months. Comparing the response of the survey participants regarding their living standard between five years ago and the last twelve months, the number or worst or worsen now is lower in the last twelve months. In general, the figure presented below indicates that there is no improvement regarding the living standard.

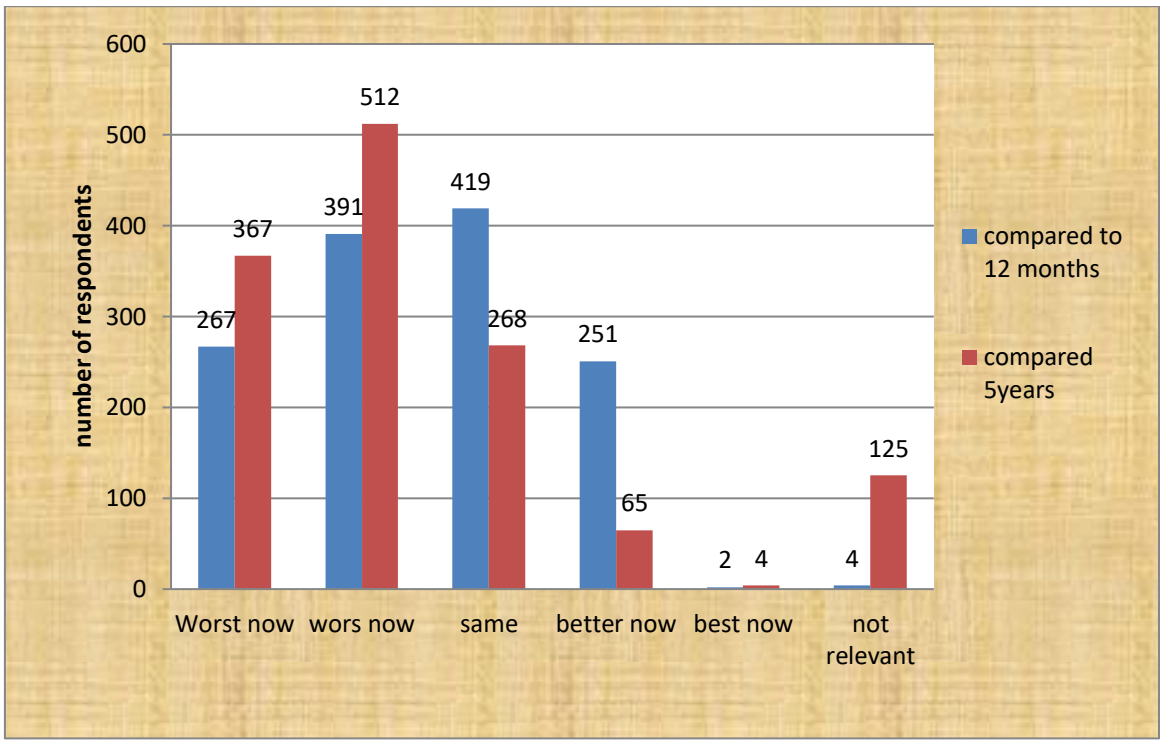


Fig. 19: Food security status, ANRS
Source: Own calculation, CSA data

Table 44: Development projects implemented since 2016, ANRS

Project type	Activities
Development	❖ Improved access to basic service (access to water, Agriculture, Livestock, Off Farm) Microfinance, Capacity development, Improved DRM Capacity ❖ Access to integrated basic health, Water, Sanitation and hygiene services; Enhanced livelihood productivity and income diversification Opp.; Improved DRM Capacity by NRM (water and soil conservation) ❖ Improved access to basic service (access to water, Agriculture, Livestock, ❖ Enhanced Livelihood Productivity and income diversification Opportunities, Improved DRM capacity. ❖ To improve the resilience capacities of households, markets and governance institutions in Afar region contributing to enhanced food security and inclusive economic growth. C-1 Improved DRM system and capacity C-2 Diversified and sustainable economic opportunities for people transitioning out of pastoralism C-3 Intensified and sustained pastoral and agro-pastoral production and marketing C-4 Improved and sustained nutrition and hygiene practice C-5 Crises Modifier ❖ Quality health service, Access and improve quality of secondary education, improve the living conditions, empowering children, Orphans, Women and Strengthening CBO/Coop ❖ To contribute in improving the living conditions of the most vulnerable communities affected by extreme weather phenomena. • To Improve Business development and basic literacy and Numeracy skill ❖ To improve food security and better nutrition. • To enhance adaptive ability to climate change.
Resilience	❖ Animal health, Health service, System strengthening, Capacity building, Restocking, FSL ❖ To build the Resilience of Vulnerable Communities ❖ To Improving the nutritional status of the vulnerable communities by empowering the women and farmers of the implementation area • To Strengthen the health facilities with necessary facilities such as AC, medicine, seeds etc. • To Strengthen the capacity of Health professionals, Agricultural professional on nutrition ,income generation, and livelihood
Emergency	❖ Livelihood Protection Emergency Project (LPEP) in Afar region ❖ Improve community capacity for DRR through Harmonized and Improved access to services for livelihood resources and assets protection. ❖ Livestock health service (treatment and vaccination), Concentrate animal feed and agricultural inputs (seed and tools) distribution ❖ "Increase the resilience of livelihoods to threats and crises" - provision of supplementary animal feed (MNB) for 10,000 core breeding and milking animals - 5,000 HHs supported through unconditional Cash Transfer ❖ Provision of milking goats and concentrated animal feed, provision of agricultural inputs to enhance food production, provision of veterinary services, CAHWs refresher training, rehabilitation /upgrading of existing water schemes and hygiene promotion, unconditional cash transfer, rangeland rehabilitation activities. ❖ To contribute in improving the living conditions of the most vulnerable communities affected by extreme weather phenomena. ❖ Increase the resilience of livelihoods to threats and crises" - provision of supplementary animal feed (MNB) for 11,600 core breeding and milking animals - 5,800 HHs supported through unconditional Cash Transfer ❖ To provide emergency response feeding for animals and water tankers , o Supplying feed and other inputs, o To promote prevention of locust infestation and preparedness for the hazard
Food Security and Livelihood	❖ Contribute to the rehabilitation of livelihoods and strengthen self-sufficiency of pastoralist and agro-pastoralist Communities (livestock restocking, income source and Livelihood, petty trade, improvement in DRR, food security and resilience
Social Accountability	❖ To make basic service (water and sanitations, health education, rural road and agriculture) is more equitable, effective efficient, responsive and accountable. – Quality and Accessibility of public basic service • Women vulnerable and social exclude group actively participate in the planning and monitoring of basic service.
Citizen-state engagement with especial focus on the sub-thematic area of Stronger, better CSOs networks/coalitions	❖ To address the limitations related to citizen-state engagement with the particular focus on creating stronger, better CSOs and networks/ coalitions 1. Revitalizing and functionalizing existing platform initiatives 2. Establish and strengthen new platforms and initiatives 3. Study on national and international level policy and legal frameworks and other standards 4. Advocacy constructive policy dialogue and dissemination
Livelihood	1. Increased access of villagized pastoralists to basic services in the project areas 2. Improved economic resilience of pastoralists living in the project areas

Source: BoLANRD

The unimproved living standard of the community in the past 5 years illustrate that the people has been applying different copying mechanism to the recurrent drought and unexpected shocks. Hence, the community as applied two ways of coping strategies for the food insecurity that sometimes occur in the region. Selling household assets (radio, television, furniture etc), selling higher number of livestock than usual to generate cash, selling productive asset other than livestock, selling/leasing land for getting money to buy foods, slaughtering more livestock than normal eating, consuming seed stocks that were saved for next season (if available), reduce essential non-food expenditures such as educational expenditures, borrowing money or food from legal lenders, unusual sell of charcoals or firewood, withdrawing children from school and unusual labour migration are among livelihood based coping strategies the Afar community employ. In addition to this the Afar community uses food based coping strategies such as relaying on less preferred and less expensive food, limiting the portion/size of meal consumed, restricting consumption by adults in order for small children, and reduce number of meals eaten in a day.

Semi pastoral communities who are engaged in crop farming use their traditional knowledge when to plough their lands. Rain scarcity, unexpected flooding, recurrent drought input gap such as fertilizers and improved seeds, and poor irrigation scheme in the region is a key problem for not producing enough. Recently occurred locust and flooding of Awash River was one of the main indicators that the regional government is not proactive in planning and execution of activities. Besides to this, according to an in-depth interview, agriculture related projects which implemented in the region are not based on the need of the community. For example, World Bank resilient project was simply planned by the federal government. Besides, budgets from different donors such as World Bank and African Bank are centralized.

5.7. Governance and Economic Development

Government and its system are expected to play a pivotal in assuring food security and sustain development of the region. As long as there is a good governance system and well-structured institution, it is obvious there will be a better development with the assumption that the other factors fulfilled. Table 45 below presents the response of respondents towards the efficiency of the government. Consequently, About 75% of the respondents rated the governance system as worst while the remaining one fourth of respondents rated as moderate.

Since every development activities are planned, executed and monitored by the government, the governance system takes the main role. It is impossible to achieve sustainable development without good governance system. The result presented above indicates that lack of good

governance is one of the main reasons for low level of development in the region. As it has been seen from the earlier results, the region is underdeveloped despite the availability of several development potentials. Poor access to and quality of social services, lack of appropriate development policies and strategies and lack of proper planning system are an indication that the region lacks good governance system and structure.

Table 45: Governance status, ANRS

Governance	Frequency	Percent
Worst	303	75.75
Moderate	97	24.25
Total	400	100.0

Source: Own Survey

Governance structure in most of Ethiopian regions include Region, zone, woreda and district(kebele), ketene (lower district) administration levels respectively from highest to lowest. But, the key players are those at region and woreda administration units where they have most of the region level offices at wereda level. The centre (zone) level administration and the lower ones have insignificant contribution in budget management. They are simply political structures rather than actively engaging them in overall activities planned and implemented in under their respective zones. Such structural gap has created a vacuum in the administration where there is a direct contact between the region and woreda level bureaus. Moreover, it creates a clash in responsibility since zone level administration units are superior to the woreda level administration while they can't monitor and evaluates the efficiency of the budget utilization. Although very recently the regional government has decided to create clustered zone level offices which can monitor the activities at woreda level, yet the zone level administration should be strengthened.

Every problem hindering the region's economic development starts from poor planning. Most of the plans were from top to down. The implementation of top-down approach in Afar region is an approach where policies are drafted at national level and distributed to each region for comment. After collecting the comments from each woreda, the respective government body is assumed to incorporate the ideas and sent the document for approval to the respective regional office heads. In this approach, the assumption of sending the draft policies to the regions is to reach out the local community through low level authorities for discussion which usually don't happen. Most of the time, the draft document is discussed remained inside offices at woreda level and report back as if they have discussed it with the community. This is a kind of system leads to a poor

planning where the leaders assume themselves as they know all about the problems of their community and the solutions for it which is not appropriate way of doing. A policy developed in this approach has drawbacks in many ways. The first one is that the view of the community is not heard and incorporated which may lead to failure of its implementation. In other words, lack of participation of the local community. Secondly, a potential talent may be missed. Though this approach is best suited for developing regions with low level of literacy, the indigenous and traditional knowledge of the rural community will be missed. The other important thing to mention as a disadvantage of applying this approach in policy development is the priority of the community might be compromised to achieving the national goals. This will create a ciaos as the need of the majority will be missed and questions will be raised which will in turn lead to internal instability. The only advantage this approach might have is it can be developed in a shorter period and will be in line to the goals that are expected to be achieved at national level. Although bottom up planning approach assures high public participation, democratic exercise, transparency, it is time and effort consuming and it is difficult to meet the needs of all stakeholders which force raise questions of ignorance. In addition to this, focus group discussion and interview results indicated that the rampant corruption in the region is one of the main problems for poor planning and poor efficiency of the region. These days, being appointed for office means the beginning of wealth owning. The community's perception regarding effects of corruption is very low.

Table 46: Respondents' view on future direction of government spending

Government Development sectors	Future direction for government expenditure			
	Spend more	Spend same as now	Spend less	Can't choose
Education sector	289	111		
Water sector	400			
Health sector	400			
Transport sector	242	123	35	
Mining sector	281	32	76	11
tourism sector	122	91	137	50
environment sector	19	381		
energy sector	19	381		
Culture	17	364	19	
Climate change	381		19	
Natural resource utilization	400			
Capacity Building	268	78	49	5

Source: Own survey result

Due to the poor development status of the region, the respondents were asked how they would prefer the government expenditure should be done relative to the past even though they don't have the actual amount of budgets allotted in the past. Accordingly, as it is shown in table 46, all the respondents prefer the government to spend more than the previous spending on water and natural resource utilization while majority of the respondents prefer to spend more on education, transport, mining, and climate change, natural resource utilization and capacity building.

In the other hand, majority of respondents would like the government to spend less on tourism sector while culture, energy sector and environmental protection among the focus area where the respondents prefer to spend the same as before. Pastoral community have a strong social asset where they share their resources. It can be said that there exists traditional way of Safety net program where the poor are supported by the rich. For example, it is a tradition that those who are rich in livestock will transfer some of their livestock to the poor where the recipient is responsible for managing the livestock and benefit from it. As long as the livestock size increases in the hand of the recipient, they will be his. Practicing such culture of sharing of personal resources is becoming a challenge in the urban areas where those who are employed are forced to share whatever they have. Such situation is very challenging in urban areas where living cost is much higher compared to rural areas.

The detailed budget allocation of ANRS for the last three years is presented in Appendix 4. The sector of the region are classified in to three broad clusters. The first one is administration and general service sector which includes the secors related to governace, mainstream and justcice. The second sector the economic development sector which includes agriculture and rural development,, water resource, trade and industry, culture and tourism, mining and energy, and construction and urban development sectors. The last category is the social development sector including the education, health, sport, labour and social affairs and prevention and rehabilitation. Of the total budget alloted to the region, on average about 67.9% was alloted to the economic development sector while the remaining 19.1% and 14.9% share was alloted to social service development and adminstration and general services respectively. Of the sectors include in the economic development category, construction and urban development takes the largest budget share on average about 41% in the last three years followed by water resource 29.6% and agricultural development 27.6%. On Average, the remaining 1.8% budget was shared among the trade and industry, culture and tourism, and mining and energy indicating low attention given to the secotrs while these sectors are among the main development potentials in the region. An average of about 33% of the budget alloted to construction and urban development and about 8.66% of the total regional budget were alloted to the rural road secor.

Although the respondents recommend the government to spend more in majority of the sectors, it is important to note that the budget allotted to the regional government is limited. Hence, the respondents were asked which sector should be the priority in order to improve the livelihood of the community. Accordingly, as presented in table 47, the majority of them replied that water sector should be the priority. The second and third priority of the community was all weather road and transport system, and education respectively. Moreover, when merging the first three choices, transport sector takes the upper hand followed by water health sectors. In general, all weather road and transport system, water, health and education are the priority sectors where the survey participants preferred the government to invest on.

In order to come up to conclusion on which sector to prioritize according to the problem in the region, a focus group discussion was held specifically with those who have high academic qualification in the region (master's degree holders). Accordingly, after several discussions, the direction of the focus group discussions resulted in all-weather road and transport system sector to be the priority of the government.

Table 47: Respondents view on sectors to be prioritized by government

Sectors	Government Priority										
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
Education	2	7	148	150	32	42	-	19	-	-	-
Health	34	50	119	88	50	49	10	-	-	-	-
Water	222	3	8	36	81	21	26	3	-	-	-
All weather road	55	220	7	20	21	24	27	19	7	-	-
Mining	-		59	18	-	15	20	73	159	56	-
Energy	40	78	15	28	164	8		11	56	-	-
Government	46	35	6	8	36	100	137	29	3	-	-
Capacity building	-	13	7	35	3	120	152	65	4	-	1
Tourism	-	-	12	5	39	-	2	33	166	141	2
Environment	-	-	16	12	-	-	21	141	3	194	6
Culture	-	-	-	-	-	-	-	-	-	9	391

Source: Own survey result

The main reason forwarded for the priority of the sector was it is the main infrastructure which is needed in order to construct all other services such as water, education and health facilities. With the absence of all-weather roads, it is very difficult to attract investment and tourists which are key players of development. Furthermore, different social services such as banking and credit

institution cannot be opened in an area where there are low economic activities. Therefore, in order to improve the economic activities in rural area, there should be free public and commodity movement which again requires road and good transportation system. Hence, in order to properly utilize the available development potentials in the region, all-weather roads and good transport system is the priority.

The focus group discussion participants also recommended that the focus of the government should also be on properly managing and utilizing the available development potentials in the region. Therefore, mining, energy and tourism should get better focus than before since they are source of revenue to the region and can play a pivotal role in improving the livelihood the community surrounding the areas.

The government is responsible to increase its internal revenue to improve the overall economic development of the region which in turn will improve the living standard of its people. The region has a huge renewable and non-renewable natural resource potential for revenue generating. Different mining activities such as potash, gold and salt are among the revenue sources. According to the vice head of the revenue bureau of the region, currently, permanent and contract employee tax is the main source of revenue in the region. Chat and other trade activities are also main source of revenue for the region. Although there is a good initiation in Elida'ar woreda from chat trade tax revenue and Awash Fentale woreda livestock market revenue, the revenue generation capacity of the region is very poor. The main reason is lack of awareness of the community regarding the importance of paying taxes. In the trade centres, the regional government doesn't have a proper system to make income revenue assessment. The communities involved in trading are either not vat registered or they don't give legal receipt for the customer. Legally VAT registered traders are very limited. There are also parts of the trading community who provide fake receipts to customers and respective government officials as most of them don't use cash register system.

According to an interview with higher official of revenue bureau of the region, planning in key areas of revenue source is done with stakeholders at woreda and region level. But, the total expected revenue to generate by the regional revenue bureau is very small even sometime its equivalent to some capital cities revenue which is very poor.

With huge potential of revenue, but very poor collecting system, the development of the region has been significantly affected. In order people to volunteer to pay their real tax, awareness creation and promoting on the importance and positive effects of paying taxes should be done. Moreover, there should be a well-organized system of revenue collecting mechanisms and

technologies to control and ease the process. On the contrary, the government should also be accountable to what has been collected.

Despite the revenue generation, the regional development can be enhanced by creating conducive environment for both foreign and local investors. As it has been mentioned earlier in this research, the region is endowed with a lot of resources which are opened for investors. The resource is untapped. But, in addition to the limited number of investors in the region, retaining and attracting additional competent investors was difficult. There are several reasons for such poor performance in the investment sector in the region.

The investment bureau of the region is too young with only less than three years old where a mandate of the investment commission are to identify the potential and opportunities, promoting it, creating conducive environment, and monitoring and evaluation of the overall activities related to investment. According to focus group discussion held with the experts in investment commission of the region, the investment potential area has not yet been identified. There an on-going study to identify the main areas where local and international community can invest. According to them, following the study which is underway by consultant, project development and promotion will be done. So far, investment related to salt mining has been identified.

There are several bottlenecks in this sector. According to the experts and other people involved in this survey, the priority area should be agriculture related activities in Awash basin where a lot of potential of producing dates, oil seeds, and cotton is possible. The region can significantly reduce the wheat imported and hence hard currency is saved. The respondents select the mining sector to be the second priority investment area following agriculture as the region is endowed with potash and gold.

Unavailability of investment board, unidentified industry areas, lack of electricity and road infrastructures are among the key problems that need to be addressed if the region has to attract investors. Investors usually requests road to their investment site which is the responsibility of the region. But, the available roads and road projects are very limited. There is no direct link with foreign countries in order to attract investors. Besides, the promotion system so far is weak. Most importantly, there is a structural problem in the region regarding investment. There are no woreda offices especially in already known investment potential areas. Unavailability of such governance structure leads to communication gap and then poor performance of the sector.

The main aim of the national rural land use and administration is to make sure land and land related resources are properly utilized and sustainably protected so that the livelihood of the

community is improved. The ANRS rural land use and administration policy aims at ensuring pastoralists and agro-pastoralists and other users of the regional land have rights and obligations to use the lands in a sustainable way. But, since the land in the region is governed under the land administration bureau of the region it weakens the investment commission from making any decision regarding the investment areas. Such situation will disturb the creation of conducive and attractive system and finally hinder the investors from coming and invest. Therefore, the regional government should specifically give the power of administering the lands in the investment potential areas once the identification is done. For that reason, regional proclamation is required to clear and improve the mandate of the investment commission.

There is poor planning where direction of the plan is from the region's cabinet after the federal plan is arrived. The federal government'sfocuses mainly are tourism, agriculture, information and communication technology and energy. There the planning can be said top-down. The amount of budget allotted to the commission is very limited which will limit its promotion capacity. There is one industrial park, although it has not yet started functioning, the direction seems inappropriate. According to an interview with one of the experts from the regions investment commission, the industrial park is not based on the local inputs such as agro-processing.

Unavailability of representative in the federal investment commission was one of the reasons for low level of investment opportunities in the region mentioned by the focus group participants. They believe that several investment opportunities come to Ethiopia and taken to other regions who have influential persons in the investment commission. They also believe that a lot of investors could have come if they had a regional representative in the federal investment commission.

Creating different dialogue platforms with local investors is necessary. In addition to this, integrating local investors with international ones will boost the development of the region and hence improve the livelihood of the community. When investment increase, jobs created and income increases and hence the quality of life of the local community improves.

Investment bank should be developed. While doing so, the nature of the livelihood of the community needs an attention. The number of communities living in and around the mining and agriculture potentials is very few. Therefore, livestock development projects, energy and tourism sector should get much focus in order the development be inclusive. This will create job hence reduce unemployment rate in the region and the country.

6. CONCLUSIONS AND RECOMMENDATIONS

The region has a huge demographic and labour force prospect for development where there is high economically active population and the aging population is lower than the young population. Moreover, the life expectancy is increasing indicating that the number of years the community living is improving which enhances the size of economically active population. But, there is high literate unemployment rate in urban areas which is an indication of underutilization of available development potentials. Therefore, the government must focus on properly utilizing the available both literate and illiterate economically active population by creating jobs and assigning the right person to the right positions.

The region owns high number of livestock population which can contribute to the growing demand for livestock and livestock products such as meat, milk and leather. Moreover, the available livestock potential in the region can contribute to foreign currency earning of the country. Due to lack of animal feed and recurrent drought and shocks, the productivity of livestock sector in the region is low despite available vast arable land with very good soil type that can be used for animal feed production. There is only one fodder production centre in the region which is governed by the government. With a huge potential of growing different grasses type in the region,expanding animal fodder production centres in the regionis recommended while the government must also either develop a new variety of grass types that can tolerate the weather condition or can import from similar areas in other countries. Moreover, there are several areas in the country where animal feeds grow and burnt while there are communities who suffer from scarcity of grazing area. Moreover, in certain areas of the region, for example from Mille up to Awash, the grasses grown in a rainy season simply dries without being utilized. Therefore, proper distribution of animal feed is highly recommended in the country in general and afar region in particular. It can be a source employment to the unemployed by establishing/forming cooperative who can sow and distribute in the country.

In addition to this, the region is endowed with natural resources, archaeological findings, and cultural attraction tourism potentials. But, the contribution of tourism sector is limited due to lack good promotion, standard accommodations, good quality roads, and skilled local tour guides and lack of good management structure at every destination areas. There are also several wild animals living in unprotected areas in zone 1 and zone 4. In order to benefit from tourism sector, in addition to formation of new tourism park, the management structure of the available tourism sector should be improved hence each tourism destinations should have its own management structure. Since there are a lot of opportunities of investment in the tourism sector, there should

be motivating environment for local investors to invest in the sector. Moreover, the respective bureau of tourism in collaboration with the regional higher officials should create conducive environment for local young people and equip them with required skills including the language skill training. Furthermore, in order to fill the skill gap both in language, and knowledge of tourist destination area, and to promote the regional tourism potential, regional tourism bureau and Samara University should work together in opening tourism management department with special focus of afar region.

Moreover, the region is gifted with different mining potentials such as gold, potash and salt. Furthermore, energy potential of the region such as geothermal, solar and wind potential are other development enhancing potentials in the region. Although the region has a huge energy potential, the coverage of electricity in the region is very low. With such available energy potential, it is very easy to get alternative electric power hence every technology requiring electricity can easily used. Moreover, installation of solar energy should get attention in order to meet the energy demand of the region. A system should be devised to allow people install solar panels and produce and sell energy if they produce more than their demand. This will enable to have a healthy environment for mothers who are using fire woods and electricity facilitates reading habit of students.

Despite the fact that access to education has been improving over the years, the quality of education in ANRS is very low. The growth of school enrolment rates for the past few years is decreasing. Low Gross and net enrolment rate in school at all levels of education, high dropout and repetition rates are the main characteristics of the education sector in the region. The main reason for such low level of enrolment rate is the preference of families to study Qura'an (Islamic holy book) to education in addition to the poor school facilities. Moreover, high gender parity has been seen in the region where male students attending school are higher than their female counterparts. Although there is an improvement towards understanding the importance of education in rural communities, yet there are significant sizes of the population who don't send their school aged children to school. This is more observed among the wealthy mobile pastoral families than the poor contradicting to prior scientific results indicating financial constraint as a problem to sending school aged children to school. Negative attitude of wealthy families comes from the view that they prefer their children to focus on the keeping the livestock and their religion.

Educating students without quality of education simply means increasing the level of illiteracy. Poor/inexistence of school facilities such as books, toilet, water, laboratories and libraries, poor

quality of teachers, poor pastoral education policy are the main factors affecting the quality of education. Lack of toilet and water has been affecting the health of female students especially in times of period. The rural Afar female students also don't have the awareness to use sanitary napkins in time of period. The other challenge that is found is lack of flexible schedule for pastoral students where most of the time families need their children at home for assistance every morning freeing (share the responsibility) their children in the afternoon where schooling in the rural areas of the region is mostly delivered in the morning shift. Therefore, as long as the teachers are staying with the community with the responsibility of teaching, allowing afternoon shift will bring a significant difference in enrolment rate of the region. Provision of educational quality improving facilities such as school and public libraries and laboratories, toilets and other inputs should be included at the planning level whenever the schools are to be built. Moreover, provision of sanitary materials must be available in every school system. The use of camel library, the practice of moving the books with the help of camel as a means of transportation, should be used in mobile pastoral community schools as an alternative for libraries.

In addition to improving access to and quality of education, there should be a strong follow up of students both by families and teachers. Furthermore, constructing public libraries in cities can help improve the reading habit of students and will motivate families to push their children to read. Besides, properly following those who are joining to and graduating from higher educational institutions is required by the government. In addition to this, field of studies that are important to the region should be identified and University and college students should be encouraged to study them with prior promise they will get the job after graduation. Scholarship and capacity development opportunities should be arranged for all sector professionals and Afar employees in order to increase the number of skilled workers in the region. In order to improve the quality of professionals cross checking of certificate forgery should be done prior to hiring. Moreover, construction of boarding schools at least in zone cities and changing attitude of the community through religious leaders can enhance both gross and net enrolment rates in the region. Moreover, the school feeding program and must be a permanent project in the region.

Access to both human and animal health facilities has been improving albeit the low service delivery in the centres. Poor health facilities at health centres, distance to health centres, and poor access to ambulances and absence of majority of medicines are among the key challenges of human health. Similarly, poor facilities at animal health centres and clinics, lack appropriate animal medicines and lack of professional are among the main reason for poor quality of animal health in the region. In order to improve the health service facilities, it is important to devise sense of ownership development mechanisms. There are good experiences in some woredas

regarding to fulfilling health facilities such as ambulances that need expansion across the region and beyond. For example, people bought ambulances for their health centres by mobilizing and collecting monthly voluntary fee for several months. The governments reward is also another important player for such public motivation. The government rewards the community with a principle of one more ambulance for a people who bought one. The local community monitors the overall activities of the ambulance. In addition to such involvement of communities, the government must act with responsibility by improving the monitoring system, ensuring proper distribution of medicines, equipping the health centres with facilities such as laboratories and detergents.

The research result concluded that the coverage of all-weather roads in the region is low; affecting the community livelihood. The importance of all-weather road is not only limited to easing public movement. Besides, in order to increase the number of local and international tourists, all-weather roads play a significant role. In general, it is the key to all infrastructure developments. If there is no road, construction of schools, health facilities, Water and other infrastructure will be very difficult. Therefore, special attention should be given the rural road sector and at the same time the regional rural roads authority needs structural reform. According to interview and document analysis, the rural roads authority is responsible for planning, contracting and consulting the overall activities related to rural road. Such merging of activities leads to low level of accountability and transparency. Therefore, the rural roads authority bureau of the region must be restructured in to three different offices such as rural roads authority responsible to planning and monitoring, independent rural roads construction enterprise responsible for contracting the projects and independent consultant offices. Moreover, it is very difficult to improve access to all-weather roads with the current technology the bureau hold. Therefore, besides restructuring the bureau to split the duties, the roads should be built by private contractors until the office is well equipped with the necessary inputs. Otherwise, with limited budget and infrastructural inputs, it will take time and hence will lead to inefficient use of budget.

Albeit there is inefficient use of budget, budget scarcity was one of the main challenges of development. To improve the budget scarcity, revenue generating capacity of the region must be improved by creating different platforms to increase the awareness of tax payers and by devising appropriate revenue generating, monitoring and evaluation mechanisms while the federal government has to improve the amount allotted to the region. Furthermore, the follow up and support of the federal government towards proper and efficient utilization of the budget. Besides,

in order to improve the self financing capacity and enhance the revenue of the region, it's important to focus on improving on the utilization of investment potential of the region.

Success or failure of a policy and strategy starts in the policy formulation. It can be said that there is no pastoral development policy in the country or the Afar community doesn't know about it as they never participated in either its initial development or they never has an opportunity to discuss the draft document although it is obvious that the development of policies and strategies discussed the regional government officials. Most of the development projects were written by people from neighbouring regions and in most of them, local scholars were not involved even as a member of the projects. Therefore, it is recommended the inclusion of local scholars, development partners and parts of the direct beneficiaries while developing such strategies.

By looking at efficiency of the pastoral livelihood improvement programs implemented in pastoral areas, it can be understood that the pastoral development policies in Ethiopia and Afar region in particular don't have clear direction which could have brought significant change in the improvement of the livelihood of the community due to lack of integrated approach. If pastoral community development policies programs are expected to succeed, integrated development system should be implemented. Hence, all stakeholders such as the local pastoral community who are indigenous knowledge holders, development partners, researchers and other stakeholder should be consulted before devising and implementing any pastoral community development programs. Stakeholders should be involved in planning to increase the awareness and acceptance of the planned project. Moreover, as long as the communities are involved in planning and aware about the importance of the project, they will take the responsibility. Because the afar people are open-minded; once they understand what it is and what the importance is. So convincing the community should be the priority. In addition to this, safe drinking water reservoirs should be managed by skilled professional. Although there are institutions such as Pastoral Community Development Program in the region which has been working in the region for a long time with better performance relative to other programs whose lifespan is short, institutional capacity in monitoring and evaluation should enhanced.

The research also concludes that poor planning as the main problem in Afar region. Every problem hindering the region's economic development starts from poor planning. Most of the plans were from top to down. Taking several factors in to consideration such as organizational strategy and structure, time sensitivity, level of literacy, national priority areas and others both approaches can be used. But it is always good to listen to the people and develop policies based

on research findings. Policy development based on very recent research finding help reduce the gaps and increase the level of its acceptance and implementation on the ground to benefit the majority. Using bottom-up approach will enable policy makers easily access the main problems that are happening to the rural community and the agriculture sector. On the other hand, top-down approach can be applied on some of the policies which need high level of knowledge and skill. But, in doing so, it is very important to search for representatives from different stakeholders to discuss and incorporate ideas for the proper implementation of the policy. Besides applying planning mixed planning approach, the regional bureau of finance and economic development should initiate and implement program budgeting which will improve the efficient use of budget across the region.

In addition to poor planning, lack of prioritization of activities at regional level is a key problem of the region. Every office in the region wants its problem to be addressed first while the budget of the region is limited. Priority sectors should be identified in order to bring quick positive change in the development of the region. Hence, although there might be priorities at woreda level, the regional priority areas should be improving the all-weather road which will be a base to all infrastructural developments and can attract businesses to the region which in turn will improve the performance of other sectors. In order to minimize the problems related to planning, its recommended implementation of activity-based planning and the establishment of region level plan commission.

Improved living standard can be assured when the all stakeholders collectively work to increase the employment opportunity for all types of communities. The capacity of regions to improve living standard, create job opportunities and reduce poverty depends upon the ability of adjusting to the ever changing local, national and international market. It is therefore important to strategically plan the regional economic development activities that will enhance the investment climate and enhance the productivity. In order to achieve sustainable regional economic development, different stakeholders such as government, private and non-governmental organizations should work together. Indigenous knowledge incorporation is highly required in all aspects of sustainable development planning and implementation.

Monitoring and evaluation of activities is poor in the region due to lack of agreed development indicators and baseline data. This created difficulties in the monitoring and evaluation procedure and holding leaders accountable. Therefore, respective authority in the region must devise development indicators alongside their baseline data in order to clearly evaluate where the region is.

The contribution of females in economic development activities is high. But, based on the research findings, significant proportion of female are left out of the economic activities in the region. Low enrolment rates, high dropout rates, and high unemployment rate are the main characteristics of afar female population. Moreover, the responsibility of home activities such fetching water from long distance, herding and milking sheep and goats and preparing meals for the family are left for females. Therefore, it is important to create awareness to assert the importance female's contribution to the regional economy.

The government has long been practicing the resettlement program as a means to improve the livelihood of the community although the impact is not as such significant. The government was only focussing on the reports of number of settled communities rather than its impact of their livelihood. Moreover, due to lack of continuous evaluation of on the number of settled communities, the drop outs were not measured. Doing the same thing the same way for long time doesn't bring a change. It can conclude that the community prefers to settle. At the same time, they need the necessary facilities for their family, most importantly grazing areas and water for their livestock. Since water is the main challenge in the region and to the government towards achieving the goal set to transform the mobile pastoral community into semi pastoralism, the mobile pastoral system has been better to easily access community needs and to improve the livelihood of the community. But, traditional pastoral system must be modernised. The livelihood improvement programs and mega projects, therefore, need to focus on introduction of modern technologies that can improve productivity of the livestock such as meat and meat production, leather production, and milk processing industries. Moreover, as an alternative to resettlement program, the researcher recommends the establishment of potential based cluster cities and enhancing the available towns with all the needs of the community. Furthermore, establishing ranches around the already established and cities to be established will improve the settlement of the mobile community.

The research findings furthermore revealed that the government structure of the region and frequent changing of leaders has been one of the key factors affecting the effectiveness of the regional governance. Therefore, it is recommended to adjust the structure of some of its offices. The first recommendation regarding government structure is the issue of zone level functionality. Currently, zone level administration is found in between the region level and woreda level administrations. But, so far the contribution of the zone level authority is only limited to political activities. Therefore, opening all region level offices at zone can strengthen zone level administration and will enhance the efficiency of the region level offices by improving the monitoring and evaluation of activities and hence assure the efficient use of allotted budgets.

Besides to restructuring the government structure, it is important to assign leaders of the offices with merit and profession rather than political attitude and intimacy. Moreover, sustaining leaders to a single position will have a significant impact. The second one is related to the investment commission of the region. Since the mandate of the investment commission is to identify the potential and opportunities, promoting it, creating conducive environment, and monitoring and evaluation of the overall activities related to investment, the regional authority should speed up the on-going study and attract investors from different areas of the world. But, the mandate is limited and doesn't allow the commission to deliver investment areas. Therefore, the investment commission of the region needs an area where the bureau can be able to provide to investor. But, the land is administered by its own regional office. Such situation is among the bottlenecks of investment sector. Merging offices with very much interconnected activities can solve similar problem in the region. Therefore, the regional government should specifically merge investment commission and land administration bureau of the region with proclamation to clear and improve the mandate of the investment commission.

It has also been observed that almost all the regional and woreda bureau/agency either doesn't have a website or its not well functioning. Therefore, it is recommendable that every office to have active websites since importance of website is high in promoting the region and attracts tourists, investors, and business clusters which will create jobs, improve the livelihood of the communities and hence ensure sustainable development.

The awareness of the pastoral community towards duties and responsibilities of government leaders and attitude in welcoming development projects are among the key points drawn from the in-depth interviews and focus group discussions. Therefore, a lot has to be done by native scholars and by the University in the region.

Finally, the regional government's development policies and strategies must focus on devising policies which can enhance the utilization of available potentials such as policies that can enhance the productivity of livestock and crop farming, tourism, and energy. Wherever there is an expansion of crop farming in the region, the government should focus on sustaining the agriculture and must find a way to improve the livelihood of the community. Moreover, there should be proactive production selection depending on the weather and prices forecasted, improving market information system and market value chains by the respective authority. Furthermore, in order to motivate the pastoralists and to give focus to the livestock sector, the researcher recommends the establishment slaughtering and exporting centre in Afar region due to its proximity to the port, the inclusion of live animals into the list of item in the Ethiopian

Commodity Exchange centre, and establishment of livestock sector advisory council at both national and regional governance levels.

7. NEW SCIENTIFIC RESULTS

Based on the research findings, the following new scientific results have been obtained.

1. The governance structure is also has contributed to the low achievement of the region's economic development. The main hierarchy of the government structure includes region, zone and woreda where the middle one is totally ignored. This structure led the woreda administration to bypass the zone level administration which created high work load on the region level administration. Furthermore, in order to enhance the efficiency of the regional development, there are regional bureaus which requires merger such as investment commission and land administration while the responsibility of rural roads authority needs to split in to three different offices such as rural roads authority, rural roads construction and rural roads design consultancy. In addition to this, the frequent reshuffling of office leaders and absence of merit-based office leader appointment has contributed to the poor efficiency of the region.
2. Lack of strategic prioritization of activities for budget allocation in the region one of the new scientific findings of this research. Hence, the government for very long period of time has identified water as priority sector albeit there are other sectors which have got significant emphasis. But, in order to assure sustainable development in the region, the rural road development should be given priority since investment, tourist and business attraction, and development of infrastructural development as well as for proper monitoring and evaluation execution are mainly depend on availability of road and transport system. Trying to solve the problem related to road and transport system will also ease the population movement which in turn will enable the community to easily access markets and execute other activities.
3. Lack of baseline data is a leading factor for poor monitoring and evaluation. Moreover, unavailability or non-functionality of websites in the region is among the main factors for poor performance in investment and tourism attraction.
4. In the education sector, the wealthy mobile pastoralists tend to send lowest number of school aged children compared to medium and lower wealthy level families despite all agreed on the importance of education. Wealthy mobile pastoral communities prefer their children to manage the available livestock resource and read the Holy Qura'an(Islamic Holy Book).Moreover, female students are exposed to wart due to lack of water and toilet in school compound. Furthermore, lack of awareness regarding the use of sanitary napkins in time of period is found to a significant factor.

7.1. Utilization of the results

The findings and results of the research can be utilized in the agricultural and economic higher education in subjects that focus on agricultural integration, sustainability, world economy, international (African) studies. The outcomes and the statements of the dissertation could be utilized in the field of a national or provincial economic and rural development strategy and also can be used as reference in the same strategy-making process of other developing countries.

The dissertation could be used as a bibliographic source and reference for further research and examinations (see in 7.2.), especially related to African countries. Therefore, the new scientific results and findings can also be used in higher education and also as a supporting document for a new, comprehensive agricultural and economic strategy for the government policy makers at regional and national level.

7.2. Further Research areas

In order to assure sustainable development in the region, further research should be done in the following areas.

1. Mapping the livestock and population mobility in the region is required so that social service development projects are well identified.
2. Since the available mining and energy potentials are not clearly measured, analysis of energy and mining potential in the region is mandatory to plan accordingly. Moreover, identification of types of crops that can be produced in the region will help attract investors across the globe.
3. A study should be done on new animal breeding type which can resist the regional weather condition and breeding of drought resistance grass types in order to improve the productivity of the livestock sector.
4. Feasibility study on different industries related to livestock sector is another important part that need to be investigated so as both international and national investors are attracted.
5. It can be concluded that the majority of productive work force is addicted to chewing chat(stimulant plant) and smoke cigarette which has been consuming their time both at rural and urban areas hence reducing the productivity in the region. There are a lot of people who solely depend on others for their livelihood. Therefore, there should be youth rehabilitation project. Moreover, projects focusing on entrepreneurial skill development may play an important role in bringing the people in to business-oriented activities.

6. Assessment on the impact of local and international non-governmental organizations by external professional evaluator is needed in order to clearly identify the gaps and improve the efficiency of the organizations in improving the livelihood of the community.

8. SUMMARY

Economic development has considered as an important process asserting improved life standard and prosperity. The main goal of regional/local economic development is, therefore, to improve the quality of life as a result of improved economy by building the economic capacity of a region. Nowadays countries have focused on improving quality of life and standard of living and it has become a global issue (UN-HABITAT, 2013)

The ANRS is one of the administrative regions in the country where the majority of its population are rural residents who mainly depend on livestock and livestock products. A small proportion of the Afar people are engaged in semi pastoral activities where they include agricultural farming among their income source while the urban population is very limited. Pastoralism has a significant contribution to countries national GDP (10%-44%) and over 1.3 billion people are estimated benefiting from livestock value chain (WISP 2016). According to Coalition of European Lobbies on Eastern African Pastoralism (CELEP) report (CELEP, 2017), 20 % of the national export and 90% of live animal export of the Ethiopian trade, and 80% of annual milk supply to the Ethiopian community resulted from the pastoralists. Livestock population in ANRS for sampled two zones out of 5 zones were estimated to be 1.3 million cattle, 1.7 million sheep, 3.4 million goats, 474,146 camels, 102, 695 equines and 415 beehives (CSA, 2018). Besides the livestock production, agricultural cultivation such as production of maize, beans, sorghum, papaya, banana, and orange is also practiced. Cotton production is also typical to the region.

Since the establishment of currently functioning 9 regional administrations (Kililoch, in local language, Amaharic), and two city administrations in Ethiopia, the economic development and the living standard of ANRS has been progressing very low. Several research works can be taken as evidence where the people of Afar are still suffering of food security, undernourishment, lack of water and grazing areas. A research done in some districts of the region by SIRAJEA and BEKELEB (2011) indicates the percentage of population living below poverty line is as high as 64.8%. According to TEKA et al., (2019), the level of poverty reduction in ANRS slow compared to other regions since 1995/96 where official poverty data compilation begun. Moreover, the progress regarding reduction poverty level in Afar region since 1995/96 is much slower compared to regions that had higher poverty level by that time. A research done by DEREJE and OKOYO, (2015) found that the poverty status of ANRS is higher than the national average. Furthermore, WFP (2011) indicated that the poverty level of the pastoral community is worse compared to the non-pastoral communities in the country. Moreover, a research done by

(DEREJE and OKOYO, 2015) found that the poverty status of ANRS is higher than the national average. Poor accessible to marketplaces, recurrent drought, and weak infrastructure are among the factors affecting the livelihood of the afar people. This situation forced the rural pastoral community to depend on different kinds of aids (FIREHIWOT and YONAS, 2015; LEMESSA, 2015).

Provision of social services in the region is low. Although recently education is considered not only the issue of human rights also is a key player in reducing poverty and improving living standard (DEBEBE, 2014; KADZAMIRA and ROSE, 2003), the enrolment rate in ANRS remains low. For example, the enrolment rate in ANRS at pre-primary education is only 13% and it is very low compared to the national 42.5% (UNICEF, 2019). In addition, only 48% of primary school-aged children are enrolled in the region. This figure is much lower compared to Somali region which is also a pastoral region (73%) (UNICEF, 2019). Evidence from statistical agency shows that the highest (about 69%) of Afar women are not totally educated with lowest median number of years of education for women is 0.0%. It is also crucial to improve the health of the population in order to achieve development goals (PANDA and THAKUR, 2016; OBRIST et al., 2007). Health is not only a determining factor to development, but also it is a human right (RAM, 2012). The health services in afar region is also rated as inadequate and poorly equipped, scarce, difficult to access, and does not fit the livelihood system of the pastoral community (NEJIMU and HUSSEIN, 2013). Moreover, Nejumu and Hussein also revealed that teen motherhood is highest in Afar 23% compared to other regions in Ethiopia. Child mortality (under five) is the highest in Afar region with 125 deaths per 1000 live births. In addition to this, institutional delivery is lowest in Afar region accounting for 15% and skilled workers assisted are 16% in afar which is the lowest in the country.

According to FOSTER AND MORELLA (2011), only 10 percent of the rural population lives within two kilometres of all sided roads directions indicating the remaining percentage lives in more than 2km which makes it very difficult to carry stuffs to marketplaces. According to FOSTER and MORELLA, (2011) only 10% of Ethiopians have access to GSM signals and GSM subscription rate is only 1.6 percent of the population in Ethiopia compared to benchmark of low-income countries 48% and 15.1 percent respectively. In additions, FOSTER and MORELLA, (2011) implied that the internet access is also among the lowest with only 0.3 megabits per second per capita while the benchmark for similar low-income countries is 5.8 megabits. Access to all-weather roads, ICT, banking and credit services are among the main challenges hindering the economic development and living standard of the community.

Inappropriate policies implemented in the region, inefficient governance and poor planning played a significant role for such low level of economic development.

The main aim of this research was to identify the development potentials and the main bottlenecks hindering the economic development in the region. Hence, primary data were collected from sampled communities in 15 sampled woredas using questionnaire, focus group discussions, interviews and field observations. Besides this, secondary data was collected from both federal and regional government offices. Several research findings related measuring regional and local economic development categorized the main indictors in to four categories such as demographic, social, labour and economic dimensions. Hence, the analysis of the potential and challenges of economic development in ANRS was done based on the above categories. Moreover, analysis on the efficiency of resettlement/villagization and safety Net program was taken among the development strategies implemented in the region.

Based on the HDI calculated, the region is under the score of 1 which is an indication of low level of human development which in turn will have a significant impact on the overall development of the region. Moreover, the poverty level of the region is levelled at index score 3 indicating moderate potential while index score for literacy is 0 which shows very low level. In general, the potential of the region regarding demographic sub dimension is low which needs much effort to assure sustainable development. The main challenge of prospect of the region's development regarding the demographic characteristics is the decrement of fertility rates and the high level of infant and under-five years' old mortality rates that have been seen in the past and in the projected years. Although the life expectance has been increasing, the infant and under-five year mortality rates has been decreasing and are expected to decrease over the years, the level of mortality rates are still expected to negatively affect the regional development.

Afar region have higher active population age category (15-49). The overall growth of active population age over the years is higher than those exiting the working force for pension. The growth rate of population aged 15 years and below is higher than the growth rate of people aged 65 and more indicating the region's good prospect for development. But, there exists high unemployment rate especially in urban areas where majority of the urban unemployed are literate. Taking both indicators into consideration, albeit there is high proportion of economically active population, yet the high unemployment rate is an indication of low level of development in the region. More specifically, the unemployment rate for urban areas of the region is 20.3 which is levelled as index 1 which illustrates low level while the proportion of economically active population is more than 50% falling under the index showing high labour development

level in urban areas. Therefore, the region has a huge labour potential for development although there should be improvements in creating jobs and enhancing entrepreneurial skill of the youth.

Economically, the GDP of the region is high with an average of 7.965% GDP growths for the last 5 years. Moreover, the region is endowed with natural resources. The tourism sector in the region is among the natural resources available in the region. But, this sector is underutilized in ANRS due to lack of all-weather roads, poor transport system, lack of accommodation at tourist destination areas, lack of promotion and local tour guides. Focusing on the Ethiopian tourism industry similar challenges has been mentioned by GEZACHEW (2013), are lack of infrastructure such as road, power, consistence utilities like water, and TESHALE (2010), concluded political uncertainty as one of the key problems. NABIL (2003) added lack of knowledge and awareness, and fragile promotion system as bottlenecks of the tourism sector. Moreover, the attention given to tourism sector by the regional government is low where there are no management structures in majority of tourism destination areas. Furthermore, there are unutilized areas where wild animals live without protection which are very favourable for park establishment. The region is also endowed with geothermal, solar and wind energy. But, the level of exploration and utilization is low. In addition to this, the gold, salt, and potash mining are among the underutilized mining potentials in the region. Such resources are mostly found in the rift valley and in Afar depression of ANRS. The estimated 700MWe geothermal energy potential of the country, the about 530MWe (75.7%) is found in the ANRS. Utilization of this geothermal energy potential will speed up the east African countries' development in general, and Ethiopia and ANRS in particular. The region is also rich with salts, potash, and manganese (TADESSE et al. 2003) and gold mineralization (GEBRESILASSIE, 2009), occurrence of hydrocarbon (VINAY, 2010; KACEWICZ et al., 2009).

The region's livestock asset is also one of the sectors which contribute to regional and nation GDP. Although the pastoral system is economically important and environmentally friendly, the deep-rooted misconception about pastoralism and the multi-dimensional poverty are the characteristics of the livelihood of Ethiopian pastoral community (DEREJE and OKOYO, 2015; FIREHIWOT and YONAS, 2015; RETTBERG, 2010). Lately, the economic values of pastoral system have started to be recognized (CHINOGWENYA and HOBSON, 2009). Despite this, a prominent role in the livelihood of inhabitants, their contribution to the economy has been ignored by national policies and focused at modernizing them by introducing to the agriculture which is assumed to be the best way to ensure development and avoid or minimize poverty. Yet, the productivity of this sector in ANRS is very low.

Regarding social services, access to education has been improving where there are school buildings in almost all areas of the region. Moreover, the expansion of ABE played an important role in trying to address the issue of access to education so as to meet the universal agreement of education for all. But, although access to education has been improving, the gross and net enrolment rate in the region is very low where there are high dropouts. The average annual primary school enrolment growth rate for ANRS shows negative figure with -3.23 for male and -1.22 for female while overall average annual growth rate is -2.37 which is very low compared to the national average which is 7.77, 9.9 and 8.53 consecutively for male, female and total. Although the average annual growth rate for secondary school is in ANRS compared to primary school enrolment, still the growth rate is far from the national average indicating the education enrolment rate is very low in the region. Moreover, the gender parity index for primary and secondary school ANRS was 0.94 and 0.7 respectively which showing a huge gap between male and female student enrolment.

Albeit the coverage of schools is improving, the quality of education in the region is totally found to be low. Small proportion of school aged children attends school. Preference to study Qura'an(Islamic holy book) and work at home are among the key factors explained by families for not sending the children to school. Such figure is much higher in female students. While analysing the practice of sending school aged children, those wealth families tend not to send their children compared to moderate and low wealthy families. This is a contradicting finding to AUMA et al., (2013) where they stated financial constraints of pastoral communities are one of the hindering factors to access to education. School physical infrastructure such as lack of chairs, water, toilets, libraries and play grounds play a significant role for such low level of quality of education in the region. Unavailability of water and sanitary equipment in the school specifically affected the size of students enrolled and increased female students drop out especially after grade 4 where they start the natural process of period. Such situation forced the female students to drop out and they became exposed for health problems such as wart. Shortage of books and unfamiliar/not localized examples used in the book are among the main factors contributing to low quality of education. Poor quality of teachers and lack of professional ethics by teachers, poor performance of implementation of continuous assessment, poor school management and frequent change of leaders at region level also contributed to the low level of quality of education. Moreover, the changing the medium of instruction from Amharic to the local language in order to answer the issue of learning by mother tongue was a wrong educational policy change by then. The regional government simply implemented it without consulting all stakeholders and evaluating the available potential to implement the strategy where there were

no enough teachers who can teach using the local language which in turn affected the overall education system. Moreover, with lack of access to reading areas and with the absence of conducive environment to read, the nationally agreed student-centred education system doesn't fit the context of Afar.

Access to human and animal health service provision is also improving. Although there has been improvements on access to human and animal health in ANRS the coverage is far from what is required. Access to human and animal health was rated as worst by 30.5% and 33.75% participants respectively while 69.5% respondents rate access to human health as moderate. Moreover, 57.5% of the respondents rated the access to animal health as moderate while the remaining small percentage (8.75%) of participants rated it as good. Gender sensitive service delivery is not available in the selected study areas. But, there are health extension workers who are paid every month. Their responsibility is to educate the rural community and promote preventive mechanisms. But, their effort is very low. On the other hand, there are mobile health workers who relatively better in supporting the rural community. But, there is still a huge gap in properly utilizing all of them.

There are several reasons for such poor quality of human health services in the region. Service delivery has come to one room in many of the rural health posts and health centre as they don't have all equipment. There are no laboratory equipment in most of the health centres. If there is a laboratory centre, they are only in the centres of the woreda. In those health centres that have laboratory equipment, they lack detergents to function them. Due to lack of facilities, and irregularities of duty fees in health centres, most of the professionals usually leave the place for better option. Such problems of the health centres force people to travel to neighbouring woredas sometimes to neighbouring regions where they face several challenges such as language barrier and they usually exposed for theft. Lack of transport and road access is also another problem where the rural community gets difficulty to get to health centres. In some areas, for example, in zone five it is very difficult to reach the health centres through transportation. People have to go through some other woredas in order to reach districts they administer.

According to DAVIES et al., (2016), access to water is the most important factor for the livelihood of pastoral and agro-pastoral communities. For the Afar people, water means life. With the hot weather condition of the region ranging from 22-55 degrees access to safe drinking water and water for their livestock is among the priority needs of the community. Access to safe drinking water is rated as worst by the majority of the participants. Women and girls travel at least 3 hours to fetch water. In general, the overall status of access to safe drinking water in the

study area is very low. Unique geology of the region and quality of water available, lack of advanced technological options to search and locate water, low access to electricity and transport infrastructure, lack of culture of water management, lack of stakeholder involvement in planning and execution of the project is a key determinant factor for worst access to water in the region.

Road transport is supposed to create a network over a wide array of infrastructural facilities. Access to all weather road in ANRS is rated as worst by almost half of the respondents while the second large proportion of the respondents (38.25%) rated as moderate. Lack of machineries to construct the road, lack of skilled professional due to low salary scale, poor management structure are among the main challenges.

The governance in the region was rated as worst by majority of the participants in this research. Poor revenue generating capacity, poor planning and implementation of activities are an indication of the low level of efficiency of the regional government. Every problem in the region starts from poor planning. In addition to poor planning, lack of prioritization of activities at regional level is a key problem of the region.

Although there might be priorities at woreda level, based on the results and discussions, the regional priority should be improving the all-weather road which will be a base to all infrastructural developments and can attract businesses to the region which in turn will improve the performance of other sectors. Moreover, monitoring and evaluation of activities is poor due to lack of agreed development indicators and baseline data. This created difficulties in the monitoring and evaluation procedure and holding leaders accountable. Therefore, respective authority in the region must devise development indicators alongside their baseline data in order to clearly evaluate where the region is.

In order to improve the monitoring and evaluation as well as efficiency of the regional government, it is recommended to strengthen zone level administration by restructuring government offices. Empowering zone by establishing the offices which are available at both the region and woreda level which will minimize the burdens of the region level offices. Such restructuring will enable zone level administration to monitor the budget distribution at woreda levels and evaluate the efficient use of allotted budgets. In addition to this, restructuring either by merging offices with very much interconnected activities or splitting responsibilities can boost the development of the region. Therefore, it is recommended the merging of investment commission with land administration office of the region with proclamation to clear and improve the mandate of the investment commission will ease the implementation of activities and create conducive environment for investment which in turn will play a significant role in achieving

sustainable economic development. Moreover, the rural roads authority bureau of the region must be restructured in to three different offices such as rural roads authority responsible to planning and monitoring, independent rural roads construction enterprise responsible for contracting the projects and independent consultant offices. Moreover, it is very difficult to improve access to all-weather roads with the current technology the bureau hold. Therefore, besides restructuring the bureau to split the duties, the roads should be built by private contractors until the office is well equipped with the necessary inputs. Otherwise, with limited budget and infrastructural inputs, it will take time and hence will lead to inefficient use of budget.

Furthermore, in order to improve the living standard of the community, motivate students to read, to improve the health of the community and access to water, it is recommended the installation of solar and wind energy. In addition to such energy potentials, since the region is having high number of livestock population, it will be easy to use bio fuels for their daily energy demand. Therefore, it is advised to create awareness and support the community to benefit from bio fuel. A system should also be devised to allow people install solar panels and produce and sell energy if they produce more than their demand.

The contribution of tourism sector to the regional GDP is low due to several factors mentioned earlier. Therefore, regional tourism bureau and Samara University should work together in opening tourism management department with special focus of afar region.

Proper distribution of animal feed is highly recommended in the country in general and afar region in particular. It can be a source employment to the unemployed by establishing/forming cooperative who can sow and distribute in the country.

Furthermore, almost all the regional and woreda bureau/agency either doesn't have a website or its not well functioning. Therefore, it is recommendable that every office to have active websites since importance of website is high in promoting the region and attracts tourists, investors, and business clusters which will create jobs, improve the livelihood of the communities and hence ensure sustainable development.

Finally, the regional government's development policies and strategies must focus on devising policies which can enhance the utilization of available potentials such as policies that can enhance the productivity of livestock and crop farming, tourism, and energy. When there is an expansion of crop farming in the region, the government should focus on sustaining the agriculture and must find a way to improve the livelihood of the community. Moreover, there

should be proactive production selection depending on the weather and prices forecasted, improving market information system and market value chains by the respective authority. Furthermore, in order to motivate the pastoralists and to give focus to the livestock sector, the researcher recommends the establishment slaughtering and exporting centre in Afar region due to its proximity to the port, the inclusion of live animals into the list of item in the Ethiopian Commodity Exchange centre, and establishment of livestock sector advisory council at both national and regional governance levels.

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10. APPENDICES

Appendix 1: less than cumulative frequency population projections for ANRS in millions

Age group	Base year(2007)	2022	2027
Less than 5	1.749	2.29778	2.24826
Less than 10	3.626	4.57327	4.54275
Less than 15	5.581	6.7783	6.83906
Less than 20	7.364	8.53994	9.07508
Less than 25	8.819	10.51483	10.88490
Less than 30	10.020	12.59593	12.90437
Less than 35	10.941	14.47721	15.00466
Less than 40	11.689	15.9749	16.88610
Less than 45	12.312	17.16891	18.37687
Less than 50	12.803	18.05982	19.55625
Less than 55	13.144	18.76189	20.42930
Less than 60	13.393	19.32529	21.10812
Less than 65	13.553	19.7479	21.64057
Less than 70	13.654	20.02346	22.02442
Less than 75	13.709	20.20027	22.25870
Less than 80	13.730	20.28701	22.38884
All ages	13.766	20.33778	22.46342

Source: Own calculation, CSA data

Appendix 2: School attending children * Total school aged children * occupation of respondent * Wealth status cross tabulation

Wealth status	occupation of respondent			Total school aged children									Total
				0	1	2	3	4	5	6	7	8	
Poor	pastoralist	School attending children	0	30	4	2	5	9	0		0		50
			1	0	14	17	6	4	1		1		43
			2	0	0	2	3	5	9		0		19
			3	0	0	0	15	5	1		0		21
		Total		30	18	21	29	23	11		1		133
	semi-pastoralist	School attending children	0	9	0	0	0	3	0	0		0	12
			1	0	3	6	0	0	10	3		5	27
			2	0	0	5	1	1	3	0		0	10
			3	0	0	0	11	1	2	2		0	16
			4	0	0	0	0	3	0	0		0	3
			5	0	0	0	0	0	1	0		0	1
		Total		9	3	11	12	8	16	5		5	69
	Total	School attending children	0	39	4	2	5	12	0	0	0	0	62
			1	0	17	23	6	4	11	3	1	5	70
			2	0	0	7	4	6	12	0	0	0	29
			3	0	0	0	26	6	3	2	0	0	37
			4	0	0	0	0	3	0	0	0	0	3
			5	0	0	0	0	0	1	0	0	0	1
		Total		39	21	32	41	31	27	5	1	5	202
Medium	Daily Labourer	School attending children	1		5								5
		Total			5								5
	pastoralist	School attending children	0	2	0	0	1	8	0	6		0	17
			1	0	1	4	1	13	1	0		7	27
			2	0	0	1	0	6	2	0		0	9
			3	0	0	0	6	0	0	0		0	6
		Total		2	1	5	8	27	3	6		7	59
	Private employee	School attending children	1		2								2
		Total			2								2
	semi-pastoralist	School attending children	0	11		0	0	6	3	8	0	0	28
			1	0		4	1	3	12	4	1	1	26
			2	0		3	1	5	4	0	0	0	13
			3	0		0	11	1	6	0	1	0	19
			4	0		0	0	4	0	0	0	0	4
		Total		11		7	13	19	25	12	2	1	90
	Total	School attending children	0	13	0	0	1	14	3	14	0	0	45

			1	0	8	8	2	16	13	4	1	8	60
			2	0	0	4	1	11	6	0	0	0	22
			3	0	0	0	17	1	6	0	1	0	25
			4	0	0	0	0	4	0	0	0	0	4
		Total		13	8	12	21	46	28	18	2	8	156
Rich	pastoralist	School attending children	0				1	7	1	2	0	0	11
			1				0	2	0	0	1	5	8
			2				0	1	0	0	0	0	1
		Total					1	10	1	2	1	5	20
	semi-pastoralist	School attending children	0	1	0	0	0	0	0				1
			1	0	2	5	1	0	1				9
			2	0	0	4	0	0	1				5
			3	0	0	0	5	0	0				5
			4	0	0	0	0	2	0				2
		Total		1	2	9	6	2	2				22
	Total	School attending children	0	1	0	0	1	7	1	2	0	0	12
			1	0	2	5	1	2	1	0	1	5	17
			2	0	0	4	0	1	1	0	0	0	6
			3	0	0	0	5	0	0	0	0	0	5
			4	0	0	0	0	2	0	0	0	0	2
		Total		1	2	9	7	12	3	2	1	5	42
Total	Daily Labourer	School attending children	1		5								5
		Total			5								5
	pastoralist	School attending children	0	32	4	2	7	24	1	8	0	0	78
			1	0	15	21	7	19	2	0	2	12	78
			2	0	0	3	3	12	11	0	0	0	29
			3	0	0	0	21	5	1	0	0	0	27
		Total		32	19	26	38	60	15	8	2	12	212
	Private employee	School attending children	1		2								2
		Total			2								2
	semi-pastoralist	School attending children	0	21	0	0	0	9	3	8	0	0	41
			1	0	5	15	2	3	23	7	1	6	62
			2	0	0	12	2	6	8	0	0	0	28
			3	0	0	0	27	2	8	2	1	0	40
			4	0	0	0	0	9	0	0	0	0	9
			5	0	0	0	0	0	1	0	0	0	1
		Total		21	5	27	31	29	43	17	2	6	181
	Total	School attending children	0	53	4	2	7	33	4	16	0	0	119

			1	0	27	36	9	22	25	7	3	18	147
			2	0	0	15	5	18	19	0	0	0	57
			3	0	0	0	48	7	9	2	1	0	67
			4	0	0	0	0	9	0	0	0	0	9
			5	0	0	0	0	0	1	0	0	0	1
		Total		53	31	53	69	89	58	25	4	18	400

Source: Own Survey

Appendix 3: Projected population size of ANRS in 5 years category

	2007			2008			2012			2017			2022		
Age	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
0 to 4	20.3	154.6	174.9	22.674	161.431	184.105	31.511	191.316	222.827	38.276	191.537	229.813	44.668	185.11	229.778
5-9	21.4	166.3	187.7	22.163	160.869	183.032	23.837	147.211	171.048	36.1	183.164	219.264	43.749	183.8	227.549
10-14	22.4	173.1	195.5	23.805	171.84	195.645	26.305	161.393	187.698	28.548	143.658	172.206	42.873	177.63	220.503
15-19	21.7	156.6	178.3	23.769	160.363	184.132	29.249	168.213	197.462	33.383	157.658	191.041	36.033	140.131	176.164
20-24	20.8	124.7	145.5	23.111	129.601	152.712	31.496	150.736	182.232	41.094	161.994	203.088	46.461	151.028	197.489
25-29	18.4	101.7	120.1	20.402	105.376	125.778	27.578	121.35	148.928	40.378	146.355	186.733	52.098	156.012	208.11
30-34	15	77.1	92.1	16.761	80.459	97.22	23.924	98.004	121.928	34.706	115.58	150.286	50.27	137.858	188.128
35-39	12	62.8	74.8	13.176	64.385	77.561	17.814	73.94	91.754	27.55	93.029	120.579	39.669	110.1	149.769
40-44	8.9	53.4	62.3	9.779	54.702	64.481	12.734	61.096	73.83	18.369	72.459	90.828	28.241	91.16	119.401
45-49	6.6	42.5	49.1	7.38	44.207	51.587	9.901	50.835	60.736	13.729	58.52	72.249	19.708	69.383	89.091
50-54	4.5	29.6	34.1	5.115	31.973	37.088	7.456	39.925	47.381	10.851	47.986	58.837	15.047	55.16	70.207
55-59	3.3	21.6	24.9	3.738	22.662	26.4	5.36	27.699	33.059	8.608	36.597	45.205	12.485	43.855	56.34
60-64	2.1	13.9	16	2.424	14.82	17.244	3.712	19.3	23.012	5.838	24.914	30.752	9.383	32.878	42.261
65-69	1.4	8.7	10.1	1.604	9.187	10.791	2.403	11.718	14.121	4.09	16.382	20.472	6.414	21.142	27.556
70-74	0.8	4.7	5.5	0.944	5.114	6.058	1.476	6.76	8.236	2.46	9.201	11.661	4.219	13.462	17.681
75-79	0.4	1.7	2.1	0.492	1.995	2.487	0.873	3.123	3.996	1.56	4.471	6.031	2.604	6.07	8.674
80+	0.5	3.1	3.6	0.471	2.704	3.175	0.469	2.293	2.762	0.694	2.819	3.513	1.164	3.913	5.077
Total	180.5	1196.	1376.	197.80	1221.68	1419.49	256.09	1334.91	1591.01	346.234	1466.32	1812.55	455.08	1578.69	2033.77

Source: UEUS, 2020. CSA

Appendix 4: Consolidated budget of ANRS at region level

Sectors	2010	2011	2012
Region total consolidated budget	1,855,465.195	1,993,157.053	2,039,824.795
Administrative and general service sector	**261,686.108**	**265,284.754**	**354,267.150**
organ of state government	43,292.315	65,278.364	61,190.318
woreda council	7,882.618	10,761.145	3,083.489
office of woreda administration	32,690.237	53,217.219	37,296.694
office of women's, child's and youths' affairs	2,719.459	1,300.000	13,941.846
justice and security	23,028.346	80,640.010	93,544.475
general service	182,610.165	64,617.425	131,544.298
office of finance and economic development	177,610.165	51,851.433	79,986.316
office of state communication affairs	1,500.000	3,465.992	3,341.708
bureau of civil service and capacity building	1,500.000	7,100.000	18,806.656
revenue agency	2,000.000	2,200.000	3,608.273
mass media agency	_	_	25,801.345
economic development sector	1,314,450.080	1,343,122.147	1,206,811.052
Agriculture and rural development	337,287.522	341,358.456	381,224.097
office of pastoral, agriculture, and rural development	121,087.522	144,178.456	158,669.731
office of integrated river basin development project(and villegization coordination)	212,600.000	192,600.000	209,324.247
pastoral and agro-pastoral research center	-		8,390.120
office of cooperative organization and promotion	500.000	1,280.000	1,500.000
land use management and environmental protection	3,100.000	3,300.000	3,340.000
water resource	397,074.458	368,846.694	375,740.783
trade industry and tourism	7,483.875	7,658.334	21,110.840
trade industry transport desk	6,996.760	1,750.000	16,610.840
investment commission	-		4,500.000
small enterprises	487.015	5,908.000	-
culture and tourism	1,700.000	4,300.000	4,000.000
mining and energy	3,550.000	2,050.000	6,019.000
construction and urban development	565,894.323	618,243.745	418,716.330
service and urban development	458,119.927	433,559.534	-
rural roads authority	107,774.395	184,684.211	222,893.361
Social development sector	279,329.003	378,750.172	478,746.593
Education	138,230.619	206,623.885	186,974.609
sport	360.000	1,437.702	8,639.821
health	113,906.081	126,506.520	179,332.478
labour and social affairs	7,338.634	4,809.000	3,899.155
prevention and rehabilitation	19,493.669	39,373.045	68,789.618
office of disaster prevention and food security	19,493.669	39,373.045	68,789.618

Sources: BoFED, ANRS

Appendix 5: Questionnaire

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES

DOCTORAL SCHOOL OF ECONOMICS and REGIONAL SCIENCES
PHD RESEARCH QUESTIONNAIRE

Introduction:

This questionnaire is prepared by Ahmed Abduletif, a PhD at Hungarian University of Agriculture And Life Sciences, Hungary, to collect data about "prospects and challenges of Economic development in ANRS, Ethiopia". The information you provide is pertinent for successfully accomplishing the Research and finally for sound policy intervention and the resultant development. For this sake, the researcher confirms you that all the data will be used for policy intervention and academic purpose only and will be analyzed anonymously. Hence, because of your provision, you will never be exposed to any harm. I am thanking and appreciating your kind cooperation in advance; and I would like to say thank you!

Please put *"√" in the box or encircle for your answer*

	Day	**Month**	**Year**	**Full Name**	**Signature**
Enumerator					

Location	**Zone**	**Woreda**	**district**	**Remark**
Name				
Code				

mographic and Socio-Economic Characteristics

1. Sex: [ ] Male [ ] Female
2. Age---------- (years)
3. Marital Status: [ ] Married [ ] Single [ ] Divorced [ ] Widowed
4. Religion [ ] Muslim [ ] Orthodox [ ] Protestant [ ] Catholic
   [ ]Wakefeta[ ] Other (Specify) ----------
5. What is your highest educational attainment?

[ ] I cannot read and write [ ] Elementary [ ] High school[ ]TVeT /Diploma
[ ] Degree [ ] Masters Degree [ ]Phd

6. Family Size_____ (Number)
7. How many children (above 6 years old) do you have? [ ] Male [ ] Female
8. How many of them are attending school? [ ] Male [ ] Female
9. If you are not sending your children to school, why?
   [ ] the school is very far [ ] we need them to help us [ ] we usually move
   [ ] there is advantage in sending our children to school [ ] if any other reason----------
10. Do you think education have a positive impact on improving people's livelihood? [ ] yes [ ] No
11. Are your permanently settled? [ ] yes [ ] No
    If your answer for question number 11 is **"No"**
12. how many times do you change your settlement per year?

[ ] once [ ] twice [ ] three times [ ] four times [ ] five times [ ] more than five times

13. How long is (on average) to your new settlements every time you move?

[ ] less than one hour(on foot) [ ] one hour-two hours
[ ] two hours-three hours [ ] more than three hours

14. Do you use the same place to settle every season you move?
    [ ] yes [ ] No
15. What is your occupation

[ ]Unemployed [ ] Government employee(specify please,----------)
[ ]Housewife [ ] Trader [ ] Private employee(specify please,----------)
[ ]Farmer [ ] Pastoralist [ ] Daily labourer[ ] Other(please Specify)---------

16. If Unemployed why? ----------
17. Wealth status [ ] Rich [ ] Middle [ ] Poor
18. What is the average Income (per month) of your family?

[ ]< 300 Birr [ ] 301-600 Birr [ ] 601-1000 Birr [ ] >1000 Birr

19. Source of income
    [ ]Salary [ ] Daily labourer**C**. Crop production ([ ] Temporary [ ] Permanent)

D. Livestock **(**[ ]Cattle, goat, camel[ ] Poultry) **E.** [ ]Crop and livestock
[ ]Local remittances [ ] Remittances from abroad
20. If your answer for number 19 is C/D/E, what is the primary aim of producing either/or both?
[ ]Household consumption [ ] For sale/market **C.**[ ] Both
21. If Your answer for question number 19 is C, how many times a year do you harvest for the temporary crops?
[ ]One [ ] Twice [ ] Three times [ ] More than 3 times

Please rate the following questions as 1 for Strongly agree 2 for Agree 3 for Neutral 4 for Disagree 5 for Strongly disagree

	Specific to Resettlement basis					
		1	2	3	4	5
22	You came/settled here voluntarily					
23	I am happy/satisfied being here					
24	Income has increased					
25	My life has improved					
26	Settlement is better than nomadic livelihood					
	Specific to Semi pastoralists working on agriculture (urban or peri urban)					
27	I have my own land for agriculture					
28	I have rented the land for agriculture					
29	There is a good irrigation system					
30	I use improved seeds					
31	I use improved fertilizers					
32	I use technologies to produce (such as tractor, sowing machine)					
33	I use traditional plaguing and sowing mechanisms					
34	I produce enough only for my family's consumption					
35	I produce and sell some					
36	I get market information easily					
37	I sell to cooperatives					
38	I sell to individuals on market					
39	There is continuous support from agricultural extension workers					
40	Agriculture is best economic activity for Afar people					

41. Is there a health post in your village? [ ] Yes [ ] No
42. If Yes, is it functional? [ ] Yes [ ] No
43. Do you visit health centers seeking medication? [ ] Yes [ ] No
If your answer for question number 43 is **"yes",**
44. When do you go to health center?

[ ] I go anytime I feel sick [ ] I go every regularly for checkup even I am healthy

[ ] I go when my sickness goes worst [ ] I don't go at all even I feel sick

45. How long does it take you to get there (one-way trip to the health post)?
[ ] Less than 30 minutes [ ] Between 30 minutes and 1 hour
[ ] 1hr-1:30hr [ ] 2hrs [ ] More than 2 hrs
46. If Your answer for question number 43 is "**No",** Why?

[ ]lack of money for medication [ ] long distance from the health facility

[ ]lack of trust in the health services [ ] Prefer to go to traditional medical practitioners
[ ]unwillingness of their partners [ ] Due to the help from health extension workers
47. Have you ever been visited by health extension worker from the health post?
[ ] Yes [ ] No
48. Have your family ever received home-based maternal health service?
[ ] yes [ ] No
49. Do you gate gender sensitive service delivery at health posts?
[ ] Yes [ ] No
50. Is there animal health post in your village?[ ] Yes [ ] No
51. If "yes", is it functional? [ ] Yes [ ] No
52. Main Source of water for drinking
[ ] pipeline [ ] river [ ] borehole [ ] Communal hand pump [ ] birkadothers Specify ----------

53. Main Source of water for livestock

[ ] pipeline [ ] river [ ] borehole [ ] Communal hand pump [ ] birkadothers Specify ----------

54. Time taken to fetch water (round trip on foot)

[ ] Less than 30 minutes [ ] Between 30 minutes and 1 hour [ ] 1hr-1:30hr

[ ] 2hrs [ ] More than 2 hrs

55. Who fetches water? (possible to choose more than one)

[ ] adult women [ ] adult men [ ] girls [ ] boys,

56. How do you treat water?

[ ] Boiling [ ] Chemicals [ ] other, specify please

57. Below in the table are determinants of regional development. Please indicate the severity of the problem by putting × and rank the first 7areas according to the severity of the problem by assigning 1 to the worst and so on. If you think there are more problems which are not mentioned in the table, please add them in the box and rate them.

Indicators	worst problem	moderate	good	Very good	Not a problem at all	Rank
Access to education						
Quality of education						
Access to human health center						
Access to animal health center						
Quality of Services						
Access to water						
Access to Electricity						
Access to transport						
Access to Water						
Animal health						
Climate change						
natural resource utilization						
Access to Grazing Area						
Access to banking services						
Access to credit services						
Access to information communication technology						
Governance						

58. Here are some options for government spending. Would you please put × to indicate the priority of government spending should be in the next 5 years.

Indicators	Spend much more	Spend more	Spend same as now	Spend less	Spend much less	Can't choose
Education						
Health						
Water						
Transport						
Mining						
Tourism						
Environment						
Electricity						
Culture						
Climate change						
Natural resource utilization						
Capacity Building						

59. What is your opinion regarding resettlement/villagization program? Do you believe the nomadic pastoralist should settle? Why?

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60. What livelihood system do you suggest to improve the living standard of the rural afar community? Nomadic pastoral, semi pastoral, Agriculture, or any other?

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61. What do you suggest government and other stakeholders should do to improve the livelihood of the Afar people?

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62. How do you evaluate the contribution of the only University (SAMARA) available in the region in terms of overall improvement activities of the pastoral community? Why?

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63. If you have any recommendation that should improve the livelihood of Afar people, please write them down.

A Guideline for Focus Group Discussions and Key informants' interviews

Focus groups and key informants' interviews are tools for collecting qualitative data. A moderator will follow a predetermined interview guide to direct a discussion with key informants from 5 to 10 people with the purpose of collecting in depth qualitative information regarding the interviewee's and a group's perceptions, attitudes, and experiences on a defined topic. Participants should be typical of the intended population.

Introduction

Good morning/ afternoon (as appropriate). My name is ----------and with me is my colleague Mr/Ms/Mrs----------

I wish to welcome you all to this focus group discussion meeting. It is my pleasure to request each one of you to introduce him/herself (introductions are completed).

Thank you for sparing your precious time to come and attend this discussion. Please feel free to participate.

In this discussion, all answers or opinions are correct and shall be recorded in writing. I hope you do not mind if my colleague takes down notes, photos and to tape and video recorder during the discussion. We are doing this so that we store the information for report writing and future reference. I am sure we are ready to start now.

Key questions for FGD with Women Group

1. How do you see the health care service provision in your Kebele?
    a. Human Resource availability
    b. Facilities in the health center
    c. Quality of health workers including health extension workers
2. How do you evaluate maternal health services in your kebele? How do you feel to be treated by opposite sex? What do you decide if opposite sex is in the shift?
3. How is the involvement of females in decision making in respect to health seeking behavior? Do You make decisions whether to go to health facilities?
4. What do you think is better for women in giving birth? Home or health centers? Why?
5. Do you have any problems related to health facilities? What are the main challenges of going to the health center?
6. What is your view on importance of education?
7. How do you evaluate access and quality of education in your area?
8. Do you send your all your school aged children to school? why? Do you follow them up?
9. Do you have any regular meetings with the school? Have you ever involved in the planning process?
10. How do you evaluate your livelihood?
11. What are the main challenges you have been facing?
12. What do you think of resettlement/villagization? Do you want to settle? why?

A Guideline for FGD (men)

1. What are the main problems in your kebele?
2. How do you see the health care service provision in your Kebele?
    a. Human Resource availability
    b. Facilities in the health center
    c. Quality of health workers including health extension workers
3. What do you think is better for women in giving birth? Home or health centers? Why?
4. Do you involveyourpartnerwhile making decision?
5. Do you have any problems related to health facilities? What are the main challenges of going to the health center?
6. What is your view on importance of education?
7. How do you evaluate access and quality of education in your area?
8. Do you send your all your school aged children to school? why? Do you follow them up?
9. Do you have any regular meetings with the school? Have you ever involved in the planning process?
10. How do you evaluate your livelihood?
11. What are the main challenges you have been facing?
12. What do you think of resettlement/villagization? Do you want to settle? why?

A Guideline for Key informants' interviews with Woreda officials andworkers

HEALTH SERVICE-RELATED QUESTIONS

1. How do you evaluate the general health care service provision in your Woreda? Focus on Access, staffing, material, service quality, Reproductive health utilization?
2. What problems do you encounter to give accessible and quality of health care service?
    a. Especially on reproductive and maternal health services from access, right choice, privacy, confidentiality, etc.
    b. distance from health facilities and communication, referral system, supplies and confidentiality, etc.
    c. Access to electricity, water, and others
3. Do you have community-based health information management system?
4. What suggestions could you give to improve the quality of health service in your health facility?
5. What is the level local authorities' participation in planning, implementation, monitoring and evaluation of health programs?

EDUCATIONAL SERVICE-RELATED QUESTIONS

1. Do families send their children to school? Do they follow up?
2. How do evaluate the educational service in the woreda?
3. What are the main problems in the school?
    a. Quality of teachers
    b. Infrastructural development of the school like toilet, playground, libraries, laboratories
    c. Educational inputs such as tables, chairs, boards, books, chalks, and markers,
4. How do you evaluate the focus of the leadership towards education sector?
5. How is the educational planning takes place?
6. What should be done to improve the overall problems of the school?
    a. By family
    b. By teachers
    c. By leaders in the school and
    d. By the government
    e. Other stakeholders