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COLLAGE OF SOCIAL SCIENCE AND HUMINITES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

AN ASSESSMENT ON THE EFFECT OF POPULATION PRESSURE ON THE
AGRICULTURAL LAND USE IN GURAGHE ZONE THE CASE OF EZHA WOREDAA,
GURAGHE ZONE, CENTRAL ETHIOPIA REGION, ETHIOPIA.

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ACRONYMS AND ABBREVIATIONS

CSA	Central Statistical Agency
EEA	European Economic Agency
EWARDO	Ezha Woreda Agricultural and Rural Development Office
FAO	Food Agricultural Office
GOs	Governmental Organizations
NGOs	Non-Governmental Organizations
UN	United Nation
WB	World Bank

ABSTRACT

The study has conducted Guraghe zone Ezha woreda. As a whole, because of high population pressure in recent year many highlands have become area of out migration owing to over population and environmental degradation which is caused by influence of man. And in this Kebele occur serious expansion of settlement affect on agricultural land, so we select this study area from among another Kebele of Ezha Woreda. Because of high population growth in a recent year many highlands have become areas of out migration owing to over population and environmental degradation, which has caused by influence of man. The main purpose of the study was to assess the effect of population pressure in study area. And in this Kebele occur serious expansion of settlement effect on agricultural land, so we select this study area from among another Kebele of Ezha Woreda. In this study data was collected through closed and open ended, face to face interview present to the respondents to express their view Both qualitative and quantitative methods of data analysis have employed. Systematic sampling techniques were used on the nature of the study area. The major findings of the study Ezha woreda has affected by different problem. Such as soil erosion, deforestation, overgrazing and bad cultivation is one of dominate problem. Deforestation is more significant problem in the woreda. finally, in light of the analysis made the following conclusion were reached up on there is high population due to farmers lack knowledge about efficient family planning and birth control method in this woreda. Hence, this situation contributed a lot for population pressure on agricultural land use. Rapid population pressure is acting as a negative factor on the environment, leading in some scenarios to distraction of natural level and contributing to such global problem also loss of biodiversity and the possibility of global warming. It is therefore, recommended to advise the farmers of study area practice family planning. They should be train probably to raise their agricultural productivity by adding new technology to their traditional agricultural practices. They should be ignore up and down farming system, woreda agricultural office and development agent have responsibility to develop awareness about impact of agricultural land because, high population pressure has an implication on agricultural land in particularly in the study area.

CHAPTER ONE

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The world population is increasing from time to time. According to 2007 population census the world population is 6.91 billion as it had been 5.5 billion in 1993 and Ethiopian population also increases from time to time that leads a great stress to land.

There is real danger that in the year 2000 a large part of the world's population will still be live in poverty the world may become over population will still curtaining behaviors crowded (Waugh, 1995). In developing countries, more than 2/3 of the people live in rural area and their fore populations in the majority of developed method of population.

In the majority of under developed countries the density of agricultural population is very high in relation to cultivated land. Shortage of land in relation to excessively large agricultural population lead overusing, overgrazing, over cropping, exhaustion of still impedes economic program (Aschenaki, 2001)

Today a lot of danger that people have brought habitable agricultural land such undesirable environmental patterns of human population coupled with rapid population growth. World population is an evenly distributed. Therefore, the pressure accelerated soil erosion, overgrazing, deforestation, and measure of the agriculture (Small and Michael, 1980). The people in the Africa have large family size and the majority of the population is concentrate at younger age that contributed to the depilation of resource. In Africa, certain areas have longer depletion of resource. In African, certain areas have long supported for more dense population and other areas has under populated that have impact of natural resource (Wondimagegnew, 2000).

Likewise, Ethiopia has faced the problem of population pressure on agricultural land use and due to high population growth that resulted in overgrazing, over cultivation, deforestation and desertification (Aschenaki, 2001).

On the other hand, Ethiopia has faced the problem of an even distribution of population as some regions in the country suffer from population pressure over agricultural land use whereas other region remain either strongly populated or unpopulated (Mesfin, 1972). As a whole, because of high population growth in a recent year many high lands have become areas of out migration owing to over population and environmental degradation, which has caused by influence of man.

Hence, the inter relation of this paper is to analysis the effects of population pressure on agricultural land

1.2 STATEMENT OF THE PROBLEM

The effects of population pressure on agricultural land is a worldwide problem specially in Ethiopia it is serious problem as almost all of people depends on agriculture to sustains their livelihood. Land resources has considered fixed and finite in the place. Human population can make easily from one area to other across that leads actor on land resources. There is heavy population pressure on agricultural land mainly due to rapid population growth and uneven distributional pattern (Wondimagegne, 2000).

In Ethiopia, the problem is not the scarcity of agricultural land, which has brought the burden of an obstacle to farmer but also the distribution patterns, agricultural practice of the farmer and climatic condition impact on the agricultural land. Even though a problem of population pressure on the area agricultural land is occurred throughout the country, the magnitudes of such problems differ from woreda to woreda and from kebele to kebele. Ezha woreda is one which is found in the densely steeled populated and suffer from the problem of agricultural and land that resulted the land transformation and having on average population density of 210.2 person/km square (Daniel, 1999).

Ezha woreda consists of large population who are engaged on agricultural for their livelihood particularly on fertile areas. The concentration of population is addition to climate and plateau nature of the area put this part of the woreda in critical problem regarding natural resource (Daniel, 1999).

As a whole, because of high population pressure in recent year many high lands have become area of out migration owing to over population and environmental degradation which is caused by influence of man. And in this Kebele occur serious expansion of settlement affect on agricultural land, so we select this study area from among another Kebele of Ezha Woreda.

However, there was not studies has been conducted in Ezha woreda Darcha keble so far on issues related to population pressure on agricultural land use Therefore, this study would attempts to assess such main issues.

1.3 OBJECTIVES OF THE STUDY

1.3.1 GENERAL OBJECTIVE

The general objective of the study was to assess the effect of population pressure on agricultural land use in Ezha woreda.

1.3.2 SPECIFIC OBJECTIVES OF THE STUDY

- To identify the major cause of population pressure on agricultural land
- To identify the effect of population pressure on agricultural land

1.4 RESEARCH QUESTION

In order to achieve the objectives of the study the researcher attempt to answer the following question

- ❖ What are the major causes of population pressure on agricultural land?
- ❖ What are the major consequences of population pressure on agricultural land?
- ❖ What is the role of government and other organization in solving problems?

1.5 SIGNIFICANCE OF THE STUDY

The study may be significant in providing background information that could help to device short and long term plants that alleviate the problem of population pressure on agricultural land. It is also help full as benchmark for any researcher who is interested to study the problem of population pressure on land resource. Generally assessing the effect of population pressure on agricultural lands are useful.

To motivate, people to take care of the land through the awareness creation and provision of known about the proper use of agricultural land.

To minimize, the effect of population pressure on agricultural land provided constructive recommendation.

1.6 SCOPE/ DELIMITATION OF THE STUDY

The scope has generally acted on the population pressure on the agricultural land used. From varieties the effects population pressure on agricultural land and food shortage. Because of the wide nature of topic understanding the respondents to many questionnaires were only farmers households heads are engaged on agricultural including all members would be beyond my capacity in agricultural land discussed were also limited to place of natural kebeles. The coverage of the study is limited to Ezha woreda in Central Ethiopia Region in Guraghe zone, due to the fact that conducting research work in large usually requires large amount of financial resource which is beyond the researcher capacity to afford.

1.7 LIMITATION OF THE STUDY

Any researcher activity has its own limitation even through the extent of short coming vary from one to other. Due to lack adequate experience shortage of financing and in shortage of time. The researcher forced to take small size individuals. In the study, area undertaking of the study on wider scale become imposable. And the another constraint or limitations on this research done time lack of adequate transport facility in our need of time.

1.8 ORGANIZATION OF THE PAPER

The study mainly consists of five chapters. The first chapter consists of introduction statements of problem objective of the study research question and significance of the study scope and limitation of the study. The second chapter also contains the review of related literature. The third chapter consists of the description of study area and research methodology. Chapter four data analysis and presentation. And final chapter is chapter five conclusion and recommendation.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1 CAUSES OF POPULATION PRESSURE ON NATURAL RESOURCE

2.1.1 POPULATION DISTRIBUTION

The distribution of the population over the earth's surface is uneven and there are considerable durational in density. Difference among irrational natural, social, economic and historical conditions create marked variability in the degree of world which are sparsely populate and others which are densely populated land accounts for 30% of the earth surface and 70% of the earth limitation to settlement and agricultural. Much of the reminders are desert, snow, and ice, high or steep sided mountain and forest. Usually there are several reasons, which on areas are sparsely or densely populated (Waugh 1995).

In general the likelihood of concentration of people at guest site and to their requirement of all economic for specific and material or finished good creation dread have lonely supported for most dense population and other hare are under populated in Africa. For example surroundings of Lake Victor certain portions of northern high land of Nigeria. Most country of West Africa of sub-Sahara and Kalmar desert of Africa are sparsely populated. Therefore there is a population pressure on natural resource in the areas of population pressure and on the area and on the area population concentration that result in the destruction of resources (Bochem, 1995).

Ezha woreda is a one, which found in the densely settled area in Guraghe zone. Which is most densely populated that result in land fragmentation and over use of the agricultural land that resulted in the land having average population density 280 persons 1km square toward 2010. Guraghe consists of large population who are engaged on agriculture for their level hood particularly fertility for concentration of natural resource of the area puts this part of the woreda in critical problem regarding its natural resources (Daniel, 1999).

2.1.2 POPULATION GROWTH

Rapid population growth the woreda is not the recent phenomena with the one set of modern scientific age and subsequent industrial revolution the space of population growth quickened very fast there are different views regarding the interrelationship between population growth and natural resource of one of the most popular which has got many supporters is that of the pessimists. This view has many followers starting from Thomas Robert Malthus states that the population tends to support it to predict that famine, war and other diseases would become common unless people cut growth rate (George, 2003).

Emphasizing about population pressure (Small and Michael, 1986) defined that population pressure is the relationship between the populations of an area and that area's resource particularly its assured capacity to produce food. During the present of population or the resources are great. Then a situation of population pressure will exist therefore, the population pressure a condition in which the population of an area exceeds the optimum population and they cannot be adequately supported by the available resource in a given area (Mesfin, 1972).

❖ The situation, which appears repeatedly in areas suffering, from population, in a given territory, may be used as an indicator pressure (Solomon, 1995). These are:-

- ✓ Solid deterioration
- ✓ Excessive use of steep slope and other marginal lands
- ✓ Decline in yield
- ✓ Reduction in the fallow and lengthening of the cropping period without measure to retain soil fertility
- ✓ Breaking of the indigenous farming system
- ✓ Food shortage, hunger and malnutrition
- ✓ Land fragmentation, dispute over landlessness
- ✓ Unemployment and under employment in rural area
- ✓ Certain type of out migration

2.1.3 RESOURCE DEPLETION

Environmental deterioration partly caused by mistakes in distribution of population and rapid growth. Therefore in the following section the effect of population pressure on the natural resource of an area has been discussed in detail in order to have a deep understanding about it. The main problems that population pressure brings to natural resource are four, namely deforestation, overgrazing, soil erosion and bad cultivation method.

2.1.4 DEFORESTATION

An appropriate land use is reflecting in prosperous looking from steady health. Livestock's and dense repletion cover which keeps the ecological balance. Today forest in Ethiopia is in a very problematic situation, because increased population has put additional demands up on the land so due to population concentration. The following periods are short and the forest has no chance to regenerate on increased areas. The area covered by forest at which less than three percent currently remain. The country is almost denuded of its forest except for certain areas in western, southern, and southwestern part of Ethiopia. It is estimated that over 200,000 hectares of land are deforested annually (Menelik, 1998).

Therefore, thousands of years of indiscriminate forest clearing and uneven, distribution of population have left that at highland of Ethiopian, particularly barren of natural vegetative cover and had exposed the soil to unperceived soil erosion and denudation. Later on rapid population growth leads to the cutting of wood and the most of for fuel and for building materials. Those constituted he most several drain on the reaming tree and shrubs similarly forest in the Ezha are in very problematic situation.

Likewise, in study area are the population pressure are put additional demand for forest production this is due to high demand for construction. The need for agricultural land high population pressure to force people to look additional farming land to satisfy additional food demand in most causes and forest land has cleared to get additional land for cultivation (Aschenaki, 2001).

2.1.5 OVER GRAZING

In the mixed farming, culture of highland of Ethiopia the concentration of livestock believed to much higher than the caring capacity of the land, each has resulted in over grassing. Appraise stocking rate is fundamental good management of the land over stock in leads to degradation of vegetation, with annual grasses increase at expenses of the perennials and to up weed replacing the grasses (Mekuria, 2005).

2.1.6 SOIL EROSION

Some writers have asserted that soil erosion in Ethiopia appears to before less severe than in many part of Africa. On the other hand, with the hand land and mountains about 80 percent of the population occupied in subsistence agriculture, he negative effects of degradation had heavy consequences for the people of Ethiopia (Hung, 1990).

2.1.7 BAD CULTIVATION METHOD

The intensity of soil erosion is very serious mostly in area queer there is population pressure because the former has forced to cultivate steep hillsides, which aggrieve the rate of soil erosion and results in detraction of soil nutrients. On the high land of Ethiopia, it is common to see the slop or the sides of basins cultivated while the bottom are last for prizing. In Ethiopia, the unwise cultivation methods, which is caused due the lack of agricultural land in area where there is pressure of population that force, it is the farmer to the plough hill sides and steep sloops. Therefore the unavailability of arable land and concentration of people on limit areas, partially due to stoniness and steep (ruggedness) nature of the land with increasing number of a dream either through water or wind erosion (Aschenake,2001).

2.1.8 POPULATION MIGRATION

Population migration is one of the effects population pressure in a given area, where there are various environmental, social, cultural, political and economic factors. However, in this paper the environmental factors which would discuss. The main environmental factors that may result in outmigration of people from the rural area are lack of adequate agricultural land for cultivation, for grazing, and the exhaustion of soil. The shortage of agricultural land is one of the main causes for population migration in different part of the rural area (Wondimagegne, 2000)

2.2 EFFECT OF POPULATION PRESSURE ON AGRICULTURAL LAND

2.2.1 POPULATION GROWTH AND AGRICULTURAL LAND DEGRADATION

Population growth leads to decreasing per-capital availability of fixed resources, such as, land and capital. Although technical change can increase productivity of these resources, the technical change. Specially, the use of chemical fertilizers and pesticide can in itself cause environmental problems (stat, in, et 21, 1990).

Often cultivation of virgin land is extended (or , in the case of fishing stocks exhausted) by the rich who are not acting to secure their food but fed the developed world from the expansion of commercial agricultural , livestock rearing and fishing (stat.IM.et 21,1990).

There are hope full examples of projects which appear to have been successful. In highly densely populated areas of Kenya, against the received wisdom, farmers were successfully encouraged to inter plant their crops with new economically profitable trees, thus reducing future agricultural land degradation. There have been successful reforestation schemes in areas of India. Much depends on the institutional structure and the involvement of local communities (stat.IM .et 21, 1990).

2.2.2 POPULATION GROWTH AND FOOD SUPPLY

According to the WB and the United Nations (UN) from 1to 2 billion humans are now malnourished, indicating a combination of insufficient food, low incomes, and inadequate distribution of food. This the largest number of hungry humans ever recorded in history. As the world population expands, the food problem will become increasingly sever conceivably with the numbers of malnourished reaching 3 billion. Reports from FAO of the United Nations (UN) numerous others international organizations, and scientific researchers also confirm the existenc e of this serious food problem. For example, the per capita availability of world grains, which make up 80% of the world's food, has been declining for the past 15 years (Kendall and Pimentel, 1994) certainly with a ¼ of the million people being added to the world population each day and the need for grains and other food will reach unperfected level.

2.2.3 POPULATION GROWTH AND INCREASED COMPETITION FOR LAND

Rapid population can create population pressure with consequent effects on size of land holding, landlessness, environment, and land degradation. Given that most counties supporting high fertility and large average family size are agrarian societies. Rapid population growth increases pressure on land, leading to fragmentation and subdivision of farms, which in turn increases rural unemployment and underemployment (EEA, 2003/04).

2.2.4 POPULATION GROWTH AND AGRICULTURAL PRODUCTION

Population growth overall impact on agricultural production is mainly negative. On the one hand, the traditional frame work Malthus emphasizes, the negative force diminishing returns which holds that, other things equal, population pressing against limited land will eventually result in declining labor productivity and real wages. On the other hand, this negative force can completely off in part be offset, or even dominated by improvements in technology, expansion of the quantity or quality of land or other factors, and realization of internal and external (E.g. transport) economics of scale. Importantly, this positive force can be and often are directly caused by the pressure of population growth (Boserup, 1996).

2.3 The role of GOs and NGOs in controlling Population growth

Policy makers and institutions of the more developed northern counties make of the more developed northern countries make cogent arguments for a reduction in global population growth and an eventual stabilization of the population size. Current global population is simply too larger for the earths carrying capacity and level of technology. This results, world population double, insecure and scarcity will result and However, countries that population in all of its dimensions is neither an issue nor problem exclusive of the south. Population growth and related dynamics are instead a concern and responsibility for all people on earth and The northern call for population reduction is self-centered in its ignorance of equality, poverty, and indebtedness structural adjustment program induced collapse of social security system these of issues are of greater concern than population growth to the developing counties the south. Northern priority on population also directly affects resources allocation such that more funds are available for population activities than for mechanisms such as Global environmental facility. True industrial societies have kept their population sizes at manageable levels. Governmental, nongovernmental organizations (NGOs) and voluntary citizens groups in the northern need to help southern nations and communities by focusing up on the interlocking relationship between the lifestyle in northern and the southern problems of poverty, environmental degradation, and erosion of community and social cohesion northern citizens groups can complement the efforts of their southern counter parts by advocating a new kind of structural adjustment which reverses the patterns of resources outflow from the south to north. It is imperative that structural adjustment be reoriented toward a redistribution of wreath welfare, and

decision making power in favor of the poor and powerless nations and social sectors international migration, racism against immigrants from developing countries, and population aging are also population issues which must be addressed (Morales, 1994).

Generally, the role of both government and nongovernmental organizations (NGOs) in controlling population growth in different countries is to balance the population and natural resource by reducing birth rate, increasing family planning, using contraceptive method and so on in different parts of the countries (Ibid).

In study area both government and non- governmental organizations are practicing different kinds of methods to control or to minimize the population growth currently. According to government and nongovernmental organizations are teaching methods to reduce birth rate for society. (EWARDO, 2010)

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CHAPTER THREE

3. DESCRIPTION OF THE STUDY AREA AND RESEARCH METHODOLOGY

3.1 DESCRIPTION OF THE STUDY AREA

3.1.1. LOCATION

Ezha is one of the woredas in the Central Ethiopia. This woreda is named after the sub-group of the Sebat Bet Gurage, the Ezha. Part of the Gurage Zone, Ezha is bordered on the south by Gumer, on the west by Cheha, on the north by Kebena and Muhor Na Aklil, and on the southeast by Silt'e Zone and meskan . The major town in Ezha is Agenna. It was part of the former Ezhana Wolene woreda. The woreda is 35 km away from the town of Wolkite and 185 km away from Addis Ababa. Latitude 8.1537° or 8° 9' 13" north Latitude 37.9942° or 37° 59' 39" longitude east respectively and elevation 2,273 metres (7,457 feet) above sea level.

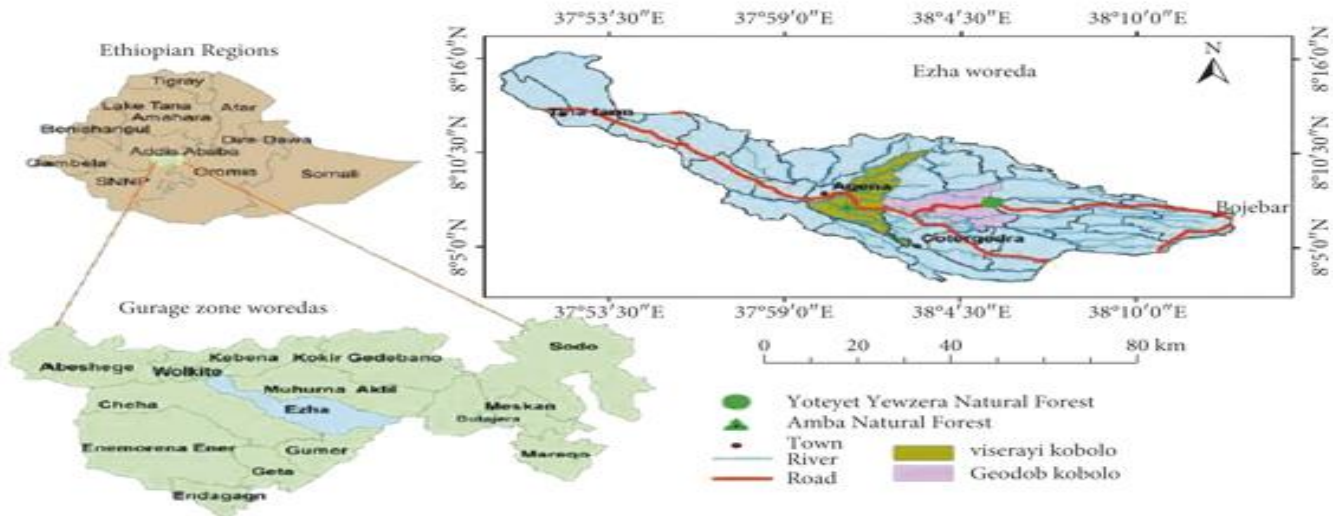


Figure1. Map of Ezha worda

3.1.2 CLIMATE

The main annual temperature of Ezha woreda range from 21co-14c°. Its climate has seasonal variation. the annually rainfall varies from place to place between 1100 mm to 1620mm.The Ezha woreda is characterized by small rain from March to May, heavily rain from June to September and the amount of rainfall become being decreases from October to February, and however, the climate of Ezha woreda is more of woina dega (CHM, 2014).

3.1.3 TOPOGRAPHY

The topography feature of the woreda consists of plain, mountain and valleys. The altitude or elevation of Ezha woreda is 2273 meter (EWARDO, 2017).

3.1.4 VEGETATION

The study area has different agro-climatic and topographic environments; the distribution of vegetation also goes in line with this agro climatic and topographic landscape. The existing natural forest the major are include Bahirzaf (Eucalyptus camadulensis), niche Bahirzaf(Eucalyptus globules), shola (focussure), wanza (coda Africana), warka (Focusvista),shisho (ceticsorcane), kosso(Hageman Abyssinia), tid (yefanji) etc. (Ezha woreda agricultural and rural development office, 2017).

3.1.5 SOIL TYPE

Soil is loose or unconsolidated uppermost part of the earth's surface. According to Ezha woreda agricultural office, the study area is characterized more than one kind of soil. The types grouped in different category based on the color. The types of soil is available in the study areas are black soil is 65% red soil is 13% and brown soil is cover 22% (Ezha woreda agricultural and rural development office, 2017).

3.1.6 LAND USE TYPE

Land use is a series of operation associated with input on land, carried out by humans with intention to obtain product and or benefits through using land resource. The land use structure of the study are has been changed over time. There is clearly seen mainly in highland and low land areas. In high land areas farmer are replacing tier crop land with eucalyptus plantation whereas low lands substitute their land with chat and enset. Land use change and land fragmentation in the study area worsening factor for natural resource degradation. An important cash crop includes corn, wheat barley local of cabbage and potatoes.

3.1.7 POPULATION

Based on the 2007 Census conducted by the CSA, this woreda has a total population of 84,905, of whom 40,261 are men and 44,644 women; 50% of its population are urban dwellers. The majority of the inhabitants practiced Ethiopian Orthodox Christianity, with 65.61% of the population reporting that belief, while 31.47% were Muslim, and 2.35% were P'ent'ay (Protestants).

3.1.8 ECONOMIC ACTIVITY

According to Ezha woreda agricultural rural development office (EWARDO, 2017), 45% of population is living on rural area, where agriculture is the typical employment sector, small holding peasant agriculture is

dominant economic activities in the area and average land holding size is around 1.5 hector/HHs. The dominant agriculture activity of the study area is composed both crop production and livestock production. The most common crops that grown in the study area wheat, barley maize, bean, sorghum, pea etc. a vegetation and fruit produce in the study area include onion, potato etc. ensets are typically staple food whereas chat and coffee are major cash crop in the study area. Coffee is the most dominant cash crops which creates favorable condition for the activities of trade in woreda. (EWARD, 2017)

3.2 RESEARCH DESIGN

The research design for this study would be employed descriptive type of research design. The objectives of this study was describe to make clear about effect of population pressure on agricultural land use. This research was employed both qualitative and quantitative methods. To analysis the raw data which collect from respondents the descriptive analysis for qualitative and numerical data for quantitative have been use.

3.3 METHODS OF DATA COLLECTION AND ANALYSIS

3.3.1 DATA SOURCES AND DATA COLLECTION

The necessary data to achieve for the study would be collect from primary and secondary sources. The primary data would be collect through interview, questionnaires, field observation. The secondary data would be collect through both published and unpublished document such as annual reports.

3.3.2 DATA COLLECTION INSTRUMENT

Data was collected to obtain basic information from kebeles members by both closed and open ended face to face interview present to the respondents to express their view, ideas, intention about impacts of population growth on the agriculture land. The main tool and instrument which would be use or employ in this study was face to face interview and questioner. The interview permitted greater depth of responses which were not possible through any other means. Thus, the purpose of the interview was to collect more supplementary opinion so as to stabilize the questionnaire responses. With this in mind, interview was conducted with 8 kebele cmmittes, 6 Woreda land use management's members, 5 woreda agriculture expertise and 4 cluster supervisors. Semi- structured items were prepared for the above respondents. The reason behind the semi-structured interview items was its flexibility in which new extension questions could be forwarded during the interview based on the responses of the interviewee. The interview questions were discussed with the interview in Amharic to reduce communication barriers. Notes were taken, summarized and, later on, were translated in to English

3.3.3 SAMPLING TECHNIQUES AND SAMPLE SIZE

3.3.3.1 SAMPLING TECHNIQUES

Among the different types of sampling techniques the researcher was use In this study probability sampling techniques was employed, the researcher use systematic sampling techniques as this method has no personal bias and every person have right to be selected and it gives reliable and accurate information. The target population of the study area are farmers, kebele administration and all the community that are responsible for this activity.

3.3.3.2 SAMPLE SIZE

The study was examined a sample frame of Darcha kebele from 28 different kebeles of the Ezha woreda through purposevely. The researcher has employed simple random sampling technique to get the target population or sample size and to give equal chance of selection for respondent. According to 2007 population census Ezha Woreda; darcha Keble has 492 households. The researcher randomly was select from Darcha kebele to gather the required data through interview and questioners. Thus the sample size was 82 people of the Darcha kebele. The information that was collected from this sample represented the information obtained from the total households. To determine the sample size, the following formula developed by Yamane (1967) was adopted as the following.

General formula: $n = \frac{N}{1 + N(e)^2}$

Where n = Sample size

N = Total population

e = Level of precision

The above formula is used to calculate the sample size at 90% confidence level and at with 0.1% estimation error. $n = \frac{492}{1 + 492(0.1)^2}$

$$\frac{492}{1 + 492(0.01)}$$

$$\frac{492}{1 + 4.92}$$

$$\frac{492}{5.92}$$

$$n = 82$$

Therefore, a total of 82 respondents will select by using simple random sampling techniques from the total of 490 households which is found in the study area.

Then by using simple random sampling method we take individual respondents by the following formula to avoid bias.

$$K=N/n \quad \text{Where, } K=\text{constant}$$

$$\text{given: } N=490$$

$$N=\text{total number of households}$$

$$n=82$$

$$n=\text{sample size}$$

$$\text{required: } K=?$$

$$\text{Solution: } K=N/n$$

$$K=490/82= 6$$

3.3.4 METHOD OF DATA ANALYSIS

Data that was obtained from primary and secondary sources are more descriptive and was analyzed by using some lists of tables and percentage interpretations, data was interoperate by using both qualitative and quantitative methods of data analysis. Qualitative methods include the verbal description of primary data whereas quantitative data analysis by using table, and percentage would be used.

3.4 ETHICAL CONSIDERATION

Before collecting data the researcher was take responsibility by explaining the objectives of the study for concerned bodies of office leader by showing the requests for cooperation which is written from wolkite university college of social science and humanities department of geography and environmental studies office. After having permission from concerned bodies the researcher explain in objectives of the researcher for those who are selected to respond the questions to get the required information

CHAPTER FOUR

4. DATA ANALYSIS AND PRESENTATION

4.1 CAUSE OF POPULATION PRESSURE ON AGRICULTURAL LAND

4.1.1. POPULATION GROWTH

The population growth Ezha woreda as indicate in the census of the 2007 of the municipality has leached about 84,905 of which 40,261 were male and 44,644 women regarding composition of the population in the wereda.

It has clearly observed the following table that 82.9% the sample respondents said that there is high population growth in the study area that resulted in the greater demand for natural resource especially land, and 17.1% of respondent said population growth in the study area that resulted in the greater demand for natural resource.

As information obtained from interview of wereda officials the agriculture and natural resource development there is high population growth cause a decline in yield per house hold members that shows a population pressure on agricultural land use in form results land degradation.

Table 4.1 .Population growth in the wereda.

Is there high population in the wereda and cause of agricultural land losses	No of responding	% of responding
High	68	82.9
Low	14	17.1
Total	82	100

Source: filed survey , 2024

4.1.2 POPULATION DISTRIBUTION

In developing countries there is usually fertility belief and they think of large family size as a form of social insurance in the old age. Similarly in Ethiopia this natural population growth occurred due to large difference birth rate due to introduction various medicine and through wide spread of health centers and health education. Ezha woreda is one of the most populated areas engaging in agriculture for their livelihood practical on fertile area. As indicating in the following table 92.9% the respondents state that the population distribution of the population distribution of the population brings negative effects on the natural resource and other resources. Therefore even if there no as such a critical problem of land shortage in a country of whole in relation to total

population of some area like Ezha woreda suffer from population pressure on agricultural land use as a result a greater problems of resource distribution on high settled area.

Table 4.2 population distribution and negative effect

Is there population distribution bring negative effect on natural resource	No of respondent	% of respondent
Yes	76	92.7
No	6	7.3
Total	82	100

Source: field survey, 2024

Table 4.3 the type population distribution in the woreda

Items	No of respondents	% of respondent
Even	10	12.2
Uneven	72	87.8
Total	82	100

Source: field survey, 2024

Table 4.4 the most serious climatic factor that intensifies the problem in the wereda

Items	No of respondents	% of respondents
Heavy summer rain	35	42.6
Bad wind	14	17.3
Extreme temperature	8	9.7
Daily of rain season	25	30.4
Total	82	100

Source; filed survey, 2024

According to the responders in the table 42.6% of said that heavily summer rain 30.4% of the respondent early daily of rain season 9.7% of the respondents said of extreme temperature condition and 17.3% of the respondents said bad wind.

4.2. MAJORE CONSEQUENCE OF POPULATION PRESSURE ON AGRICULTURAL LAND

There are many major consequence of population pressure on agricultural land in studied areas. it could from the respondent 34.2% the respondents said natural resource degradation or depletion 26.8% of the respondents said food shortage famine and small size farms.20.7% the respondent said population out migration increase unemployment. 7.1% of the respondent stated decline in yield of crop and other relate consequence resulted from population pressure in wereda.

Table 4.5 consequences of population pressure on agricultural land

Items	No of respondent	% of respondent
Natural resource degradation	28	34.2
Food shortage and small farm size	17	26.8
Out migration and increase un employment	22	20.7
Decline yield of crop	15	18.3
Total	82	100

Source; filed survey, 2024

4.2.1 RESOURCE DESTRUCTION

It is commonly observed that the poor household especially in natural area derives their livelihood I come from natural resource practical land for agriculture and water resource for fishing. The poor live in places, which are ecologically more vulnerable and are force to earn their living from productive natural resource. The rural poor often live in line low productive areas on steep mountains slops or on dry land possess low productive marginal development of any irrigation on facility. The number of rural poor in developing counters living on marginal land could be twice numbers of found on better–developed causing greater environmental debt.

4.2.2 PRACTICAL OF OVERGRAZING

In the following Table 74.3% of the respondents state that there is high overgrazing practice in the woreda due to population pressure cause. And 25.7% of the respondent there is no overgrazing practice in the woreda due to population pressure cause.

Table 4.6 the practice of overgrazing in the woreda

Is there overgrazing in the woreda due to population pressure cause	No of respondent	% of respondents
Yes	61	74.3
No	23	25.7
Total	82	100

Source; filed survey, 2024

4.2.3. FOOD INSECURITY PROBLEM

There are great potential of the agricultural and producing several crops in country Ethiopia. Generally, Ezha Woreda is particular seriously affected by the problem of food in securing and food self in sufficiently in the last three decades the existence of this chronic food insecurity can be attributed to several factors such as dependent substance forming highly variable to rainfall rapid population growth land tenure system and the like. These factors hale resulted in various circle decreasing food supply, reduction of areas under follow increasing use dung and crop residues for fuel rather than for improving soil fertility which in turn results in low agricultural production (Daniel, 1999).

Table 4.7 out migration of population in the woreda

Is there out migration of population in the woreda in the cause of losing of agricultural land	No of respondents	% of respondents
Yes	52	63.4
No	30	36.6
Total	82	100

Source; field survey, 2024

As it is observed from table 63.4% of respondents said that there is out migration of the population from this woreda. And 36.6% of respondents said that there is no out migration of the population from this woreda. In this interview made the responding said the farmers who live on the land whose fertility has been very exhausted

because of extremely back ward agricultural practice elsewhere. They also stated that farmer where migrated towards both urban centered for searching for their survival and to other rural areas where there is available and the existence. As it indicate from the interview, the main cause of such out migration of population from the wereda as exhaustion soil and lack availability of agricultural land. In addition to population pressure poor environmental awareness lack of skilled man power shortage of extension workers sustained research program small as lack of credit like fertility, pesticides and other contribution for exhaustion of soil leads the people to migrate.

4.3 THE ROLE OF GOVERNMENTAL AND NON GOVERNMENTAL ORGANIZATIONS ON THE PROBLEM OF POPULATION PRESSURE IN THE WOREDA

The following table is clear that 58.5% of the respondent said that there are a number of contributions of governmental organizations in the problem of population pressure on agricultural land and 41.5% of respondent said that non-governmental organization to contribution against the effect of population pressure on agricultural land in the wereda. Here, it indicates that there are areas where the government and non governmental organization are participating in such problem through they are not exhaustive enough to overcome. Interview results also shows that is participation of governmental and other organization involving creating awareness to society in different extension and training program.

Table 4.8 .the role of governmental and non-governmental organization to overcome population pressure in the wereda

In the government and non-governmental problems in wereda	No of respondent	% of respondent
Governmental	48	58.5
Non-government	34	41.5
Total	82	100

Source; filed survey, 2024

Table 4.9 the participation of the government and other organization in different programs

Items	No of respondents	% of respondents
Resettlement program	13	15.8
Practice of modern grazing	10	12.2
Teaching the farmer	26	31.9
Terracing or soil conservation	18	21.9
Afforestation and reforestation	10	12.2
Other	5	6
Total	82	100

Source; field survey, 2024

As table 16 shows 31.9% of the respondents said that teaching the farmer or creating awareness to the society is one of the most important programs. In which the governmental other organization in detecting from the above table are terracing or soil conservation programs. According to 21.9 of the respondent, 15.8% of the respondents said resettlement program 12.2% of afforestation's and reforestation, 12.2% of the respondent involvement in the practice of modern(control) grazing and other factor also accounts 6% there respondent answer are used by government and other organization. Generally this shows public involvement in the wereda that contribute a lot in the reducing or minimizing the effects of population pressure of in the worda.

From the interviews revealed, the worda land use management members responded:

Farmers were unable to reduce the challenges that faced the agricultural land from achieving their objectives. These challenges as the commite members inform, low involvement of experts in improving the awareness of the community, low activities in motivating farmers to do their work effectively and alike. All these lead to land fragmentation, shortage of food, resource destruction out migration and other related factors are crucial for the reduction of productivity and increase poverty in the study area, thus the government should be serious in

reformation the areas land use awareness and give the necessary support to these farmers. The response result shows that there was limitation on the side of agricultural leaders in driving strategy and implementing the change resistance.

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

Ezha woreda has affected by different problem. Soil erosion, deforestation, overgrazing and bad cultivation is one of dominate problem in study area. finally, in light of the analysis made there following conclusion were reached up on there is high population due to farmers lack knowledge about efficient family planning and birth control method in this wereda. Hence, this situation contributed a lot for population pressure on agricultural land use. In reference to the research findings, it can be concluded that there were many factors that the effect of population pressure on agricultural land use in Ezha woreda Guraghe zone.

A critical analysis of these factors led to the conclusions that the greater population pressure on agricultural land in this woreda is rapid population growth. In addition to this the major consequence of population on agricultural land use where land fragmentation, shortage of food, resource destruction out migration are crucial for the reduction of productivity and increase poverty in the study area, thus the government should be serious in reformation the areas land use awareness and give the necessary support to these farmers. A large number of populations in an area indirectly give a pressure on land through the activities which are done. Especially for agricultural land, the large number of the population associated with the massive conversion into building land so the carrying capacity decreases. The agricultural land which is getting narrowed in this case increase the imbalance between food needs and resources availability.

The study also established that there was inadequate population growth and land degradation. Therefore the method of providing, distributing and modifying family planning need to be streamlined. Regarding to consequence of population pressure on agricultural land major respondents replied food shortage and land fragmentation as major consequence of population pressure on agricultural land use. The incidences were determined by the needs of the farmers and the facilitators collaborated with them to effect agricultural land in the study area.

5.2 RECOMMENDATIONS

On the base of major finding of the study, the following recommendations are foreword by the writer.

In the study area .agricultural lands has aggravated by human activities such as over cultivation deforestation and overgrazing. the main tend human activates are mainly the outcome of fast rate of population increases, which in turn lie bardies use of existing natural resource such as soil. Thus is recommendable to advise the farmers of study area practice family planning.

The farmers of the study area are mainly dependent on agriculture for their survival. As it has recommended and advising them not to stop the activity due to lack of aid. They should be train probably to raise their agricultural productivity by adding new technology to their traditional agricultural practices. The forming of study area shows advised to ignore up and down farming system, which accelerate agricultural land. Thus, woreda agricultural office and development agent have responsibility to develop awareness about impact of agricultural land. Finally, to better address the problems, it is suggested that further studies need to be conducted in this area with regard to the effect of population pressure on agricultural land in the wereda

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Appendix

WOLKITE UNIVERSTY

COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

DEAR RESPONDENTS

QUESTIONERY

Questionnaire formats for respondent purposes. These questionnaires are prepared to gather unreliable information about effects of population pressure on agricultural land use in Ezha woreda. Hence your responders are considerable important for the success of this study you are politely requested to respond as an honestly and kindly as possible.

Thanks for cooperation.

I. Personal information

- 1. Sex male A. B. female
- 2. Age A. 18-25 B. 26-32 C. 33-41 E. 42-49
- 3. Marital status A. married B. divorced C. single E. separated
- 4. Family members A. 1-2 B. 3-5 C. 5-7 D. 8-10 E. 10-12 F. >12
- 5. Educational status A. unable to read B. degree C. diploma D. MA and above

II. Questionnaire intended to obtain information from the respondent

- 1. How may hectares farm land do you have? A. 0.15-1 B. 1.25-2.1 C. 2.15-3.15
D. 3.15-4.15 E. specified and other
- 2. What are the major causes of population pressure agricultural land in your locality.?
.....
.....
- 3. Is there high population growth in your kebele? A. yes B. no
- 4. If answer for this question is yes than what is the causes for the rapid population growth?

.....
.....

5. What are the major effects of population pressure on agricultural land on the study area?

.....
.....

6. Is there destruction of natural resource in your locality? A. yes B.no

7. If your answer for number 6 yes, than what are the causes such resource destruction?

.....
.....

8. What are reasons for forest or vegetation destruction in your locality?

.....
.....

9. What are the reasons for the practice of over grazing in your locality?

.....
.....

10. What are the factors that accelerate the exhaustion of soil in study area

.....

11. The number of livestock and amount of grazing land in your locality is A. balanced B. Unbalanced
C. it is unknown

12. If there any governmental or non-governmental organization the helps to overcome the problem or resource destruction in the study area A. yes B.no

13. If the answer for question 12 is yes, in then in what program the

participate?.....
.....

14 in which direction the farmer did migrate.....