# Why the Urban Households remain Foods Insecure in Developing Countries? Empirical Evidence from Nekemte Town of Ethiopia

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**Abstract:** This article computed the food insecurity gap, severity of food insecurity and examined factors contributing to food insecurity in Nekemte town. Data was collected from 380 households selected randomly. Using the calories intake method the Foster, Greer and Thorbeck (FGT) index revealed that 56% of the households were unable to meet the daily recommended calories with an index of 0.11 for food insecurity gap. The logistic regression result confirmed that tenure security, less diversity of household livelihood, low access to entrepreneurship skill; household dependency ratio, less access to financial services and the types of livelihood pursued were the major determinant of food insecurity. The implication is that the municipality as well as development actors need to tailor their intervention to address these causes.

Keyword: Urban, food insecurity, severity, logit model, Ethiopia.

# 1. BACKGROUND

Ethiopia remains one of the least urbanized countries in the world in terms of urban size and urban development status. Using the Ethiopian Central Statistical Agency's definition of urban, which includes cities as small as 2,000 in population, Ethiopia's urbanization rate is only 16%. Using an alternative definition of urbanization based on a minimum city size of 50,000, but including surrounding areas of high population density outside of municipal boundaries, Ethiopia's urbanization rate is as lower as 14.2% (WFP, 2009).

Thus due to the overwhelming numbers of inhabitants that derive their livelihoods from rural activities, all food insecurity and poverty alleviation strategies in Ethiopia have relied primarily on agricultural and rural development investments. It is only recently that the government of Ethiopia has identified urban planning and infrastructure improvement as an ongoing and greater upcoming priority. As an evidence report from the Ministry of Finance and Economic development (MoFED)(2010) shows, 70% of the urban population is considered as slum dwellers on the basis of quality of housing, overcrowded living spaces, access to and quality of infrastructure, and security of tenure. Overall, while rural poverty rates dropped from 47.5 to 39% from 1995 to 2005, urban poverty rates increased from 33 to 35% over the same period, with even higher rate of increase in food insecurity situation. These figures suggest that although investment in agriculture remains a priority, investments in urban areas should be re-evaluated to address the poverty situations in the cities.

Nevertheless, in the Ethiopian urban centers, addressing the multifaceted food insecurity challenge would never been as easy as that of the rural setting. The urban centers are culturally diverse and socially more fragmented than the rural areas (Shahadat, 2011). As a result, community and kinship ties are looser. This threatens the traditional forms of managing health risks, economic insecurity and tensions (Beall and Fox 2006). Under such circumstances, families struck by illness or natural disasters may find themselves selling the asset they have, scavenging in the street and even engage in criminal activities (Ibid). Social disintegration and community breakdown in towns could worsen the condition of the poor in the urban areas and increase their vulnerability to more food insecurity consequences.

What is even more challenging in sustainably addressing the food insecurity and poverty of the urban poor is, within towns very different conditions are likely to be found in distinct areas, with spatial distinction bases such as income, ethnicity and social mix of residents, land-use (retail, residential, industrial, mixed), formality or informality of neighborhoods (Wratten, 1995). These and other urban

challenges make food insecurity to be predominantly chronic in its nature. This indicates food insecurity is multidimensional concept that makes the assessment difficult as many different indicators and variables can be used to measure depending on the purpose of the study (Cohen and Garrett, 2009; Hart, 2009).

In this connection Ethiopia's arban food insecurity is an emerging area of development concern. It is fundamentally different from questions of food insecurity within the rural and agricultural sectors. This being the overwhelming area of concern, unfortunately there is a lack of location specific studies for cities and towns of western part of the country. Therefore, this study was undertaken to uncover the food insecurity situation and identify factors that affects food insecurity in Nekemte town.

## 2. METHODOLOGY

## 2.1. Study Area

Nekemte town is found in the East Wollega zone of the state of Oromia, Ethiopia. It is located at a distance of 328 km west of Addis Ababa city. Nekemte town is administratively divided into six sub cities. Based on the census conducted by CSA (2007), the town's population projection for the year 2015 is about 96,280with an average household size of 5.0. With regard to the religious distribution, protestant 48.49%, Coptic orthodox 39.33% and Muslim 10.88%. The main livelihood types is urban agriculture, employment in private, civil and government organizations, petty trade, business trade, remittance and others.

## 2.2. Data Type, Data Source and Sampling

The data used for this study was primary data that covered demographic, socioeconomic, livelihood activities, asset ownership, income, expenditure, infrastructure availability, housing condition, and sanitation. Moreover, other key information on the urban living conditions like access to credit, access to social services, household's location in a town, intervention made on the household, and other more relevant information were collected through interview from HHs selected using stratified random sampling techniques. In addition to the household survey, the following done physical observation of the livelihood conductions of selected households, focused group discussion and key informant interviews. The sample size determination was done based on the below formula following the method used by Krejcie (1970).

$$S = \frac{X^2 N P (1-P)}{d^2 (N-1) + X^2 P (1-P)}$$
(1)

Where,

N = Total households = 19,789

 $\chi^2$  Table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

S =Sample size

P= Estimated population proportion (Assumed to be 0.50 since this would provide the maximum sample size)

d= Degree of accuracy (expressed as a proportion)

Accordingly the total sample size was calculated to be 380 households selected from all the sub cities based on proportional to population size.

### 2.3. Analysis

Food insecurity at household level is best measured by the direct survey of dietary intake (in comparison with appropriate adequacy norms). The level of, and changes in, socio economic and demographic variables can be properly analyzed, and can serve as proxies to indicate the status of and changes in food security (Braun *et al*, 1993). Food security at the household level is measured by direct survey of income, expenditure, and consumption and comparing it with the minimum subsistence requirement. In this regard, income and expenditure are used to compute the status of food security. The minimum level of income, which is required per adult equivalent, was calculated on the basis of amount of kilo calories of energy required from a basket of food (measured in grain equivalent). The government of Ethiopia has set the minimum acceptable weighted average food

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requirement per person per day at 2100 kilo calorie (FDRE, 1996; cited in Kifle, 1999), which is estimated to be 225 kg of food (grain equivalent) per person per year. Consequently, this grain equivalent was computed using the food basket that is mainly consumed in Nekemte town. In order to determine the household level grain equivalent requirement and its corresponding financial value, the amount was multiplied by the average size of a household, which was4 adult equivalents. Thus the total annual requirement for a household is 3,066,000 kilo calories or 900kg of grain equivalent.

The major components of the food basket as identified by more than 95% of the household were cereals, vegetables, pulse, fruit, prepared food, livestock byproducts and others. Based on the proportion of their consumption and the average market price of the commodities during the year 2014, an average household need 11,040 birr (552 USD)<sup>1</sup>per year to remain above the minimum food security threshold. Thus, those households below this thresholds level will be deemed to be food insecure or otherwise. Having identified the food insecure and food secured groups of households, the next step is to identify factors that determine households' food insecurity. In this case regression analysis was applied with food insecurity being the dependent variable. Given the discreet nature of the outcome variable, logit and probit models are the most frequently used regression analysis

Usually a choice is made between logit and probit models, but the statistical similarities between the two models make such a choice difficult. However, Maddala (1983) indicated that many authors tend to agree in that the logistic and cumulative normal functions are very close in the mid-range, but the logistic function has slightly heavier tails than the cumulative normal distributions. Gujarati (1995) also illustrated that the logistic and probit formulations are quite comparable, the main difference being that the former has slightly flatter tails, that is, the normal curve approaches the axis more quickly than the logistic curve. Hosmer and Lemeshew (1989) pointed out that a logistic distribution has got advantage over the others in the analysis of dichotomous outcome variable in that it is extremely flexible and easily used model from mathematical point of view and results is more meaningfully interpretable. Thus, logistic model was specified to identify the determinants of food insecurity and their relative importance. Following Gujarati (1995), the functional form of logit model is specified as follows:

$$P_{i} = E(Y = 1/X_{i}) = \frac{e^{X'\beta}}{1 + e^{X'\beta}}$$
(2)

For ease of exposition this can be rewritten as:

$$E(Y/X) = 0[1 - \Lambda(x^{\prime}\beta)] + 1[\Lambda(x^{\prime}\beta)] = \Lambda(X^{\prime}\beta)$$
(3)

Where  $P_i$  is the probability that a household is food insecure and it ranges between 0 and 1 and it is nonlinearly related to X' $\beta$  (i.e. the explanatory variables  $X_{i's}$ ).  $e^{X'\beta}$  standards for irrational number e to power of X' $\beta$ . X' $\beta$  is the function of explanatory and control variables (X<sub>i</sub>) which is also expressed as:

$$X'\beta = B_0 + B_1 x_{1i} + B_2 x_{2i} + \dots + B_n x_{ni}$$
<sup>(4)</sup>

Where,  $X_1 X_2 \dots X_n$  = explanatory variables; B<sub>0</sub> is the intercept;  $\beta_1, \beta_2, \dots, \beta_n$  are the logit parameters (slopes) of the equation in the model. As P<sub>i</sub> is the probability of being food insecure, (1-P<sub>i</sub>) is the probability of being food secure:

$$1 - P_i = 1/(1 + e^{X'\beta}) \tag{5}$$

In the discretechoice models, what is more important is the marginal effect or the log odds, which tells more precisely the probability of change from food insecurity to food security given a change in one of the explanatory variable. Thus, the expression  $P_i/(1-P_i)$  is known as the odd-ratio and can be written as:

$$P_{i}/(1-P_{i}) = \left[ \left( e^{X'\beta_{i}} / 1 + e^{X'\beta_{i}} \right) / \left( 1 - \left( e^{X'\beta_{i}} / 1 + e^{X'\beta_{i}} \right) \right) \right] = e^{X'\beta_{i}}$$
(6)

To estimate head count ratio, food insecurity gap and the severity of household food insecurity the Foster, Greer and Thorbeck (FGT) index was employed. This index is used by IFPRI for the analysis

 $<sup>^{1}</sup>$ 1USD = 20 Ethiopian birr exchange rate

of household food insecurity (Hoddinot et al, 1999).Several researchers used the FGT index to determine the incidence and severity of poverty and food insecurity (Edilegnaw, 1997).The FGT index can be expressed as follows:

$$P_{i} = \frac{1}{N} \sum_{i=1}^{q} \left[ \frac{Z - Y_{i}}{Z} \right]^{\alpha}, 0 \le \alpha \le 2ifY_{i} \prec Z$$

$$O \qquad \text{otherwise}$$

$$(7)$$

Where;  $P_{\alpha}$  = the measure of food insecurity; z represents the cutoff between food insecurity and security (expressed in caloric requirement), q is the number of unsecured households, Y denotes household income and  $\alpha$  is the food insecurity aversion parameter ( $\alpha \ge 0$ ). It represents the weight attached to a gain by the most insecure. Usually  $\alpha$  takes the values of 0, 1, and 2. When we set  $\alpha$  equal to 0, then P will be reduced to the headcount ratio, which measures the incidence of food insecurity (the proportion of food insecure in the total population). When  $\alpha$  equals to 1,  $P_{\alpha}$  gives the food insecurity gap.  $P_i$  shows how far the foods insecure, on average are below the cut off line (intensity of food insecurity). Setting  $\alpha$  equal to 2 gives the severity of food insecurity. This particular index gives greater weight to the poorest of the poor, as it is more sensitive to redistribution among the food insecure ones. The head-count ratio ( $\alpha = 0$ ), measures the incidence of food insecurity, the proportion of the population defined to be food insecure. The food insecurity-gap ratio ( $\alpha = 1$ ) measures the mean depth of food insecurity as the proportion of the welfare level of the insecure falls short of the cut off line. And the squared security gap measures the severity of food insecure.

### 3. EMPIRICAL RESULT AND DISCUSSION

## 3.1. Household Income and Food Expenditure

**Table1.** Households distribution by their income level

Income per person per day (in USD)	% of HH
< 0.189	11.39
0.189 - 0.377	31.50
0.377 -0.566	16.40
> 0.566	18.60

Source: Computed from survey of 2015

The survey covered the collection of information on the average monthly income spent on the consumption of food during the last 12 months and the total amount of income spent on food for the last 30 days. As the study was at a household level, responses were taken from the household head together with household members who have income sources and are related to make decision of the household spending. Based on the statistical computation, large majority of the household are unable to meet the minimum threshold of birr 11,040 (USD 552)/year or 0.377 USD/person/day. As it is apparent from table 1, 42.89% of the households do not meet that income level. Even when expenditure made on food is computed the percentage of HH that do not spend the minimum required on food rises to 56%. The average yearly household expenditure on food for sampled households were found to be Birr 8,641.2 (432.06 USD). This indicated the average expenditure for the entire sample household is below the minimum requirement. The minimum and maximum yearly food expenditure was Birr 270 (13.5 USD) and birr 32,549.4 (1,627.47 USD) respectively. Therefore, in terms of caloric intake, it is the 56% that were considered as food insecure as they were unable to spend the minimum income required on food consumption. The food expenditure comprises the biggest share (90%) of the total income of the household for more than 82% of the respondents. This is a clear indication that the poverty level in general and food insecurity conditions in the town. The same was supported by the findings of rapid survey of Ethiopian town conducted by UNICEF (2009), where Nekemte, Addis Ababa, and Moyale were the most food insecure as compared to the other towns of the country.

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The source of income plays significant role in determining the volume of income that can support household's food security. In this study income source of sampled households includes monthly salary, urban agriculture, house rent, business, pensions, daily wage, gift and remittance and other sources. The monthly income of sampled households revealed the share of income comes from monthly salary (38.7), business (30.84%), gift and remittance (22.36%), pensions (2.10%), house rent (2.04%), urban agriculture (0.17%), and other sources (1.24%). Once again the fact that significant proportion of households depend on remittance, pension and low paying ventures like house renting and urban agriculture is an indicator of the level of poverty and food insecurity in the town.

### 3.2. Household Food Insecurity and Key Socio-Economic Variables

Table2. Socio-economic factors of the food insecure HHs<sup>+</sup>

S/N	Key Variables	Proportion of Food insecure
	Male household heads*	31.00
1	Female household heads	25.00
	HH with above average family size***	40.30
2	HH with below average family size	15.70
	Single headed households**	38.71
3	Married households	17.29
	Household head: can read and write***	7.00
4	Household head: can't read and write	49.00
	HH engaged in non-viable (remittance, gifts, agriculture, etc)***	36.80
5	HH engaged viable livelihood	19.20
	Have access to credit*	16.60
6	Do not have access to credit	39.40
	Have saving culture***	19.81
7	Do not have a saving Culture	36.19
	Have residential house of their own***	18.30
8	Do not have residential house of their own	37.70
	Got access to entrepreneurship training*	16.20
9	Have not got access to entrepreneurship skill	39.80

Source: Computed from survey of 2015

\*\*\*, \*\*,\* significant at 1%, 5% and 10% respectively for chi square test

**Note:** The factors are computed for the 56% of the respondents, who are unable to meet the daily expenditure on food. Hence the percentages are added up to 56%

The above exposition identifies which households are likely to be vulnerable in terms of food insecurity in an urban environment and the reasons why their members are likely to engage in all possible means to sustain a living. From gender perspective there is a statistically significant measurement between male headed and female headed households. Unlike the findings of many researches Ahmed(2015), Antony et al, (2011; Jesse and Lynn, (2013) that show that the women headed are more vulnerable to food insecurity as compare to the male headed households in the rural settings, this findings revealed that the women headed are less food insecure as compared to the male counterparts. From the total food insecure households 31% was male headed and 25% was female headed. This could be attributed to the fact that, whatever is earned by the women is directly meant for household consumption, while there is usually expenditure by the male outside their home. Hence, gender roles influence the likelihood of women and men to be different in terms of their food insecurity status. The same argument is justified by Funkhouser (1996) as urban informal food sector show that women tend to bring much of their earning for food consumption. Moreover, women tend to find job in the food sector is approximately 63% of urban female employment in Guatemala.

What is more critical in the demographic characteristics of households is family size. Hence, family size is found to be another key variable for which difference in food insecurity status is observed among households. According to table 2 households with big family size suffer greatly from food insecurity problem. This is because the available food at the disposal of the households cannot meet the minimum requirement for all household members. For those household having family size above average (4.01 AE), the frequency of food insecurity higher compared to those HHs having family size

below average. In those HHs with high prevalence of food insecurity, women and girls are the most affected in terms of getting access to food in a household.

Marital status is another important variable where two parented households are less vulnerable to food insecurity as compared to single parented households. Education, which is always assumed to be important determinants of food security, also shows that household with head that can read and write, is better in terms of their food security level. However, when the different level of education is disaggregated, the study could not evidence that households with head having highest level of education is more food secure. In relation to the households livelihood type, those households who are more food insecure are those that predominantly depend on urban agriculture, remittance, gift and room rental as their main source of living. That is because urban agriculture in Nekemte is less developed, less market oriented, less technologically efficient and is done in a traditional way of farming.

One of the critical constraints identified in Nekemte for the poor to break their vicious circle of poverty is financial resources. The saving rate among the household is extremely small, if at all it exists. Because of this, there is lower level of access to credit, hence the findings showed that there is a statistically significance difference in terms of food insecurity among households having access to credit and not have access to credit. Similarly the entrepreneurship skill of household members is critical for a household to engage in creative income sources, efficiently manage livelihood activities and work toward market orientation as opposed to substance. In this connection, households who had exposure to entrepreneurship skill development have exhibited a lower level of vulnerability to food insecurity. Finally, the biggest expense of household in Nekemte is payment made to house rental that share the biggest share of household income. From the total households who are food insecure, 37.7% of them live in a rented house, while the remaining 18.30% live in their own home. This makes much of the income of the households to be spent on non-food expenditure. It is evident from the finding that households who own a residential house of their own are less vulnerable to food insecurity.

### **3.3. Determinants of Food Insecurity**

The econometric model, logistic regression, which was used in the analysis of the determinants of food insecurity in town identified 8 most important factors for Nekemte town, Table 3 presents the significant factors for food insecurity.

Covariates	Coefficient	Marginal Effect		
Household Size	0.413	.512***		
Sex of Household head	1.797	.033**		
Marital status	-1.472	-0.229*		
Literacy level	-1.161	-0.313**		
Diversity of income sources	-0.147	-0.863***		
Proportion of income spent on food	0.008	0.992*		
Access to credit	-0.862	-0.422*		
Household saving	-0.296	-0.744		
Types of primary livelihood: Viable economic activities	-0.024	0.823**		
(Employed and engaged in business)				
constant	0.563			
Pearson Chi-square 66.673***				
-2 Log likelihood 206.653				
Sensitivity 69.8				
Specificity 78.9				
Percent correctly predicted (Count R2) 75				
Sample size 380				
*** Significant at less than 1% probability level				
** Significant at less than 5% probability level				
* Significant at less than 10% probability level				

Table1. Logistic regression result of determinants of food insecurity in Nekemte town

Source: Model output

Several independent variables that were hypothesized to have influence on household's food insecurity in towns were included in the model, of which eight were found to be statistically significant at different levels.

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**Household Size**: Given the strong positive relationship between household size and food insecurity already noted in the descriptive part, the estimated parameters has also shown of positive and high significance. This positive relationship shows that the marginal effect is in favor of the probability of being food insecure with increase in household size. Other things remaining constant, a 1AE increase in family size will lead to the probability of being food insecure by 51%. The possible reason is that large proportion of household member are children, there exists high unemployment rate in the town and less opportunity of self-employing scheme developed in the area. These usually lead household members to shares the limited resources, which in turn aggravate the food insecurity conditions.

**Sex of Household Head**: Sex of household head is significant at less than 5 percent probability level and positively related with household food insecurity. The result is in opposite to prior expectations that male headed households will be less food insecure compared to their female counter parts. Other things being equal, the probability that male headed households become food insecure increase by 3.3% over the female headed households. Possible reason is that female household heads are more concerned and do give priority to ensure the food security of their members as compared to meeting other household's needs and welfare. Moreover, the likelihood of female household heads spending income outside family's need is extremely small.

**Marital Status of Household Head**: The result depicted that marital status of household head and food insecurity are related negatively in the study area. The negative relation indicates that the marginal effect is against food insecurity. Citers Paribus, the probability of a household become food insecure decreases by 22.9% for households having married couples living together as compared to single parented households. This is possibly related to the economy of scale where there is a greater opportunity of pooling together resources form different sources for household consumption. Married households usually reduce expenditure that would have been spent separately. In general, being married by itself is not an assurance to escape the risk of being food insecure. Rather it is mainly because of the fact that household size, level of income and other factors of household affect food security status in relation to marital status.

**Educational Status of Household Head**: Although, educational status of other income earner of a household members have great importance, that of a head plays a significant role in shaping household members by being exemplary and willing to invest on education. Hence, the probability that household headed by literate person to be food insecure decreases by 31.3% over household headed by illiterate person. It is explained in terms of contribution of education on working efficiency, competency, diversify income sources, adopting technologies and becoming visionary in creating conducive environment to educate dependents with long term target to ensure better living condition than illiterate ones.

**Diversifying Income Sources**: Household's capacity to diversify income sources is a risk reduction strategy, where vulnerability to food insecurity is reduced. The survey result showed a negative relation between diversity of income sources and food insecurity and the coefficient is highly significant at all conventional probability levels. The marginal effect shows that as a household increase its income sources/livelihood types by one, the probability of being food insecurity. This is therefore an important factor for the alleviation of food insecurity and is the evidence for the lack of diversified livelihood among urban dwellers of Nekemte town.

**Proportion of Food Expenditure**: Proportion of food expenditure spent by the household is significant at less than 10% probability level and related negatively with food insecurity. However, the greater the proportion of income allocated on food the clear that it indicates how poor that household is. This is because the theory of economic development indicates that the poor usually spend largest proportion of their income on primary goods, while the rich spends small proportion of their wealth on primary goods. The marginal effect shows that a 1% increase in the proportion of income allocated to food consumption reduces the probability of being food insecure by 99.2%. In situation where some covariant shocks, for instance rise in price of food commodity happens increasing proportion on food expenditure helps to overcome the change and keep households in accessing needed food. Moreover, increase in proportion of income spent on food also leads to the consumption of better quality food.

**Household Access to Credit**: The results of the survey revealed that the variable under consideration is negatively related to food insecurity and is significant at less than 10% probability level. Holding other things constant, households having access to credit have a probability of food insecurity reduced by 42.2% over households having no access to credit. The possible explanation is that credit gives the household an opportunity to be involved in income generating activities so that the derived revenue increases financial capacity and purchasing power of the household to escape from risk of food insecurity. Access to credit also smoothen consumption when household faces with hard time.

**Types of Livelihood Activities Pursued**: the type of livelihood pursued in Nekemte was categorized into two; viable livelihood activities (employment and business activities) and non-viable livelihood activities (remittance, gifts, pension, urban agriculture, and other low paying ventures). Taking the non-viable livelihood variable as a control, the model output shows that engagement in those livelihood activities as formal employment and formal business is negatively related to food insecurity and is significant at 5% probability level. This clearly shows how much important it is to bring the community into formal and viable livelihood activities to ensure urban dwellers food security.

## 3.4. Food Insecurity Gap and its Severity

The three FGT indices used are head count index, food insecurity gap and severity of food insecurity. The results of the survey revealed that the head count ratio or incidence of food insecurity are 0.56 which implies 56% of the sampled households cannot meet the daily recommended caloric requirement.

To know how far the food insecure households are below the recommended daily caloric requirement, food insecurity gap was calculated. Food insecurity gap provides the possibility to estimate resources required to eliminate food insecurity through proper targeting. The calculated value for food insecurity gap was found to be 0.28. This indicates if the city administration mobilizes and distributes resources that can meet 28 percent of caloric need of every food insecure households and distribute to each household to bring up to the recommended daily caloric requirement level, then theoretically food insecurity can be eliminated. Considering the daily recommended 2100 kcal per adult equivalent, a resource needed to push all households to daily subsistence requirement is estimated to be 3,066,000 kcal per year. Taking a Kg of grain equivalent, total amount of grain needed per day becomes 936.97 kg for the total HH included in the sample. This shows a requirement of 3,420 quintals of grain or equivalent amount of money to bring all households to obtain daily subsistence caloric energy in a year. Finally, to approach the most food insecure sample households, severity of food insecurity was calculated by assigning a higher weight,  $\alpha = 2$ . Thus, the survey result indicated that the severity of food insecurity becomes 0.159.

# 4. CONCLUSION AND POLICY IMPLICATIONS

The findings of the study have clearly evidenced that there is a severe food insecurity situation in Nekemte town as shown by the food insecurity gap and severity analysis. The causes to this food insecurity situation are many ranging from demographic to several socio-economic characteristics. Hence, there is a need for an integrated effort by the government and development actors to address the challenge. Therefore, the policy implication from the study can be summarized as:

- As the dependency ration is big and the population growth still remain at a higher level, there needs to be a deliberate intervention in terms of promoting family planning commodities, empowerment of women to engage in productive livelihood activities, which will help in maintaining a stable household size and fertility behavior of women. Such intervention can be integrated into awareness on local media (Nekemte FANA FM), Kebele level awareness, information dissemination through coffee ceremonies, use of local level institutions like Idir as a teaching platform, organize training campaigns and more. As part of the empowerment program, the municipality can make a deliberate targeting of women as opposed to dominance of men in the small and medium scale enterprises development.
- The level of diversity of livelihood options is limited and the entrepreneurship skill development level is also very low. This is found to have serious implication on the food security of households. Hence, the regional government as well as the zonal and municipality administration needs to mobilize the local level development actors by promoting the inclusion of urban livelihood

development into their agenda; which for so long has been more rural oriented. This can be done by zonal civil organizations desk to facilitate joint planning platforms whenever the organizations develop their short term and long term plans and strategies.

- The level of illiteracy in town still remains high in the 21<sup>st</sup> century when the MDG is getting concluded. This illiteracy is significantly affecting the capacity of households to break the vicious circle of food insecurity. Therefore, through local level government structures/institutions and local level organization, basic adult literacy and numeracy programs should be promoted.
- One of the biggest constraints for the livelihood improvement in the town is the financial bottlenecks, which has significant implication on the food insecurity. The level of saving is extremely low and large proportions of households do not have access to credit from any formal institutions in times of need. This blocked the livelihood development and then let the food insecurity situation to remain high. Therefore, local government should promote the organization of local saving groups (which has become rampant in the rural neighboring), take more affirmative action in enabling access to credit from microfinance by taking appropriate measure to keep the interest rates at affordable level (which is sometimes twice or three times that of the banks), reengineer the loan process and work to reduce the still remaining big demand on collateral (which appears to be low on paper but still difficult to meet in practice).

### REFERENCES

- Ahmed M.A (2015). Determinants of household food security and coping strategies:, The case of Bule-Hora District, Borana Zone, Oromia, Ethiopia. Yabelo Pastoral and Dry Land Agriculture Research Center, Yabelo, Ethiopia.
- Antony C, Diana B, Steven H, and Priscilla H (2011).Factors Affecting Poverty Dynamics in Rural Zambia.Food security research project. Working paper no. 55 Food security research project, Lusaka, Zambia Retrieved from http://www.aec.msu.edu/agecon/fs2/zambia/index.htm on July 12, 2015.
- Beall, J. and S. Fox. (2006) Urban Poverty and Development in the 21st Century: towards an Inclusive and Sustainable World, Oxfam Research Report, July, available at: http://www. oxfam.org.uk/what\_we\_do/issues/livelihoods/downloads/research\_urban\_poverty.pdf
- Von Braun, J.McComb, J.; Fred-Mensah, B.K. and Pandya-Lorch, R. (1993) Urban Food Insecurity and Malnutrition in Developing Countries. Trends, Policies and Research Implications. International Food Policy Research Institute, Washington, D.C.,
- Cohen J.M and Garrett, L.J (2009) The Food Price Crisis and Urban Food (In) Security. Retrieved from https://www.google.ch/search?tbm=bks&hl=de&q=Cohen+%26+Garrett%2C+2009 on July 10, 2015.
- CSA (central Statistical Authority (2007). Population Census of 2007. Addis Ababa, Ethiopia
- Edilegnaw W, (1997). Household Income Inequality and Poverty during the Structural Adjustment: The Case of Ghana. An MSc Thesis Presented to the University of Wageningen. The Netherlands.
- Funkhouser, E. (1996). "The Urban Informal Sector in Central America: Household Survey Evidence." World Development, Vol. 24, No. 11:1737–51.
- Gujirati, D.N. (1995) Basic Econometrics. 3rd ed. McGraw-Hill, New York, 1.
- Shahadat H (2011) Urban Poverty in Bangladesh. Slum communities migration and social integration. I.B Touris & Co LTD. New York, USA.
- Haddad, L, Ruel, M.T., and Garrett, J. L. (1999). Are Urban Poverty and Under nutrition Growing? Some Newly Assembled Evidence. World Development27(11): 1891-1904.
- Hosmer, D.W. and Lemeshew, S., (1989). Applied Logistic Regression. A Willey Inter Science publication, New York.
- Jesse M and Lynn Mc (2013). Women respondents report higher household food insecurity than do men in similar Canadian households. Journal of Public Health Nutrition. Canada. Retrieved on July 12, 2015 from http://nutritionalsciences.lamp.utoronto.ca/wp-content/uploads/2013/05 /Matheson-and-McIntyre-PHN-2013.pdf

- Kerjcie R.D Morgan (1970). Determining sample size for research activities, in Education and psychological measurements 30 (3): 607-610.
- Kifle L (1999). Food Security Situations in Ethiopia: The Concept, Status and Trends. NOVIB partners forum on sustainable land use. Germany.
- Maddala, G.S. (1983). Limited Dependent and Quantitative Variables in Econometrics. Cambridge University Press.
- Ministry of Finance and Economic Development: Ethiopia (2020). Sustainable Development and Poverty Reduction Program. Ministry of Finance and Economic Development Addis Ababa,
- UNICEF (2009). Summary of food insecurity and vulnerability in selected urban cities of Ethiopia, retrieved from http://home.wfp.org/stellent/groups/public/documents/ena/wfp221386.pdf on June 22, 2015.
- WFP.(2009). Food security and vulnerability in Addis Ababa, Ethiopia. Vulnerability Assessment and Mapping (VAM), Addis Ababa, Ethiopia.
- Wratten, E. (1995) 'Conceptualizing urban poverty' in *Environment and Urbanisation*7 (1). London: International Institute for the Environment and Development.

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