

PERI-URBAN FARMERS PERCEPTION ON HORIZONTAL URBAN EXPANSION IN GONDAR CITY, NORTHWEST ETHIOPIA

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ABSTRACT

Fast urban expansion in Ethiopia is creating many problems in the livelihood of periurban farm community. In conducting this survey research a total of 180 households was taken as a sample size. The researcher has conducted an intensive individual interview, group discussion and field observations. The compensation decision process was not participatory and land fertility status and family size of the households was not considering in valuing it for compensation. This has risked many peri-urban farmers for food problems which their family size was large.

Keywords: Horizontal Urban Expansion, Farmers' perceptions, Farming Community

1. INTRODUCTION

Urbanization in developing countries on the other hand, diverges significantly from that of economically developed nations. Unlike the situation in developed countries, urbanization in developing nations is a consequence of the —push— of the rural areas and the —pull — of the urban areas of cities (Aluko, 2010). In most developing countries urban expansion process is usually a mixed blessing having both negative and positive outcome on the Peri-urban areas. Impacts of horizontal urban expansion include not only the loss of agricultural land but also displacement of peasants and change of their livelihood (Cemea, 1997). In the late nineteenth and twentieth century's constitute a period in which Ethiopia entered an important new phase of urban development. Ethiopia is one of the countries of Africa, which are the effects of rapid urbanization are very clear in the cities and Peri-urban areas (Madulu, 2004). As cities expand, the main zone of district impact is the Peri-urban area, and those living in the urban interface face new challenges and opportunities in meeting their needs and accommodating the by product of the urban population. Rural livelihoods in Ethiopia are mainly dependent on natural resources particularly land for cultivation and grazing is a crucial physical asset in subsistence agricultural economy. A brief exception occurred recently where urban expansion creates problems of land speculation under capitalist market conditions and the implications of haphazard agricultural land conversion to urban uses (Simon, 2008). Any change in land cover or land use has a direct impact on the food production and alternative economic activities. This in turn, directly affects the livelihoods of the peri-urban inhabitants (Simon, 2008:176).

Urban expansion is the main problems in most developing countries. Our country Ethiopia also one of the country's facing the problem of urban expansion. It has been expansion or experiencing

rapidly agricultural land use transformation in to urban land use due to expensive urban expansion. The urban expansion affects peasant land due to this expansion of city many farmers displaced from their land and loss of their farming land. This rapid urban expansion is changing the means of livelihood of the farming community nearby urban. This situation is worst currently in the study area, Gondar city and its surrounding rural urban fringe areas. This is due to fast population growth, rural to urban migration and high investment demands which in turn affects the local farmer's livelihood and many farming community land security is risking (Muluwork, 2014).

In the continent of Africa, unplanned growth of urban expansion is mostly associated with uncontrolled growth that initiate informal settlements is commonly lacked adequate basic services with the consequences that increased urban poverty (Addo, 2010). Poverty, food insecurity and underfeeding in Africa were for decades viewed as largely if not entirely as rural problems (Addo, 2010). At the end of the twentieth century however, rapid urbanization in Sub-Saharan Africa has resulted urban poverty to become severe enough to risk of livelihoods and nutrition security (Addo, 2010).

Therefore, urbanization in Africa has brought many negative impacts both on the urban as well as on the peri-urban farm communities throughout the continent. The basic problem is that urban growth causes not only loss of agricultural farmlands but also displacement of farm households and challenged for their livelihood sources that which leads more of the farm communities in rural urban fringe areas for many problems, especially in developing countries of agrarian economy (Mohammed, *etal*, 2017). Unplanned human settlements development, socio-economic and the ecological consequences of urbanization occurring in developing countries like Ethiopia is not adequately documented and not yet fully understood (Muluwork, 2014).

The urban expansion in Ethiopia is believed to capture less the view of neighborhoods that were forced to leave their land and property. Urbanization programme in Ethiopia is neither participatory nor supportive to farmers in periphery, and thus has negative impact on people livelihood where women and youth are the major victims. Peri- urban area the peripheries which are administered by the city administration of the area of Kebele to which urban settlements are immediately extending to rural settlements and changing the way of life from agriculture to non-agriculture (Mohammed *etal*, 2017). The country has experienced rapid urbanization that estimated about 20 per cent of the total population of Ethiopia currently lives in urban areas, which has rendered it as one of the least urbanized countries in sub-Saharan Africa. Despite this low level of urbanization, however, the country has one of the highest rates of urbanization even by the standards of developing countries, which is estimated at 4.1 per cent. This is also much higher than the average growth rate of the total national population, which is estimated at 3 per cent per annum. The level of urbanization has been only 6 per cent in the 1960, which has increased to 11 per cent in 1984 and 14 per cent in 1994, which is estimated to have already reached 17.2 per cent by 2013 and projected to account for 30 per cent of the total population in the year 2025 (MUD, 2014). So, urbanization in Ethiopia has attained unprecedented levels of growth with the development and expansion of Gondar, other cities and towns (Mathewos, *et al*, 2011). This in turn has resulted in a major crisis in urban food insecurity, homelessness, and poverty in the nation's urban area (Gittleman, M., 2009). Urbanization in Ethiopia particularly in Gondar city is not the product of agricultural and industrial development but due to

rural push without the associated economic development (Thomas, 2013). It is expanding by engulfing the rural farm lands in different time periods with the increase in human population. The city is currently experiencing rapid urban expansion and population growth.

Many studies have been previously conducted in Gondar city by researchers, but almost all research was focused only on community based eco-tourism, socio-economic impact of tourism, water supply and consumption and households' preference for improved solid waste management respectively. The impact of the fast urban expansion on the quality of life the peri-urban farm community and the implication of this urban expansion on the land tenure security of farmers is not assessed. The perceptions and level of participation of farmers on the compensation, displacements and; the impacts on the livelihood means of the farmers is not well assessed. Currently the Gondar city administrations has approved new urban expansion plan by expropriating per-urban farmlands within different direction of the city for the sake of delivering residential land for the city dwellers at a small radius of farm land (Gondar city Administration, 2018). But the impact of this expansion on the livelihood of the farm community is not assessed. Many farmers are complaining on this expansion plans and the action of displacement. The perceptions of farmers on this resettlement, compensation process, the impact of urbanization on farm land and urbanisation procedures with in line the farmers' interests are not yet assessed so far. The extent of farmers' participations and perception on the process is not yet investigated. This study was initiated to investigate farmers' perception and level of participation on urbanization and its impact on their livelihood by taking the per-urban farmers which are found in the surrounding areas of Maraki and Azezo sub-city as a case study. By doing so, the overall objective of this study was to assess the perception of peri-urban farmers on level of participation of farmers in terms of the decision making process, compensation and the displacement aspect.

2. DESCRIPTION AND ANALYSIS OF THE STUDY AREA

2.1 History and Background of Gondar city

Gondar is centred on a complex of castles built during the 17th and 18th centuries, when the city was the imperial capital of Ethiopia. Gondar was expanded significantly around 1635 by Fasiledes, the son of the city's founder, Suseniòs. To build his castle, Fasiledes employed Portuguese-Indian, and possibly Turkish, craftsmen brought to Gondar for the purpose. Gondar stretches along a ridge in the northern Ethiopian highlands. Gondar is the former capital city of Ethiopia 1632-1868, is. And the city administration of Gondar is comprised of 8 sub-cities and 10 rural kebeles. Know a day Gondar is one of developing city in the region but the quality of city plan is not good organizing the future layout of a city showing either the existing streets or roads; open spaces public buildings are not good relationships because some area highly condensed of people (Gondar city administration, 2018). The heritage site and other natural features make Gondar unique and attractive urban centre. The landscape and its natural environment let the tourists be interested to visit the city.

2.2. Location and Topography

The study area is located in northern part of Amhara National Regional State and capital of North Gondar Administrative zone. It stretches along a ridge in the northern Ethiopian highlands. The city sits at an elevation of 2,200 meters, and is surrounded on three sides by a crown of 3,000-

meter high mountains; the climatic zone is weyina dega, Average temperature 20°C, Annual rainfall-1,172 mm, ranging in population study area 122,996 Study areas – 11.058 sq km. To the south, the landscape opens to a valley and distant views of Lake Tana, source of the Blue Nile is situated 748 km far from of Addis Ababa. The topography of the area is most of hilly some are rocky (and often degraded) hills, and areas of poorly drained bottom land.

2.3 Population of the Study area

Administratively the city is structured into 6 sub-cities namely Maraki, Zobel, Fasil, Arada, Jantekel, and Azezzo-Tseda (Gondar City administration, 2018). According to the Ethiopian Central Statistics Agency population projection in 2017, the total population of Gondar city is 360,600 of which 176,593 are male and the rest 184,007 are females.

3. METHODOLOGY

3.1 Data Sources and Method of Data Collection

In conducting this study primary data was collected using open ended and close ended structured questionnaires and semi-structured interviews. Focus group discussions were conducted with the farmers and municipality administrative. The secondary data was collected from different data sources like city administration documents, sub-city level offices annual report documents, and different publications (like books, journals, research reports and work papers and other internet accessible documents).

3.2 Sample and Sampling Techniques

To conduct the intended study the researcher were used a total sample size of 180 rural households for this study. In limiting the sample size the budget constraints, the homogeneity of the households has taken in to consideration. The researchers tried to come up with results reflecting the real situation in short time duration of the projects from the population living in the peri urban areas of Gondar city, Ethiopia. The sample households were selected from the peri-urban farm communities to see the impacts of urbanization on the livelihood of the farm community which are making live near to the city under fast expansion.

From the given total peri-urban peasant association (PA) of the selected sub-cities two peasant associations (PA) were selected using simple random sampling techniques. Finally By using Cochran (1963) formula of sample size determination which is:

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

Where, n-Sample size, N-Population size and e-Margin on Errors. Therefore, the population of the study consisted of 750 farmer households from two selected peasant associations of marki and azezzo sub-city. So as to get a reasonable sample size, a 95% level of confidence and a 6.5% precision level were used to select a sample of 180 farmers. For selecting these samples of farmers, simple random sampling method was used. Therefore, from the two peasant associations 180 farmer households was selected randomly using lottery method by taking list of respondents from the sub-city administration office. Then the respondents were selected by a fixed interval until the desired sample size is obtained.

3.3 Methods of Data Analysis

The collected data from different sources has organized into meaningful facts and made detail explanation. While the Qualitative data analysis, it has analyzed using content analysis method. Detail description has been given according to the pattern and themes that emerge during interviews and data obtained from focus group discussions and in depth individual interview has analyzed on spot. The data obtained during discussion also used for the triangulation purpose and to enrich the data. In addition, the quantitative data was analysed and interpreted by using mean, standad deviation, frequency, percentages, and tables.

4. RESULTS AND DISCUSSION

Currently urbanization in less developed countries are very fast especially in sub Saharan African as long as the urbanization rate in Ethiopia is the least as compared to the other countries of Africa. In such high demand for urban expansion and high values of lease price of urban land are affecting the livelihoods of per-urban farmers. Now a days per-urban farmers are complaining with the existing urbanization process in different urban areas of Ethiopia. There was a rumor that most of the voices of farmers are not listening by policy makers in valuing farmland and leasing it for urban development purpose. Hence, this study is initiated to assess the perception and understanding of per-urban farmers on leasing of farmland for different urban development programs in Gondar city. Gondar city is currently one of the on alarms on fast urban expansion in Amhara National Regional State. The city administration has implemented new urban expansion project on the per-urban areas of marki and azezzo sub-cities through converting agricultural farmlands. The main objectives were to get space for shelter development within the urban plan and for the sake of investment in the form of industrial zone expansion and residential settlement. Specifically parts of Maraki and Azezzo sub-cities were proposed to urban settlement and investment in the form of industrial zone expansion respectively by displacing the peri-urban farmer households through designing to pay compensation and supposed to rehabilitate the affected farming community livelihoods (Gondar Municipality Office, 2018). We can imagine how much farmland is going on leased from the farmers and how many household going to displaced. This study is initiated to assess the perception, farm loss situation and compensation issues.

For conducting this survey research a total of 180 questionnaire were prepared for peri-urban households of Gondar city. From the given 180 households, 120 (66.7 percent) are males and the rest 60 (33.3 percent) are female headed households. The educational level of household was that 118 (65.5 per cent) are unable to read and write, 37 (20.6 percent) are able to read and write, 12 (6.7 per cent) and 8 (4.4 percent) are completed their primary school (1-8) and secondary school (9-12) respectively and the rest were 5 (2.8 percent) households were found to in educational level of Diploma and above. This shows that most of farmers in periurban cities are not educated even if they are in much closed distance to educational facilities in the study area.

Table 1: Description of the households

Sex of Households						Educational of Level of Households									
Male		Female		Total		Unable to read and Write		Read and Write		Primary school (1-8)		Secondary school (9-12)		Diploma and above	
No	%	N	%	N	%	No	%	N	%	N	%	No	%	N	%
120	66.7	60	33.3	180	100	118	65.5	37	20.6	12	6.7	8	4.4	5	2.8

Source: Field survey, 2018

This study revealed that many pre-urban farmers were lost their productive agricultural farm land. The study revealed that majority 170 (94.4 percent) were cultivating in their own farm land, 2(1 percent) only were has rented land, 5 (2.8 percent) family land and the rest 5(2.8 percent) were without land. This clearly shows that most a household living close to periurban areas means of livelihood is agriculture. We can easily imagine that how much urban expansion affect the livelihood of periruban farmers. Generally, this implies that most of the peri-urban farming community whose land has been expropriated and thus their livelihood has been affected attributed to horizontal urban expansion have no educational qualifications by which they be able to secure their alternative livelihood after agriculture.

Table 2: Land Ownership Status of Peri-urban Households

Status	Number of Households	Percentage
Own Land	170	94.4
Rented Land	2	1.0
Family Land	5	2.8
No Land	5	2.8
Total	180	100

Source: Field survey, 2018

Displacement is one of the main challenges of agricultural activities in areas where urban expansion is very high like Gondar. According to the sub-cities land use administration in Maraki and Azezo, fringe of farmland is registered by the city administration to take the land in to the city and More than 15 households are expected to displace from their farm land in their respected sub-cities. The displacement status of the household were that 142(78.9 per cent) were displaced from their farm land, only 38 (21.1 per cent) were displaced from their home because of urban expansion. The research tried to assess the risk status of the household in the fast expansion of the city. Accordingly, the study found that 110 (61.1 per cent) were fully lost their farm land, 25(13.9 per cent) were at risk of lost their farm land and the remaining 40 (25 per cent) were partially lost their farm land. This makes clear that how much urban expansion risked the farm activities of farmers near to cities and which in turn higly affectes their livelihood.

Table 3: Per-urban Farmers Displacement Status for their Agricultural land

Households displacement from their farm land			Household displaced from their house because of urban expansion						Households Farmland risk status										
Yes		No	Total		Yes		No		Total		Fully lost		At risk of loss of farm land		partially lost		Total		
No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
142	78.9	38	21.1	180	100	55	30.6	125	69.4	180	100	110	61.1	25	13.9	45	25	180	100

Source: Field survey, 2018

Most of the means of livelihood of farmers in sub-Saharan Africa in general and in Ethiopia particularly is agriculture. Even a farmer very near to cities means of livelihood is depends on agriculture as well. It is clear that the role of urban expansion diversify the livelihood of farmer is very low. On the other hand the expansion directly affecting the livelihood of the per-urban farm community (94.4 percent) without creating alternative options of livelihood. The fast urban expansion is not creating new livelihood option for the farm community in turn it highly affects their livelihood.

Table 4: Peri-urban Households Main Sources of Livelihood

Activities	Frequency	Percent
Agriculture	170	94.4
agriculture and trade	5	2.8
Daily labour	5	2.8
Total	89	100

Source: Field survey, 2018

The major side effect of fast urbanization is that exposing households for food problems if the urban development does not create alternative livelihood option for the farming community and future food demand is not well predicted. The study revealed that many households are facing for food problem. More than 83.3 per cent of the households are feeding themselves for 3-6 months from external sources and only 64.4 per cent can feed themselves partially. In addition to that only 52.2 per cent of the households are found feeding themselves from own productions for 6-7 months. These clear chows that how much food security problem is sever in periurban farm community due to urban expansion.

Table 5: Peri-urban Household Food Security Situations

Months	Months a households feed family from fully external sources		Months a household can feed family partially		months household can feed themselves from their own farm production	
	No	Percentage	No	Percentage	No	Percentage
1-3 months	23	12.8	5	2.8	4	2.2

3-6 months	150	83.3	39	21.7	7	3.9
6-9 months	5	2.8	116	64.4	75	41.7
9-12 months	2	1.1	20	11.1	94	52.2
Total	180	100	180	100	180	100

Source: Field survey, 2018

3.4 Farmers' Perception on Displacement and Decision Making Process

Many farmers are agreed that the displacement is not benefiting the farm community (85 percent) and the decision where to displace is decided by the government body without consulting the peri-urban farmers (92.2 per cent). The households are displaced without their interest (96.7 per cent) and 87.8 percent are adversely affected their household income because of the displacement. In the decision process of displacement and other related issues, only 10.6 percent of the households are participated. The interest of the farm community is not considering in the decision process of urban expansion. This implies the expansion program is not the interest of the peri-urban farmers. This is supported by Cernea (1988:4) that since resettlement planning implies critical decisions regarding the future of the displaced groups, it is incumbent upon the agencies involved in this planning to seek the participation of the resettles. The guidelines recommend specifically that affected populations be consulted directly or through their formal and informal leaders, representative's, non-governmental organizations with respect to the social and economic aspects of the various alternatives being considered for resettlement.

Table 6: Farmers Perception on Displacement and Decision making Process

Description	Peri-urban Farmers' response					
	Agree		Disagree		Total	
	No	%	No	%	No	%
Displacement from farm land benefits households	24	15	153	85	180	100
Displacement is based on willing and choice of residents	32	17.8	148	82.2	180	100
Farmers are participated in the decision process of displacement	19	10.6	161	89.4	180	100
Displacement is decided any by the government officials	166	92.2	14	8	180	100
Farmers are displaced without their interest	174	96.7	6	3.3	180	100
The displacement negatively affects my life and income	158	87.8	22	12.2	180	100
More money because of displacement	5	2.8	175	97.2	180	100
It affects the livelihood negatively	177	98.3	3	1.7	180	100
The place relocated is not good compare to previous one	146	81.1	34	18.9	180	100

Source: Field survey, 2018

3.5 Farmers' Perception on Benefit packages and Decision Process

Compensation has largely been understood to refer to specific measures intended to make good the losses suffered by people displaced and/or negatively affected by the expansion program. Compensation usually takes the form of a one-off payment, either in cash or kind and is principally about awards to negatively affected persons (De Wet et al, 2000).

Many farmers are not happy the compensation of farmland for urban expansion. The compensation value is not enough comparing with value of the productive assess they lost (86.7 per cent) and feeding a family, and sustaining life with this amount of compensation is found to be difficult (87.2 per cent). The compensation process is not considering the family size of the households (98.9 per cent) and the amount of compensation paid is very less when compared with what they lost (96.7 per cent). The decision process on the compensation process is less participatory. In the process only 43.3 per cent household has participated. This study clearly shows that compensation process is not participatory and household quality of life has adversely affected. Many households are facing a challenge to feed family. The asset possession difference of household is not reflected in the compensation decision process. There is no well-established system that periurban farm households can influence the process and decision of urban expansion.

Table 7: Farmers' perception on compensation and its decision process

Description	Farmers' response					
	Agree		Disagree		Total	
	N	%	N	%	No	%
The compensation is enough	24	13.3	156	86.7	180	100
The compensation is not enough to feed family and sustain livelihood	157	87.2	23	12.8	180	100
This compensation amount does not bring change quality of life	178	98.9	2	1.1	180	100
It is not comparable with what we lost	174	96.7	6	3.3	180	100
Compensation is not considering family members	178	98.9	2	1.1	180	100
Compensation is not benefiting farmers	169	93.9	11	6.1	180	100
The compensation is better than lost	4	2.2	176	97.8	180	100
The compensation decision is not participatory	102	56.7	78	43.3	180	100

Source: Field survey, 2018

Table 9: The effects of landownership status on household annual income

Land ownership status of the households	Sources of livelihood of the households					
	Household livestock ownership		Households income from livestock		Total and cultivated land in Timade/one fourth of hectares	
	Mean	SD	Mean	SD	Mean	SD
Own land	7.52	2.999	4803.9394	504.88758	.8939	.56921
Rented land	9.50	.707	1530.	200	4.2500	5.30330
Family land	3.67	2.309	1200	100	.6667	1.15470

Source: Field survey, 2018

It is very clear that any urban expansion will have impacts not only the relocations of the households but also it impacts on the total livestock ownership status, total income from livestock and total land cultivated in hectares. 'Timad' in this research is used as locally a measurement unit which mean that one fourth of hectares .the research revealed that with the different landownership there is a differences in the livestock ownerships statues as well as in the amount of incomes earn from it.

The households which have their own land mean livestock ownership is 7.52 but the households with the ownership status of rented land and families are 9.5 and 3.67 respectively. The average livestock ownership of the households with rented land is greater than the averages of the households' ownership of own land and family land. The main reason is that most of the households with a land ownership status of "rented" has strong purchasing power. They more diversify means of income. The households which have their own land mean cultivated land is .8939 timad but the households with the ownership status of "rented land" and the ownership status of "family's land" are 4.2500 timad and .6667 timad respectively. The average cultivated land of the households with a ownership status of rented land is greater than the averages of the households' with a ownership status of "own land" and "family's land". The households with ownership status of 'rented land' has more cultivated land. It is because of the economic status and purchasing powers of the households.

4 CONCLUSION

The study finding revealed that fast urban expansion is creating many problems in the livelihood of periurban farm community. Farmers in periurban are less educated even if they are in much closed distance to educational facilities. The reason for farmers less participation in formal education is the engagement of in less paid and time consuming activities to fulfill their daily needs. Most of lands taken for urban expansion are very fertile. The fertility statuses of a land are not taken in to consideration in any urban expansion plan. The compensation decision process is not participatory and land fertility status are not considering in valuing it for compensation. The city administrations are leasing many farm lands at a good price but the farm communities are not benefiting from the increasing price of the leasing land. It is clearly that the land security issue of the country is very low. Farmers do not have any power in protecting their land from any action by government. In the compensation decision process the family size of the households are not considering. This has risked many farmers for food problems which their family size is large. Many farmers are under a risk of displacement. The decision process of displacement is not participatory. Farmers are not in a position of defending their farmland from an encroachment. The food security a problem of farmers close to city is very severe. Fast urban expansion, high demands of urban land, less attention given for fertile farm land near to cities, less inclusive compensation process, less sensitive for farmers' livelihoods in decision and investors' demand driven urban expansion plan is risking many farmers' livelihood in towns. Urban expansion program need to be more inclusive and the land tenure security of the country needs to be revise. The property right of the farmer is not well secured. Land fertility status should take to consideration ant urban expansion plan. Farmers should have the decision power in their own land and the compensation values must consider the family size of the households and the increasing price of farmland.

5 PRACTICAL IMPLICATIONS

Based on analyzed data and conclusion, the following practical implications were suggested;

- ✓ The government needs to be the sole owner of the intervening process under the rational that the city's development program has been and is being run by it. That being the case, urban development program is to be participatory where by all the stake holders to take part and

have a say, ensure common beneficiary ship vis-avis a few powerful beneficiary ship before the implementation periods. The trend of urban expansion program implemented so far indicated that the communities are not consulted and involved in planning and implementation. To make development sustainable in urban expansion all actors of development especially the farming communities are very crucial. Thus, it is suggested that, consensus, awareness and participation of the farming community in the forgoing programs and decision making is given first priority before implementation of the program.

- ✓ Proper rehabilitation strategy for peri-urban farmers are combination of partial monetary and land to land compensation, income capitalization, provide permanent and sustainable job opportunity and provide reasonable training. Current Rehabilitation mechanism and procedure is not a guarantee for future survival strategies of peri-urban farmers.
- ✓ The compensation process should consider the fertility status of the farmland and the family size of the peri-urban farm households

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