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**SANITARY CONDITION OF CATERING  
BUSINESS ESTABLISHMENTS  
IN ADDIS ABABA**

BY

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A THESIS SUBMITTED TO THE SCHOOL OF THE GRADUATE  
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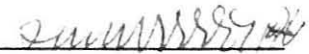
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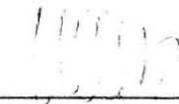
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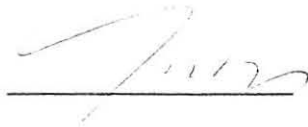
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**ABSTRACT**

A great majority of eating places are functioning in Addis Ababa under different denominations. The sanitary standards of these establishments was not clearly known since no systematic study had been conducted so far in the city.

A cross-sectional survey was conducted to assess the sanitary condition of catering establishments in fifty randomly selected from 284 Kebeles in Addis Ababa proper from October to December 1994. Census identified 1485 catering establishments in these kebeles. Twelve randomly selected establishments were included into the study from each Kebele for the study.

The response rate was 98.7%. Findings showed that 559(95.2%) were privately owned. One hundred and seventy one (29.1%) had no license. One hundred and fifty eight (26.9%) of the managers were not literate and only 7.2% had education above grade twelve. Poor repair condition of premises, inadequate sanitary facilities, unsanitary utensils cleaning and handling, improper waste storage and disposal, poor personal hygiene of food handlers were the major findings. Seventy five (12.8%) of the studied establishments were found in good sanitary condition.

Multi-sectoral approach of official control services by divulging the legislation to owners, managers, operators through regular supervision and, increasing awareness of foodhandlers and the public in general, through training and health education are required to improve the current sanitary condition of catering establishments.

## 1. INTRODUCTION

Environmental hygiene problems are among the most crucial health related problems affecting all developing countries, where there is widespread lack of access to safe water supply and sanitation facilities (1). The situation in Ethiopia, from various reports of surveys and projects of government and aid organizations indicate that on the whole, sanitation coverage is very low (2).

Food as a carrier of biological or chemical contaminants is of prime concern to health agencies worldwide. Microbiologically contaminated food is responsible for a high percentages of diarrhoeal and other infectious diseases particularly in developing countries. Food borne diarrhoea (3) is a major cause of illness and deaths; up to 70% diarrhoeal diseases in developing countries are now believed to result from ingestion of contaminated food. In Ethiopia (4), acute childhood diarrhoea is the leading cause of death in children under three years of age and accounts for over 300,000 deaths per year, or nearly half of all deaths occurring in children under five years of age.

Primary contamination of animal food products is often due to infection or carriage by animals with microorganisms, food may also be secondarily contaminated with infected soils of polluted water or poor personal hygiene and environmental sanitation during handling. Although chemicals such as pesticides, additives, and heavy metals loom large in the eyes of the general public, they are actually less important as causes of food borne illness than biological agents.

Diseases, especially those caused by bacteria, viruses, and fungi remain a serious problem in all countries (5).

With the increase in urbanization, industrialization and tourism, the number of food catering establishments and restaurants is increasing throughout in Ethiopia as in other developing countries. In Addis Ababa a great majority of eating places are functioning under different denominations. Catering operations, by virtue of their scale and complexity, are potentially capable to produce disastrous health consequences, if the strictest principles of hygiene is not maintained.

The strategies for ensuring food safety are: protection against contamination by biological pathogens, protection against toxic chemical contaminants, safe-guarding from spoilage or decomposition and protection of food from adulteration (6). It is generally true that little attention has been given to food safety in Ethiopia, probably because of restrictive definitions of foodborne outbreaks, a failure of sick individuals to seek medical help and failure on part of responsible authorities to investigate suspected outbreaks, especially when they are small and not known to have caused any deaths on top of more pressing problems claiming for limited resources of the country. Too much reliance appears to have been placed on legislation, regulation and standards enforced through inspection applied only to food passing through commercial channels. The power for licensing and controlling food and drink establishments, including the enforcement of sanitary measures for food safety in premises such as catering

to tourists is entrusted to the Hotel and Tourism Commission (proclamation No. 182/1980). Ministry of Internal Trade is also involved in issuing licenses to traders engaged in this field. However the necessary multi-sectoral coordination set up for the control and monitoring of these establishments has not been present. Furthermore, the dividing line between those food establishments catering to tourists and other clients was not clear (7). Beginning from July 1993 in line with the restructuring policy of the Transitional Government of Ethiopia, the Region 14 Health Bureau was given the mandate and full power for the control and inspection of environmental health activities including inspection of food and drink establishments in the town which was under the city municipal in the previous government (8). Since then, the regional bureau had updated the previous legislations, established zonal environmental and hygiene departments under zonal health offices and community members were also recruited and trained to assist efforts to improve sanitation activities in the city.

This current operational study was conducted in collaboration with the Addis Ababa regional health bureau, the Department of Environmental Health and Hygiene. The intention of the survey was to pave ways for future thorough analysis and to support regional bureau current efforts of improving the situation by revealing current sanitation and hygienic conditions of catering establishments in the city.

## 2. LITERATURE REVIEW

The under reporting and lack of knowledge of the health impact of food borne diseases is a serious problem and may be responsible for the current low priority given to food safety in the health care systems of many countries. Every year WHO (3) receives reports of hundreds and thousands of cases of foodborne diseases from all over the world. Despite the large number of reported cases, WHO estimated that only a small fraction of these diseases are currently recognized and reported as being foodborne origin. The 1985 Primary Health Care (PHC) review for Ethiopia (9), indicated high proportion (45.0%) of all deaths as being associated with diarrhoea in the country. M.O.H summary report (10) indicated also that, of all diseases classified by portal of entry, gastrointestinal tract diseases accounted for 28.7% in 1989/90; gastroenteritis, amoebiasis, typhoid, paratyphoid, bacillary dysentery, infectious hepatitis and all helminthiasis. The incidence of foodborne diseases could be even higher, but the knowledge and extent of the problem was limited especially in that how many of the reported cases result in fatality due to lack of sufficient report and documentation. Similarly in countries like India,(11) it was generally recognized that the number of reported cases substantially underestimate the magnitude of foodborne diseases. A review of the records of the cases of food poisoning in Nigeria from 1974 to 1983 (12) indicated that, there were 29,598 reported cases with a total of 214 deaths resulting in cases fatality rate of 0.7 %. Only dramatic episodes such as outbreaks of cholera, typhoid etc. received attention.

In Africa,(12) the main diseases in the transmission of which food plays an essential role are: Salmonella food poisoning, anthrax, bovine tuberculosis, dysentery, staphylococcal intoxication, Streptococcal infections and taeniasis, besides chemical poisoning and natural poisonous foodstuffs. One of the big problems is the consumption of raw milk without being made safe for human consumption. Meat is probably responsible for more food poisoning than any other food in Africa followed by poultry and milk and their products. The cases diagnosed between 1978 and 1981 in Nigeria (12) showed that the main agents for foodborne infections were shigellosis, typhoid, para-typhoid and cholera. Factors related to foodborne infection included unsafe water supply, unhygienic human and animal excreta disposal including solid wastes, and very poor basic knowledge in general and food hygiene which favour foodborne infection.

Improvements in methods of food preparation and education of those responsible for the provision of food, particularly in mass catering situations, would undoubtedly reduce the incidence of food poisoning. Detailed analysis (13) of many foodborne infections have shown that most cases are attributable to several factors, mainly, however, to substandard hygiene and technological deficiencies, especially, to disproportionate time-temperature relations during meal production. In detail the following deficiencies have been reported: improper Time-Temperature relationship, improper food handling, inadequate or wrong kitchen equipment, cross contamination, infected kitchen personnel, insufficient hygienic education and Personal hygienic standards such as proper sanitary

facilities, proper work cloths, periodic medical check-up, efficient hygiene training. A study on the hygienic conditions of mass catering establishments in Buenos Aires/ Argentina, (14) indicated that the majority of the areas of these businesses showed deficient sanitary conditions due to deficient constructive characteristics, inadequate hygienic state of machinery, cutlery and wash cloths, incorrect storing of refuse and the lack of disinfection of table cutlery. Bryan (1988) has published a hit list of factors that contributed to six hundred sixty six foodborne diseases outbreaks where mishandling occurred in food service establishments in the United States from 1973-1982 (15). From this ranking, it becomes evident that the vital factors responsible for more than ninety percent of all outbreaks could be avoided by proper control measures.

Situations where food is prepared in quantity for a large number people are most likely to rise to most food poisonings. A summary of results of a study made of almost 1500 general and family outbreaks of food poisoning which occurred in England and Wales between 1970 and 1982 (15) showed, the largest proportion Hotels, Clubs, Hospitals, Institutions, and Canteens; 15 % only were associated with food prepared in the family homes-mainly for home consumption, but occasionally for external catering. In Addis Ababa based on unofficial reports of Region-14 Hotel and Tourism Commission, five hundred sixty-seven hotels, seven hundred sixty-six restaurants and six hundred snack bars were registered and legally licensed up to June 1994. Figures of current type and number of catering establishments could not be obtained due to lack of reliable data.

The National Population and Housing Census of 1984 published detailed information on sanitation for Addis Ababa (16). Of all occupied housing units about 92.3% had piped water supply, and about 52.0% of the housing units had got piped water supply inside the housing unit or inside the compound. Considerable proportion (29.2%) of the city's 259000 housing units had no toilet facilities. 12.0% had flush toilets, 15.3% had private dry pit latrines, and 42.1% shared dry pit latrines with neighbours. According to the Addis Ababa Water and Sewerage Authority (17) report, In Addis Ababa most waste water flows untreated in the water courses to annoyance and danger of the public. The special problems of the core areas of the city is the high density of population in some areas and the extensive unplanned urban housing with poor access and amenities. Areas like *Markato* is associated with high consumption of water for commercial or light industrial reasons which creates a special problem of wastewater disposal. The city has a limited sewerage system and under used the small sewage treatment work. The net work had been intended to work as a combined system of draining wastewater and the stormwater from the built up areas. The under utilization of the available service is one of the major problems mentioned in the report quoting AAWSA records as less than eight hundred customers being connected until end of 1991 and, the total number of connections completed by AAWSA team were barely over eight per year. The use of stormwater drainage system in several areas for the disposal of waste water and refuse, the lack of control of on site disposal facilities by authorities, the frequent shortages of water

supply in some areas, the unavailability of sewerage facilities which makes the cost of sewerage for users completely unknown for the near future and the relatively high cost of connection were the main factors mentioned as reasons for the poor environmental sanitation and affecting the willingness to connect by users in the city. In the Ten-year perspective plan, it was planned to provide 20% of the population of Addis Ababa with sewage collection system and to provide an additional 20% of the population with Vacuum truck sewage collection and disposal service by 1994 (18). World Bank reports from a study made in eight developing countries (19) indicated annual economic cost of conventional sewerage system ranged from US \$ 150 to \$ 650 per household. Since, such high costs are not affordable under the present economic realities of Ethiopia, low cost sanitation systems, that provide the most socially and environmentally acceptable services at the lowest economic costs such as dry pit latrines ventilated improved latrines etc. were recommended by experts (20). It was also indicated and mentioned that, sanitation problems of Ethiopian communities are primarily related to combination of deficient organization and health education programs, and improper design and construction of latrines (21).

### **3. GENERAL AND SPECIFIC OBJECTIVES**

#### **GENERAL OBJECTIVES**

To assess the sanitary conditions of catering business establishments and identify major determinants for the hygienic practices in these gastronomic establishments.

#### **SPECIFIC OBJECTIVES**

1. To characterize personnel involved in catering business.
2. To determine the availability and acceptability of sanitary facilities in catering establishments.
3. To assess methods of waste disposal.
4. To describe the source and storage of easily perishable foodstuffs.
5. To identify major determinants of the sanitary and hygienic practices in these catering establishments.

#### 4. METHODS

A cross-sectional study was designed and conducted from October to December 1994. A sample size of 600 was calculated assuming a 50% prevalence (p) of **poor sanitary status**, expected maximum discrepancy between the population and sample of  $\pm 4$  and, with 95% certainty.

List of all 284 *Kebeles* (Sub-Districts) in the city was obtained from the regional office. 50 (fifty) *Kebeles* were randomly selected using the lottery method (Appendix-1). Then a census was conducted in the fifty *Kebeles* to obtain the list of restaurants and other catering establishments existing in each *kebele*. After the census, 12 (twelve) establishments were randomly selected from each *Kebele*. Thus the sampling procedure was completed by selecting 600 establishments from the total registered 1485 establishments in the 50 *Kebeles*.

Since there was no standard questionnaire, the study utilized a newly developed questionnaire. The questions were subjected to comments by the regional experts and other professionals who have previous experiences in this field. Corrections were made based on their comments. And then, before the main study pilot study was undertaken. The questionnaire was designed to obtain information on socio-demographic characteristics, repair and ventilation condition of the premises, availability of sanitary facilities, handling and storage of utensils and food, storage and disposal of waste and, selected characteristics of food handlers. It was initially prepared in English and later translated into Amharic and finally back translated to English. (Appendix-2).

The research team included: the principal investigator, two senior sanitarians from region-14 Health Bureau, sixteen enumerators (eight males and eight females) all grade twelfth graduates, one driver and fifty guides (one from each of study Kebeles). After the recruitment of the enumerators and organizing the necessary materials a seven day training was arranged. The training had both theoretical and practical sessions, which focused on interview techniques, on how to use field manuals and inspecting catering establishments (Appendix-3). All research team members also participated in the pilot study. The pilot also helped to revise the questionnaire based on practical field experiences. It also revealed that inclusion of the big government owned tourist catering establishments into the study was unrealistic mainly because; the standards used to assess the sanitary conditions were locally developed which lacks even minimum requirements set for international quality categories and, the inspection of food and utensils handling during preparation and service and food samples analysis were not included in the study for reasons related to feasibility.

The enumerators were organized in a team of two (one male and one female). Each enumerator was given an identity paper from Region-14 to facilitate the data collection process. The paper contains name of the enumerator, purpose and importance of the study and finally, request for cooperation to respond appropriately to the questions asked (appendix-4). To save time and avoid unnecessary confusion locating the selected establishment in the Kebeles, a guide was hired in each Kebele to assist the team. The sanitarians have done regular

spot supervision assisted with motor bicycle. The principal investigator closely observed and coordinated the overall activities of the study project. Each team on average had completed five questionnaires per day. The actual data collection took about three weeks.

Data entry, cleaning and analysis were made using EPI-INFO version 5 statistical package. Differences were measured by estimating **odds ratio** with **ninety five percent confidence intervals**.

## Operational definitions

Those operational definitions considered important are presented below, see (appendix-3) for more information.

1. **Catering Establishment:** is defined as an economic unit operating under single or collective ownership or control, currently engaged in preparing and selling meal at a given physical location in Addis Ababa.
2. **License:** establishments are considered licensed if certificate issued by responsible government institution is placed at a visible site or presented on request.
3. **Manager:** an accountable person involved in running day to day activities of the organization.
4. **Illiterate:** anyone who could not read or write in any one language.
5. **Non response** was defined as difficulty in completing the questionnaire due to absence of the owner/ manager or, related other reasons, after two visits in the same day of data collection.
6. **Good repair condition:** Shall mean absence of big defects or detached areas, poor fitting planks and lack of painting, for the premises and being free of breaks, corrosion, cracks for utensils and equipment.
7. **Lighting** was considered adequate if, a healthy person without major visual problem, can see or easily identify objects in the room without straining eyes.

8. **Ventilation** was considered adequate if, room is free of reasonable disagreeable odours and have at least one openable window.

9. **Good personal** hygiene shall mean reasonable clean, proper dressing, and good appearance of the individual.

10. **Worker** is defined as any person employed by the owner or other currently reported as being engaged in establishment activities.

11. **Sewerage** is the system of removing domestic and industrial waste waters and human excreta through a net work of pipelines using gravity or pumps to a works or outfall.

12. **Sewer** is a pipeline which carries stormwater or waste water from the property boundary to a treatment works or outfall.

13. **Composite measure of sanitary conditions:**

a) **good condition:** establishments in good repair condition of floors, walls and ceilings, obtained water through private pipes, had toilet and lavatory facilities, liquid and solid wastes not disposed in the open field and, had good personal hygiene of foodhandlers.

b) **bad condition:** establishments in bad repair condition of floors, walls and ceilings, obtained water not through private pipes, had no toilet and lavatory facilities, liquid and solid wastes disposed in the open field and, had poor personal hygiene of foodhandlers.

## 5. RESULTS

### A. CHARACTERISTICS OF THE RESPONDENTS.

Census identified, 1485 catering establishments in the 50 Kebeles randomly selected for the study. 600(40.4%) were enrolled into the study. Questionnaires were completed for 587(97.8%) for the rest, managers were not available for the interview. These include 167 hotels, 290 restaurants, 51 bars, 21 recreation places, 16 butcher shops, 19 groceries and 23 *tej* (local wine) selling houses. As shown in table-1, 416(70.9%) of all the establishments were found to have license certificates during the study. All the *Kebele* owned recreation places, 127(43.8%) of the restaurants /cafeterias and 4(25%) of the butcher shops were the most identified as having no license certificates.

Five hundred fifty nine (95.2%) of all the establishments were private enterprises. The rest 4.8% were owned by different worker associations and the *kebele* administrations. In 434(73.9%) of all and (77.6%) of the private owned establishments owners were working as institutions manager and, in the rest 153(26.1%), hired individuals or relatives were assigned as managers. In 112 (73.2%) of the 153 privately owned establishments in which relatives or hired individuals were working as managers, establishment owners were reported as having no other job. The rest 41 (26.8%) were involved in another business or were government employees. Three hundred nine (52.6%) of the establishment managers were males and 278(47.4%) were females. The median age of managers

was 39.5 years, ranging from eighteen to seventy years and, nearly 50% of all were between 35 to 49 years. The majority 91.5% establishment managers were Christians. One hundred fifty eight (26.9%) of all the managers were not literate, only 42(7.2%) were found having higher education above grade twelve. Three hundred ninety seven (67.6%) were married, 20.1% single, and 12.3% were divorced or widowed (table-2).

## **B. PREMISES REPAIR AND VENTILATION CONDITION**

The median service year of establishments was 2.5, ranging from three months to forty years. The majority (70.5%) of the 587 establishments had floors constructed of concrete tiles and in 1.7% floors were found to be just earth. As shown in table-3, of the total establishments studied, in about 50% floors and 15.8% walls and ceilings were found in good repair condition. In less than half of the establishments doors, walls and ceilings were found clean. Only 265(45.1%) of the establishments had separate room for storage of food. Adequate ventilation was observed in 420(71.6%) of rooms used for food preparation, 209(78.9%) in rooms used for food storage and 568(96.8%) of the rooms used for food service. Those establishments with, walls and ceiling in good repair and had adequate ventilation were more likely inspected (OR=1.71; 95% C.I=1.07-2.73 and OR=1.53; 95% C.I=1.03-2.29) as compared to those establishment with poor repair and inadequate ventilation respectively. Four hundred and seventeen (71.0%) of all the establishments had service less than five

years and, higher percentage 135(32.4%) of these were found not having license certificates which constituted 78.9% of all not licensed establishments. One hundred and eighteen (20.1%) of the total establishments had service greater than ten years (table-4). Two hundred and twenty (37.5%) of all the establishments were inspected by the sanitarians from the regional health bureau at least once in the past six months.

### **C. SANITARY FACILITIES**

Table-5 shows, the availability of sanitary facilities and comparison made between licensed and not licensed establishments. 539(91.8%) got water through private pipes. The rest 8.2% obtained water from communal pipes either from public taps or shared with neighbours. Out of those having private pipes 285 (52.9%) had running water under pressure in rooms used for food preparation and utensils washing but, only 7.7% of these were found having hot tap water. Three hundred and seventy (63.0%) of all establishments had lavatory facilities, in (52.3%) the these establishments soap or other detergents for cleaning were available at the washing sites. Five hundred and three (85.7%) of the establishments had toilet facility. Out of which 187 (37.2%) were found in good repair condition, 201 (40.0%) were clean 287 (57.1%) had adequate lighting in the rooms and 191 (38%) were found adequately ventilated. Those establishments having private pipes, lavatory and toilet facilities are licensed more (OR=10.17; 95% CI=4.83-21.82 and OR=2.81; 95% C.I=1.91-4.12 and OR=3.26; 95%

C.I= 1.98-5.37) as compared to those using communal water and having no facilities respectively. Accessibility of water in cooking rooms, availability of hot tap water are also better in those establishments having license certificate compared to those without the certificate.

#### **D. STORAGE AND HANDLING OF MULTI-USE UTENSILS**

Of all the establishments surveyed 333 (56.7%) were found to have multi-use utensils and equipment in good repair condition, i.e, without major break, rust etc. Only 29(4.9%) of the establishments were identified using standard sanitary methods to clean utensils. In 328(55.9%) of the establishments service tables and implements were found tidy. In 433(73.8%) of the establishments sanitized utensils were found stored properly protected from dust or insects. As shown in table-6, establishments which had good repair condition, kept tidy and stored utensils properly are having license certificate more (OR=2.02; 95 % C.I=1.39-2.95 and OR=2.20; 95 % C.I=1.51-3.21 and OR=1.52; 95 % C.I= 1.01-2.29) compared to those not satisfying the requirements respectively. No statistical significant association was found between applying sanitary washing technique and having license certificate though better in establishments having the certificate.

#### **E. SOURCE AND HANDING OF FOODSTUFFS.**

Majority 401(68.3%) of the establishments reported to buy beef meat from butcher shops in town, 157(26.7%) reported killing of sheep at their back yard

in addition. Five hundred and seventy three (97.6%) of the establishments reported to buy milk, butter and other milk products from private distributors i.e Markato and individual providers. Only 4(0.7%) reported using supply from government shop. As shown in table-7, 236(40.2%) of the establishments were found to own at least one refrigerator for storage of foodstuffs only. Of those establishments having refrigerators, in 126(53.4%) of the establishments, temperatures was found adjusted to  $\leq 10^{\circ}\text{c}$ , in 49.6% stored foodstuffs were found properly placed and arranged and, in 33.5% of them signs of spoilage of stored foodstuffs were observed. Proper utilization of refrigeration equipment is also better in licensed establishments compared to those without the certificates.

#### **F. STORAGE AND DISPOSAL OF WASTE**

Four hundred and eighty five (82.6%) of the establishments were found to have at least one receptacle to store solid wastes. Out of these 202(41.6%) were found covered with tight fitting, 278(58.3%) constructed of durable metallic or plastic materials and 275(57.8%) were placed at visible site for use. 12(2%) of the establishments were using refuse pit and 16.9% had no storage system or throw the waste anywhere around. As shown in table-8, 527 (89.8%) of the establishments disposed their solid wastes using the Municipal refuse collecting containers or by using municipal lorries. Considerable proportion of the establishments 60 (10.2%) were found to have no proper waste disposal method i.e dispose their solid waste in the open field anywhere. Of all the establishments, only 29.7% had proper liquid waste disposal system, either into the city sewer

system or using cesspools. Higher percentage 341(58.1%) of the establishments liquid waste was found to be disposed into city road drains. Liquid waste disposal was dichotomized into those disposing in the open field 60(10.2) and others not disposing in open fields 527(89.9%) for comparison. Establishments storing refuse, and not disposing liquid and solid wastes in the open field are licensed more (OR=3.58; 95% C.I=2.24-5.74 and OR=2.81; 95% CI= 1.65-4.79 and OR=1.86; 95% C.I=1.04-3.33) compared to those not storing refuse and disposing liquid and solid wastes in the open field respectively.

#### **G. CHARACTERISTICS OF FOOD HANDLERS**

4081 individuals were reported as currently working in the establishments. Out of the total workers 1683(41.2%) were males and 2398(58.8%) were females. Out of them 31.5% were Cooks, 35.7% Waiters, 8.0 % machine operators and 9.6% were cleaners. The rest 15.2% were involved in other activities of the establishment; i.e cashiers, bed makers, guards etc. As shown in table-9, in 318(54.2%) of the establishments workers were found wearing outer garments. But only in 95(16.2%) of the establishments workers involved in food preparation and dish washing and food service were found wearing complete uniforms. In 297(50.6%) of the establishments good personal hygiene of workers involved in food preparation and handling was observed, i.e. cooks, utensils cleaners and food serving waiters. Of all the workers registered, 436(10.7%) had got medical examination from September 1/1986 up to August 30/1987 E.C, confirmed by health certificates. Establishments having workers wearing outer

garments, good personal hygiene and received medical check up in the past one year are licensed more (OR = 2.13; 95% C.I = 1.46-3.11 and OR = 1.79; 95% C.I = 1.23-2.62 and OR = 3.83; 95% C.I = 1.87- 8.09) compared to those establishments workers not wearing complete uniforms, had poor personal hygiene and did not take medical check up respectively.

#### **H. DETERMINANTS OF GOOD SANITARY STATUS**

Table-10 shows comparison of selected determinants of sanitary practices in catering establishments. Composite scoring was used to estimate current sanitary practices of catering establishments in the city due to lack of standard grading or scoring so far. The measurement for the good sanitary condition of catering establishment included the following; repair conditions of floors, walls and ceilings, availability of private pipe for different use, availability toilet and lavatory facilities, method of disposing solid and liquid wastes and, personal hygiene of food handlers (see operational definitions). Using this measurements only 75(12.8%) of all the establishments included into the study had good sanitary condition. It was then cross tabulated with selected variables to determine if any associations exist. Those establishments with managers who had education above grade nine were more likely to be in good sanitary condition (OR = 2.46; 95% C.I = 1.23-4.98) compared to the other level of education using bivariate analysis. But, multivariate analysis showed no statistical significant association.

**Table-1** Type of catering establishments by their legal status.  
Addis Ababa, 1994.

Type of establishment	LICENSED		
	Yes #(%)	No #(%)	Total #(%)
HOTEL	156(93.4)	11(6.6)	167(28.4)
RESTAURANT	163(56.2)	127(43.8)	290(49.4)
BAR	46(90.2)	5(9.8)	51(8.7)
RECREATION	—	21(100)	21(3.6)
BUTCHER SHOP	12(75.0)	4(25.0)	16(2.7)
GROCERY	18(94.7)	1(5.3)	19(3.2)
TEJ HOUSE	21(91.3)	2(8.7)	23(3.9)
<b>TOTAL</b>	416(70.9)	171(29.1)	587(100)

**Table-2** Selected Socio-demographic characteristics of managers in catering establishments by legal status. Addis Ababa, 1994.

Characteristics	LICENSED		Total #(%)
	Yes #(%)	No #	
<b>MANAGER SEX</b>			
Male	230(74.4)	79	309(52.6)
Female	186(67.0)	92	278(47.4)
<b>MANAGER AGE</b>			
15-34	96(58.9)	67	163(27.8)
35-49	204(73.1)	75	279(47.5)
50 & above	116(80.0)	29	145(24.7)
<b>RELIGION</b>			
Christian	386(71.9)	151	537(91.5)
Moslem	30(60.0)	20	50(8.5)
<b>EDUCATIONAL STATUS</b>			
Not literate	111(70.3)	47	158(26.9)
Grade 1-8	169(72.8)	63	232(39.5)
9 & above	136(69.0)	61	179(30.5)
<b>MARITAL STATUS</b>			
Single	78(66.1)	40	118(20.1)
Married	283(71.3)	114	397(67.6)
Divorced	26(78.8)	7	33(5.6)
Widowed	29(74.4)	10	39(6.6)
<b>Total</b>	<b>416</b>	<b>171</b>	<b>587</b>

**Table-3** Repair and ventilation condition of catering establishments and sanitary inspection visits. Addis Ababa, 1994.

Condition	SANITARY INSPECTION			Odds ratio (95 % Confidence inter.)
	Yes #(%)	No #	Total #	
<b>FLOOR REPAIR</b>				
Good	137(43.4)	179	316	
Bad	83(30.6)	118	271	1.09(0.75, 1.58)
<b>FLOORS CLEAN</b>				
Yes	105(39.6)	160	265	
No	115(35.7)	207	322	1.18(0.83, 1.68)
<b>WALLS &amp; CEILINGS REPAIR</b>				
Good	45(48.4)	48	93	
Bad	175(35.4)	319	494	1.71(1.07, 2.73)
<b>WALLS AND CEILINGS CLEAN</b>				
Yes	131(37.9)	215	346	
No	89(36.9)	152	241	1.04(0.73, 1.48)
<b>VENTILATION IN ROOM/S</b>				
Adequate	169(40.2)	251	420	
Not adequate	51(30.5)	116	167	1.53(1.03, 2.29)
<b>Total</b>	220	367	587	

**Table-4** Architectural condition of catering establishments by service year.  
Addis Ababa, 1994.

Characteristics	SERVICE YEAR			Odds ratio (95% Confidence inter.)
	$\leq 5$ #(%)	$> 5$ #	Total #	
<b>FLOOR REPAIR</b>				
Good	219(69.3)	97	316	
Bad	198(84.3)	73	235	0.83(0.57, 1.21)
<b>WALLS AND CEILINGS REPAIR</b>				
Good	72(77.4)	21	93	
Bad	345(69.8)	149	494	1.48(0.85, 2.59)
<b>VENTILATION</b>				
Adequate	294(70.0)	126	420	
Not adequate	123(73.7)	44	167	0.83(0.55, 1.27)
<b>Total</b>	417	170	587	

**Table-5** Sanitary facilities in catering establishments.  
Addis Ababa, 1994.

Characteristics	LICENSED			Odds ratio (95 % Confidence interv.)
	Yes #(%)	No #	Total #(%)	
<b>Water source</b>				
private pipe	405(75.1)	134	539	
Communal pipe	11(22.9)	37	48	10.17(4.83, 21.82)
<b><sup>1</sup>Running water in cooking and washing rooms:</b>				
Available	223(78.2)	62	285	
Not available	182(71.7)	72	254	1.42(0.94, 2.15)
<b><sup>2</sup>Hot water</b>				
Available	17(77.3)	5	22	
Not available	206(78.3)	57	263	0.94(0.31, 3.06)
<b>Lavatory facility</b>				
Available	292(78.9)	78	370	
Not available	124(57.1)	93	217	2.81(1.91, 4.12)
<b><sup>3</sup>Soap / detergents at washing site</b>				
Available	249(81.1)	58	307	
Not available	43(68.2)	20	63	2.0(1.05, 3.80)
<b>Toilet facility</b>				
Available	376(74.8)	127	503	
Not available	40(47.6)	44	84	3.26(1.98, 5.37)
<b>Total</b>	416	171	587	

<sup>1</sup> Total equals establishments with private pipe.

<sup>2</sup> Total equals establishments with available running water in cooking and washing rooms.

<sup>3</sup> Total equals establishments with available lavatory facilities.

**Table-6** Utensils cleaning and storage practices in catering establishments. Addis Ababa, 1994.

	LICENSED		Total #	Odds ratio (95 % Confidence interv.)
	Yes #(%)	No #		
<b>Utensils in good repair condition.</b>				
Yes	257(77.2)	76	333	
No	159(62.6)	95	254	2.02(1.39, 2.95)
<b>Apply sanitary washing technique</b>				
Yes	23(79.3)	6	29	
No	393(70.4)	65	458	1.61(0.61, 4.50)
<b>Keep utensils tidy</b>				
Yes	256(70.0)	72	328	
No	160(61.8)	99	259	2.20(1.51, 3.21)
<b>Store utensils properly</b>				
Yes	317(73.2)	116	433	
No	99(23.8)	55	154	1.52(1.01, 2.29)
<b>Total</b>	416	171	587	

**Table-7** Storage practices of perishable foodstuffs in the catering establishments. Addis Ababa, 1994.

	LICENSE		Total #	Odds ratio (95% Confidence interval)
	Yes #(%)	No #		
<b>Storage <math>\leq 10^{\circ}\text{C}</math></b>				
Yes	104(82.4)	22	126	
No	91(82.7)	19	110	0.99(0.48, 2.04)
<b>Proper storage</b>				
Yes	97(82.9)	20	117	
No	98(82.4)	21	119	1.04(0.50, 2.15)
<b>Signs of spoilage</b>				
Yes	63(79.7)	16	79	
No	132(84.1)	25	157	0.75(0.35, 1.58)
<b>Total</b>	195	41	236 <sup>1</sup>	

<sup>1</sup> total number of establishments with functional refrigeration equipment.

**Table-8** Storage and disposal of waste in catering establishments.  
Addis Ababa, 1994.

	<b>LICENSED</b>		Total #	Odds ratio (95% Confidence interv.)
	Yes #(%)	No #		
<b>Solid waste stored</b>				
Yes	367(75.7)	118	485	
No	46(46.5)	56	102	3.58(2.24, 5.74)
<b>Liquid waste disposed properly</b>				
Yes	380(73.8)	135	515	
No	36(50.0)	36	72	2.81(1.65, 4.79)
<b>Solid waste disposed properly</b>				
Yes	381(72.3)	146	527	
No	35(58.3)	25	60	1.86(1.04, 3.33)
<b>Total</b>	<b>416</b>	<b>171</b>	<b>587</b>	

**Table-9** Characteristics of food handlers in catering establishments. Addis Ababa, 1994.

Characteristics	LICENSE			Odds ratio 95% Confidence interv.)
	Yes #(%)	No #	Total #	
<b>Wear outer garment</b>				
Yes	248(78.0)	70	318	
No	168(62.5)	101	269	2.13(1.46, 3.11)
<b><sup>1</sup>Wear complete uniforms</b>				
Yes	76(80.0)	19	95	
No	172(77.1)	51	223	1.19(0.63, 2.24)
<b>Personal hygiene</b>				
Good	228(76.8)	69	297	
Bad	188(64.8)	102	290	1.79(1.23, 2.62)
<b>Medical examination in the last one year.</b>				
Yes	80(88.9)	10	90	
No	336(67.6)	161	497	3.83(1.87, 8.09)
<b>Total</b>	416	171	587	

<sup>1</sup> Total equals number of establishments in which workers were found wearing outer garment.

**Table-10** Comparison of selected determinants and current sanitary status in catering establishments. Addis Ababa, 1994.

Characteristics	SANITARY CONDITION			Odds ratio (95 % confidence interv.)
	Good N(%)	Bad N(%)	Total (#)	
<b>MANAGER SEX</b>				
Male	49(15.6)	260	309	
Female	26(9.4)	252	278	1.81(1.06, 3.10)
<b>MANAGER AGE</b>				
15-34	22(13.5)	141	163	
35-49	34(12.2)	245	279	0.89(0.48, 1.64)
50 & above	19(13.1)	126	145	0.67(0.48, 1.96)
<b>OWNER</b>				
Individual	71(12.7)	488	559	
Others	4(14.3)	24	28	0.87(0.28, 3.06)
<b>MANAGEMENT</b>				
Owner	51(11.6)	383	434	
Others	24(18.6)	129	153	0.72(0.41, 1.25)
<b>EDUCATION STATE</b>				
Not literate	14(8.9)	144	158	
0-8 grade	23(9.9)	209	232	1.13(0.54, 2.41)
Grade $\geq$ 9	38(19.3)	159	197	2.46(1.23, 4.98)
<b>LICENSE</b>				
Yes	56(13.5)	360	416	
No	19(11.1)	152	171	1.24(0.69, 2.25)
<b>SERVICE YEAR</b>				
< 5 year	57(13.7)	360	417	
$\geq$ 5 year	18(10.6)	152	170	1.29(0.72, 2.35)
<b>SANITARY INSPECTION</b>				
Yes	33(15.0)	187	220	
No	42(11.4)	325	367	1.73(0.81, 2.29)
Total	75	512	587	

## 6. DISCUSSION

This study revealed high percentages of catering establishments not having legal certificates. This could be attributed to several socio-economic factors; the rapid growing population of the city of which majority are found in a very poor socio-economic and education status which makes official control very difficult because they are unable to fulfil the requirements, the general trend of increasing catering establishments in the city mainly because it is considered as easy means of income generation, the weakness of official certifying and control mechanisms probably related with resource constrains especially in the field of trained man power and lack of multi-sectoral coordination (7) are the major points to be mentioned. In addition to these, the exemption of public/ Kebele owned establishments from any revenue taxation by decree of previous government and the fact that some of the privately owned not licensed establishments are on the process of obtaining their licenses can also be reasons for the increase of the figure. However, legislative approach alone to improve sanitary practices of catering establishments proved to be of little importance in the prevention of foodborne diseases in many countries (3), better sanitary condition of licensed establishments compared to those not licensed was observed in this study.

Poor repair condition, lack of adequate space, lighting and stuffy ventilation of catering premises were also major problems in majority of these establishments. The unplanned and crowded housing situation in the city with overall deterioration of their condition in the past years (17), most of which were

residential housing which later converted to business establishments for one or another reason on top of the lack of strict legislation and inadequate supervision by sanitarians or other responsible, even in those licensed establishments were some of the reason for the observed poor conditions. Since, defective construction characteristics play an important roll on the over all sanitary practices of catering establishments (14), the legislative back up starting from the process of licensing and inspection needs to be strengthened and owner and operators shall be encouraged to improve the situation. The adequate ventilation, good repair of floors walls and ceilings observed in the licensed establishments could be due to recent repair to obtain license since the majority of these establishments had service less than five, the frequent sanitary visits and involvement of educated mangers more in these establishments compared to those not licensed.

Sanitary utensils washing and handling is of vital importance in the prevention of disease transmission (13,15). Very few 4.9% demonstrated standard sanitary washing techniques. In majority of these establishments, utensils were washed using one or two compartment dishes. They lack the bacterial treatment last compartment. This could be mainly due to the lack of frequent sanitary inspection, poor knowledge and/or awareness of workers and managers about the importance and use of a three compartment washing technique in addition to the lack hot water in rooms used for food preparation and utensil washing. Since majority of the communicable diseases are transmitted through faecal oral route and, the use of safe and adequate sanitary facilities are well documented fact in

the protection of food and utensils from contamination and ultimately in the prevention of communicable diseases (9,10,12), efforts must continue to encourage the establishments to use this technique. These may include the enforcement of the existing legislations, provision of on job training for foodhandlers and regular sanitary inspection. The better sanitary facilities observed in the licensed establishments could be explained by the better educational status of managers and more sanitary inspection made to them.

Unacceptable and inadequate waste storage and disposal methods identified in the majority of these catering establishments is not unique to them, i.e. it is the problem of the city in general. Very few places in the city are covered by the modern sewerage system (17). In the city the best method to dispose liquid waste is connecting to road drains which is believed to be one of the major factors for the high prevalence of diarrhoeal and other communicable diseases in the city. Proper solid waste disposal could be achieved by using the municipal refuse containers and refuse collecting lorries which covers a very small proportion of the city. Therefore, to bring any improvement in catering establishments without improving the general sanitary condition of the city would be a far fetched ambition.

The safety of the raw foodstuffs in this survey are questionable since milk, meat and their products are incriminated for being easily contaminated and transmitting so many foodborne diseases (9,10,12). The poor awareness and knowledge of establishment owners, food handlers and the public in general, on

top of high shortages of sanitary meat and milk products in the town and poor socio-economic standards of the population are the main reasons which requires much to improve through time.

Low percentages (40.2%) of establishments were identified as having refrigeration equipment despite it being one of the major criteria to obtain a license for catering business (8). Even in those having the equipment, very few were properly adjusted the temperatures below ten degrees and, stored foodstuffs were poorly handled in majority of the places. In general mishandling of foodstuffs was one of the high risk practices identified in these establishments. The lack of reliable records of foodborne diseases and poisonings occurring in the city so far is one of the major reasons for the under estimation of the serious implications that lack of proper sanitation caused to the public. This has been observed in other places (15). Thus, improving the recording and reporting of foodborne diseases could be one of the necessary measures to improve the situation and to protect the public from foodborne diseases.

Many studies had shown that the poor hygienic condition of foodhandlers is one of the factors playing major roll in the transmission of foodborne diseases. The unsanitary traditional way of food preparation and handling due to poor educational status and poor personal hygiene of foodhandlers were the main areas identified which needs improvement.

It is evident from these findings that, relatively few systematic efforts has been made so far to improve the situations. Although the legislative approach to

improve the sanitary condition of catering establishments is essential, it can not control or reduce the prevalence of foodborne diseases on its own, priorities should be set by action aimed at achieving through training. The main target of the program being to reduce progressively the incidence and prevalence of foodborne diseases, and since the rules of how to avoid food borne diseases are known, the action required is to enforce them which include proper equipment installations and training of the personnel. Hazard critical control point (HACCP) concept for the preparation of food intended for catering must be developed and implemented.

## **STRENGTHS OF THE STUDY**

The study is assumed to be internally valid since the maximum precautions were taken to minimize the introduction of bias. Random procedures were followed to select study units and thus selection bias is not a worry. Data collection was done by trained interviewers of equal education level using a pretested questionnaire assisted with field manuals. Regular supervision was applied by senior sanitarians and the principal investigator during the data collection. Thus, the findings of this study can be generalized to catering establishments in the city except for the big government hotels. Since this study is the first of its kind in Ethiopia, the experiences obtained during the implementation of the investigation and the findings are also assumed to be very valuable to the city and to the nation at large.

## **LIMITATION OF THE STUDY**

1. Due to lack of standard questionnaire and grading and, also such an elaborate study analysis may not be complete.
2. The study excludes big government tourist catering establishments.
3. Completeness in data collection can not be guaranteed since the questionnaire is used for the first time though, every precaution was taken.

## 7. CONCLUSION

1. Many catering establishments had no legal certificate.
2. The sanitary standards of catering establishments in general, were very poor.
3. Licensed establishments showed better sanitary condition in all aspects compared to the unlicensed.
4. Possibility of contamination of foodstuffs were verified due to:
  - a) Poor repair and ventilation condition of premises.
  - b) Lack of sanitary facilities.
  - c) Inadequate hygienic state of multi-use utensils and lack of sanitization facilities.
  - d) Incorrect storage and disposal of waste.
  - e) Unreliable source of foodstuffs and improper handling and storage.
  - f) Poor personal hygiene and medical examination of food handlers.

## **8. RECOMMENDATIONS**

- 1.** Standardized sanitary inspection and surveillance format should be developed.
- 2.** Improve official control services by way of developing multi-sectoral approach involving all responsible government institutions.
- 3.** Improve the sanitary conditions by divulging the legislation to the owners, managers and operators of these premises; encourage them, asses them through the inspection service, and supporting them through on job training.
- 4.** Sanitary inspection approval before renewal of license each year for all catering establishments should be sought.
- 5.** Efforts being made to improve sanitary condition of the city in general through community involvement by the regional bureau should be encouraged and strengthened.

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## APPENDIX-1

Total number of Kebeles and selected Kebeles for the study by Higher in Addis Ababa, 1994.

HIGHERS IN A.A	TOTAL NUMBER OF KEBELES	NUMBER SELECTED	SELECTED KEBELES
1	7	1	04
2	9	2	09,12
3	14	4	32,33,53,54
4	12	3	27,38,49
5	13	4	05,06,12,19
6	12	2	02,13
7	14	3	27,32,34
8	15	1	02
9	9	2	11,12
10	12	1	02
11	14	1	05
12	9	0	--
13	11	1	03
14	11	2	07,13
15	14	3	27,31,34
16	13	2	12,22
17	11	2	16,24
18	13	2	15,17
19	8	3	54,55,57
20	14	2	40,45
21	18	4	01,04,09,25
22	7	1	03
23	9	1	11
24	7	1	13
25	9	2	05, 08
Total	284	50	



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Key : ● = Study Point

## APPENDIX-2

QUESTIONNAIRE FOR ASSESSING THE SANITARY  
CONDITIONS OF CATERING ESTABLISHMENTS  
IN ADDIS ABABA. 1994

Date \_\_\_\_\_ 1994

Code Number \_\_\_\_\_

HIGHER \_\_\_\_\_

KEBELE \_\_\_\_\_

HOUSE NUMBER \_\_\_\_\_

I- SOCIO- DEMOGRAPHICS

1.1 Establishment ownership: 1/ Individual \_\_\_\_\_  
2/ Kebele \_\_\_\_\_  
3/ Other, (specify) \_\_\_\_\_

1.2 If owned by individual, who is the present manager ?

1/ Owner \_\_\_\_\_

2/ Relative \_\_\_\_\_

3/ Hired person \_\_\_\_\_

4/ Other, (specify) \_\_\_\_\_

1.3 If owner is not present manager, what is his/her current occupation ?

1/ No other job \_\_\_\_\_

2/ Govt. employee \_\_\_\_\_

3/ Other, (specify) \_\_\_\_\_

1.4 Sex :                    1/ Male \_\_\_\_\_                    2/ Female \_\_\_\_\_

1.5 Age: \_\_\_\_\_ years.

1.6 Religion:            1/ Christian \_\_\_\_\_

2/ Moslem \_\_\_\_\_

3/ Other, (specify) \_\_\_\_\_

1.7 Marital status      1/ Single \_\_\_\_\_

2/ Married \_\_\_\_\_

3/ Divorced \_\_\_\_\_

4/ Widowed \_\_\_\_\_

1.8.0 Educational level

1.8.1 Can read a newspaper (any written material) ?

## II- FLOORS

- 2.1 What materials are the floors constructed of ?  
 1/ concrete tile \_\_\_ 2/ Wood \_\_\_ 3/ Earth \_\_\_  
 4/ other, specify \_\_\_\_\_
- 2.2 Good repair condition ? 1/ yes \_\_\_ 2/ no \_\_\_
- 2.3 kept clean ? 1/ yes \_\_\_ 2/ no \_\_\_

## III- WALLS AND CEILINGS

- 3.1 Good repair condition: 1/ yes \_\_\_ 2/ no \_\_\_
- 3.2 kept clean : 1/ yes \_\_\_ 2/ no \_\_\_
- 3.3 Walls of Kitchens and Sculleries washable with smooth surface ?  
 1/ yes \_\_\_ 2/ no \_\_\_

## IV - DOORS AND WINDOWS

- 4.1 Good repair condition? 1/ \_\_\_ 2/ no \_\_\_
- 4.2 Are doors opening to the outer air, self closing ?  
 1/ yes \_\_\_ 2/ no \_\_\_
- 4.3 Kept clean ? 1/ yes \_\_\_ 2/ no \_\_\_

## V - LIGHTING

- 5.1 Adequate in food Preparation room/s ? 1/ yes \_\_\_ 2/ no \_\_\_
- 5.2 Adequate in food Storage room/s ? 1/ yes \_\_\_ 2/ no \_\_\_
- 5.3 Adequate in the Service room/s ? 1/ yes \_\_\_ 2/ no \_\_\_

## VI - VENTILATION

- 6.1 Adequate in food Preparation room/s ? 1/ yes \_\_\_ 2/ no \_\_\_
- 6.2 Adequate in food Storage room/s ? 1/ yes \_\_\_ 2/ no \_\_\_
- 6.3 Adequate in food Service room/s ? 1/ yes \_\_\_ 2/ no \_\_\_

## VII - TOILET FACILITIES

- 7.1 Toilet facility available ? 1/ yes \_\_\_ 2/ no \_\_\_
- 7.2 If yes, separate room/s for male and female ?  
1/ yes \_\_\_ 2/ no \_\_\_
- 7.3 Separate toilet for workers available? 1/ yes \_\_\_ 2/ no \_\_\_
- 7.4 Type : 1/ flush system \_\_\_ 2/ Pour flush \_\_\_  
3/ pit latrine \_\_\_ 4/ other, specify \_\_\_\_\_
- 7.5.0 present sanitary condition of toilets?
- 7.5.1 Good repair condition ? 1/ yes \_\_\_ 2/ no \_\_\_
- 7.5.2 Room/s and fixtures kept clean ? 1/ yes \_\_\_ 2/ no \_\_\_
- 7.5.3 Adequate light present ? 1/ yes \_\_\_ 2/ no \_\_\_
- 7.5.4 Adequate ventilation ? 1/ yes \_\_\_ 2/ no \_\_\_
- 7.5.5 Doors opening to the next room or outer space self-closing?  
1/ yes \_\_\_ 2/ no \_\_\_

## VIII - WATER SUPPLY

- 8.1 Water source : 1/ Private pipe \_\_\_  
2/ Communal/ public pipe \_\_\_  
3/ Other, specify. \_\_\_\_\_
- 8.2 If private pipe, running water accessible in rooms used for food preparation and utensils washing ? 1/ yes \_\_\_ 2/ no \_\_\_
- 8.3 If yes, Hot running water available ? 1/ yes \_\_\_ 2/ no \_\_\_

## IX - LAVATORY FACILITIES

- 9.1 Lavatory facility ? 1/ yes \_\_\_ 2/ no \_\_\_
- 9.2 If yes, separate for client and workers ?  
1/ yes \_\_\_ 2/ no \_\_\_
- 9.3 Soap or other detergents available ready at the washing place  
1/ yes \_\_\_ 2/ no \_\_\_

## X - UTENSILS AND EQUIPMENT

- 10.1 Present in good repair condition ? 1/ yes \_\_\_ 2/ no \_\_\_
- 10.2 Kept tidy and clean ? 1/ yes \_\_\_ 2/ no \_\_\_

- 10.3 Which method is used for washing multi- purpose eating and drinking utensils ? 1/ Washing machine \_\_\_\_\_  
 2/ Sanitary three compartment system \_\_\_\_\_  
 3/ Other (specify) \_\_\_\_\_  
 \_\_\_\_\_

#### XI- STORAGE AND HANDLING OF UTENSILS

- 11.1 Sanitized utensils stored above floor level at a dry place protected from dust, dirt or insects ?  
 1/ yes \_\_\_ 2/ no \_\_\_
- 11.2 Table and cutler used in service room/s kept tidy and clean  
 1/ yes \_\_\_ 2/ no \_\_\_

#### XII - DISPOSAL OF WASTES

- 12.1 Liquid waste produced is disposed of :
1. Into the city sewer system \_\_\_\_\_
  2. Cesspool/ septic tank \_\_\_\_\_
  3. Other, specify \_\_\_\_\_
- 12.2 Garbage / Litter produced is stored:
1. In a receptacle \_\_\_\_\_
  2. Into pit \_\_\_\_\_
  3. No storage thrown away anywhere \_\_\_\_\_
  4. other specify \_\_\_\_\_
- 12.3.0 If receptacles are used ?
- 12.3.1 total number at present \_\_\_\_\_
- 12.3.2 Cover tightly-fitting ? 1/ yes \_\_\_ 2/ no \_\_\_
- 12.3.3 Constructed of durable material? 1/ yes \_\_\_ 2/ no \_\_\_
- 12.3.4 Placed at a proper site ? 1/ yes \_\_\_ 2/ no \_\_\_
- 12.4 Solid waste produced, is disposed of ?
- 1/ By using Municipal refuse container . \_\_\_\_\_
  - 2/ By using Municipal Lorry \_\_\_\_\_
  - 3/ Thrown away anywhere in the surrounding \_\_\_\_\_
  - 4/ other, specify \_\_\_\_\_

## XIII - REFRIGERATION

- 13.1 Refrigeration equipment available ? 1/ yes \_\_\_ 2/ no \_\_\_  
 13.2 Readily perishable food stuffs ( milk, Meat, fish and their products etc.) stored under 10° c ? 1/ yes \_\_\_ 2/ no \_\_\_  
 13.3 Are the stored food-stuff properly arranged and placed ?  
 1/ yes \_\_\_ 2/ no \_\_\_  
 13.4 Observed sign of spoilage of stored food ?  
 1/ yes \_\_\_ 2/ no \_\_\_

## XIV - SOURCE OF RAW FOODSTUFFS

- 14.1 Source of raw Meat ?  
 1/ from government abattoir (check payment receipt) \_\_\_\_\_  
 2/ from butcher shops in the town \_\_\_\_\_  
 3/ From both 1 & 2. \_\_\_\_\_  
 4/ other, specify \_\_\_\_\_
- 14.2 Source of raw milk and its' products ?  
 1/ government shop \_\_\_\_\_  
 2/ from individual providers \_\_\_\_\_  
 3/ both 1 & 2. \_\_\_\_\_  
 4/ other, specify \_\_\_\_\_

## XV - FOOD-HANDLERS

- 15.1 Are the employees wearing outer garment ?  
 1/ yes \_\_\_ 2/ no \_\_\_
- 15.2 If yes, Do kitchen workers wear complete uniform ?  
 1/ yes \_\_\_ 2/ no \_\_\_
- 15.3 Good personal hygiene ? 1/ yes \_\_\_ 2/ no \_\_\_
- 15.4 Employees took medical check-up in the past one year ?  
 (check certificates) 1/ yes \_\_\_ 2/ no \_\_\_
- 15.5 If yes, how many ? \_\_\_\_\_
- 15.6 Are there trained workers on food preparation and handling  
 1/ yes \_\_\_ 2/ no \_\_\_
- 15.7. If yes,  
 15.7.1 How many of the workers ? \_\_\_\_\_  
 15.7.2 When ? \_\_\_\_\_ months/ years
- 15.7.3 Where ? 1/ In Ethiopia \_\_\_\_\_  
 2/ Abroad, specify, \_\_\_\_\_

## XVI- MISCELLANEOUS

16.1 Type of service provided by the Establishment:

1/ Hotel \_\_\_ 2/ Restaurant \_\_\_

3/ Recreation place \_\_\_ 4/Bar \_\_\_

5/ Other, specify \_\_\_\_\_

16.2 Years of service since establishment \_\_\_\_\_

16.3 Estimated average daily customers in the last fifteen days.

16.4 Total number of workers ? \_\_\_\_\_

16.4.1 Cook 1/ Male \_\_\_ 2/ Female \_\_\_

16.4.2 Waiter 1/ ,, \_\_\_ 2/ ,, \_\_\_

16.4.3 Cleaner 1/ ,, \_\_\_ 2/ ,, \_\_\_

16.4.4 Machine operator 1/ Male \_\_\_ 2/ Female \_\_\_

16.4.5 Other, specify;

16.4.6 \_\_\_\_\_ 1/ Male \_\_\_ 2/ Female \_\_\_

16.4.7 \_\_\_\_\_ 1/ ,, \_\_\_ 2/ ,, \_\_\_

16.4.8 \_\_\_\_\_ 1/ ,, \_\_\_ 2/ ,, \_\_\_

16.5. Was the establishment visited by the sanitarian in the past six months?

1/ yes \_\_\_ 2/ no \_\_\_

16.6. Is the organization Licensed ?

1/ yes \_\_\_ 2/ no \_\_\_

16.7. If yes, service provided in accordance to the licence

1/ yes \_\_\_ 2/ no \_\_\_

## APPENDIX-3

### GUIDELINE FOR COMPLETING THE SURVEY QUESTIONNAIRE.

#### General:

The numbering of these guideline corresponds directly to the questionnaire. Questions considered to be self-explanatory are not explained here.

Follow the instructions carefully to complete the questionnaires. When problems or difficulties arise during the data collection process, please consult your supervisor or principal investigator before proceeding filling the questionnaire. Where numbers exist, fill in the appropriate number or information. Where it is stated others (specify), fill in the appropriate information as related to the question.

#### DEFINITIONS:

HOTEL: an establishment rendering a combined service of rooming, food and drinks on a fee bases.

Restaurant: establishment selling food and drinks.

Bar: an establishment selling soft and alcoholic drinks together with coffee and tea.

Recreation: an establishment involved in selling food, drink coffee tea with other recreation services.

**Grocery**: establishment involved in gross and retail trade of alcoholic and soft drinks only.

**Butcher shop**: establishment involved in gross or retail trade of meat.

**Tej (local wine) House**: establishment involved in preparing and selling local Wine or Tej.

### SOCIO-DEMOGRAPHICS

**1.1. Establishment Ownership**: An individual, public (Kebele) government or other shareholders etc. owing the institution.

**1.2. Manager**: Is an accountable person actively involved in running day to day activities of the organization.

\* Quaestiones 1.4-1.8 are answered by current institution \_\_\_\_\_ managers.

**1.5. Age**: Enter the age in completed years ( i.e. age at last birth day ) For example if a person now 40 years and 11 months, (below 12 months) his/her age is 40 years.

**1.7. Marital status**:

**Single**: a person who has never married.

**Married** : a person whose spouse is alive at the time of this interview.

**Divorced**: a person who did not marry after dissolution of his/her marriage.

**Widowed**: a person who did not remarry after the death of his/her spouse.

**1.8.0** Enter grade completed in number for example 7, 10, 12+2, 12+4 etc.

## II - FLOORS

2.3 Cleanliness shall mean free of dust, litter or other dirt in rooms. Similar meaning are used to answer questions related to cleanliness.

## III- WALLS AND CEILINGS

3.1 Good repair condition shall mean absence of big cracks or detached areas and, painted walls and ceilings of rooms used for food preparation storage and service.

## V - LIGHTING

5.1 - 5.3 Lighting adequate if, a healthy person ( without major visual problem) can see or easily identify objects in the room without straining eyes. This criteria is used for all question of lighting in this questionnaire.

## VI - VENTILATION

6.1 - 6.3 Ventilation adequate if, rooms are free of reasonable disagreeable odours and have at least one openable Window. This criteria is used for all similar questions regarding ventilation in this questionnaire.

## VII - TOILET FACILITIES

7.1 Toilet facility shall mean a separate room/s with water closet, or pit latrine provided at a convenient place i.e near levator facility for use.

7.4.1 **Flush system**: disposal of human waste by arising flow of water which forces everything down a drainpipe by a water from cistern.

7.4.2 **Pour flush** : disposal of human waste by a manually poured water in the closet to force everything down a drain pipe.

7.4.3 **Pit latrine** : a pit dug at a separate place and used as a toilet for human waste products.

7.9.2 Cleanliness means free of improperly stored litter or tissue papers, other dirt, like faeces or urine seen around the closet.

#### **X-UTENSILS AND EQUIPMENT**

"Utensils and Equipment" shall include Kitchenware, tableware, glassware, cutlery, containers, or other equipment with which food or drink comes in contact during storage, preparation, or serving.

10.1 Good repair shall mean free of breaks, corrosion, & cracks.

10.3.2 Three compartment washing system is an acceptable method of cleaning multi-purpose eating and drinking utensils. The procedure includes three distinct processes, the first being washing in a warm water with detergent to remove the grease and solids, the second compartment to clean effectively the food particles and finally the third compartment to treat the bacterial pathogens by a hot or boiling water.

## **XI - STORAGE AND HANDLING OF UTENSILS**

**11.1 Storage on shelves or in a cupboard or other places, for example a table, which should have a height of at least 50 c.ms above floor level.**

## **XII - DISPOSAL OF WASTES**

**12.1 Liquid waste resulting from the cleaning and rinsing of utensils and floors, and from lavatories including all foul matters hazardous to health.**

**12.3.4 Receptacles are considered placed at a proper site if, kept at a visible and accessible site for use.**

## **XIII - REFRIGERATION**

**13.2 Refrigerators are considered to be in working order if, it is currently in use for cooling stored food.**

**13.3 Check the temperature regulator to answer this question, if the refrigerator has no temperature regulator, the answer is NO.**

**13.4 Foods stored in the refrigerator should be properly placed, and arranged in a such a way that food stuffs producing water while storing i.e meat etc. should not be stored above other food stuffs to avoid contamination. cooked and uncooked foodstuffs should be separately stored.**

**13.5 Sign of spoilage means colour change, bad smell that can easily be detected at first opening of the refrigerator.**

**XIV - SOURCE OF RAW FOODSTUFFS**

**14.1. If answer is 1 or 3, check receipts paid for confirmation.**

**14.2 If, answer is 1 or 3 check receipts paid for confirmation.**

**XV - FOOD-HANDLERS**

**15.2 Complete uniform means coat, apron or trousers with hair nets or head bands, or caps is considered satisfactory.**

**15.3 Good personal hygiene shall mean reasonable clean, proper dressing and good appearance of the individual.**

**15.4 Medical check-up includes from September 1 to August 30, 1994. Confirmation should be made by medical certificate from government health institution.**

**VII - MISCELLANEOUS**

**16.6 Ask for a yellow registration card to answer this question. If, a yellow card is not present, it should be considered as no visit.**

**16.7 Licence certificate should be referred to answer this question. If, it is not present or presented on request it should considered as not licensed.**

ዘአዲስ አበባ ከተማ ውስጥ ምግብ ቤቶችና ሌሎች ምግብ አዘጋጅተው የሚሸጡ የንግድ ድርጅቶችን የሳኒቲሽን ሁኔታን ለማጥናት የተዘጋጀ ቃለ መጠይቅ 1987

ቀን \_\_\_\_\_

የኮድ ቁጥር \_\_\_\_\_  
ከፍተኛ \_\_\_\_\_  
ቀበሌ \_\_\_\_\_  
የቤቁ \_\_\_\_\_

1.1 የድርጅት ባለቤት፡

- 1/ ግለሰብ
- 2/ ቀበሌ
- 3/ ሌላ፡ ግለፅ \_\_\_\_\_

1.2 የድርጅቱ ባለቤት ግለሰብ ከሆነ፡ በአሁኑ ጊዜ የድርጅቱ ሥራ አስኪያጅ?

- 1/ ባለቤቱ \_\_\_\_\_
- 2/ ዘመድ \_\_\_\_\_
- 3/ የተቀጠረ ግለሰብ \_\_\_\_\_
- 4/ ሌላ፡ ግለጽ \_\_\_\_\_

1.3 የድርጅቱ ባለቤት በሥራ አስኪያጅነት የማይሠሩ ከሆነ ምን ሌላ ሥራ አላቸው?

- 1/ ምንም አይነትም \_\_\_\_\_
- 2/ የመንግሥት ሠራተኛ \_\_\_\_\_
- 3/ ሌላ፡ ግለፅ \_\_\_\_\_

1.4 ጾታ፡ 1/ ወንድ \_\_\_\_\_ 2/ ሴት \_\_\_\_\_

1.5 እድሜ \_\_\_\_\_ ዓመት

1.6 ሃይማኖት ፡

- 1/ ክርስቲያን \_\_\_\_\_
- 2/ እስላም \_\_\_\_\_
- 3/ ሌላ ግለጽ \_\_\_\_\_

1.7 የጋብቻ ሁኔታ ፡

- 1/ ያላገባ/ች/ \_\_\_\_\_
- 2/ ያገባ/ች/ \_\_\_\_\_
- 3/ ፈት \_\_\_\_\_
- 4/ ባል ወይም ሚስት የሞተበት/ባት/ \_\_\_\_\_

1.8 የትምህርት ደረጃ

1.8.1 ጋዜጣ ወይም ሌላ ጽሁፍ ያነባሉ? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

1.8.2 ማንበብ የሚችሉ ከሆነ ስንተኛ ክፍል አጠናቀዋል \_\_\_\_\_

2. ወለሎችን በተመለከተ

2.1 የድርጅቱ ሕንፃ ወለሎች የተገነቡት ወይንም የተሰሩት?  
1/ ከኮንክሪት ሊሾ \_\_\_\_\_ 2/ ከእንጨት \_\_\_\_\_  
3/ ከአፈር \_\_\_\_\_ 4/ ሌላ? ግለጽ \_\_\_\_\_

2.2 በጥሩ የጥገና ሁኔታ ላይ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

2.3 በንጽህና የተያዙ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

3. ግድግዳና ኮርኒስን በተመለከተ

3.1 በጥሩ የጥገና ሁኔታ ላይ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

3.2 በንጽህና የተያዙ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

3.3 የኩቺናና የሶቃ ማጠቃያ ክፍሎች በቀላሉ ሊታጠብ የሚችል ግዳግዳ አላቸው?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

4. በርና መስኮቶችን በተመለከተ

4.1 በጥሩ የጥገና ሁኔታ ላይ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

4.2 ወደውጭ የሚያስወጡ በሮች በራሳቸው ይዘጋሉ?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

4.3 በንፅህና የተያዙ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

5. በቂ ብርሀን መኖርን በተመለከተ

5.1 በቂ ብርሀን ምግብ ማዘጋጃ ክፍል ውስጥ አለ? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

5.2 » » » ማከማቻ » » »? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

5.3 » » » ማስተናገጃ » » »? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

6. በቂ የአየር ዝውውር መኖርን በተመለከተ

6.1 በቂ የአየር ዝውውር ምግብ ማዘጋጃ ክፍል ውስጥ አለ?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

6.2 በቂ የአየር ዝውውር ምግብ ማከማቻ ክፍል ውስጥ አለ?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

6.3 በቂ የአየር ዝውውር ምግብ ማስተናገጃ ክፍል ውስጥ አለ?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

7. የመጻፍ አገልግሎትን በተመለከተ

7.1 ድርጅቱ የመጻፍ አገልግሎት አለው? 1/አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

7.2 መልሱ አዎ ከሆነ፣ ለወንድና ለሴት የተለየ ክፍል አለ?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

7.3 ለሠራተኞች የተለየ መጻፍ ክፍል አለ? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

7.4 የመጻፍ ዓይነት፡

- 1/ ዘመናዊ በውሃ የሚሰራ \_\_\_\_\_
- 2/ በእጅ ውሃ እየተረጨበት/እየተከለሰበት የሚሰራ \_\_\_\_\_
- 3/ የጉድጓድ ሽንት ቤት \_\_\_\_\_
- 4/ ሌላ/ግለጽ/ \_\_\_\_\_

7.5 የመጻፍ ክፍሎችን የሳይቴሽን ሁኔታን በተመለከተ

7.5.1 ጥሩ የጥገና ሁኔታ ላይ ነው? 1/ አዎ \_\_\_\_\_ 2/አይደለም \_\_\_\_\_

7.5.2 በንፅህና ተይዟል? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

7.5.3 ክፍሉ በቂ ብርሃን አለው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

7.5.4 ክፍሉ በቂ የአየር ዝውውር አለው? 1/አዎ \_\_\_\_\_ 2/አይደለም \_\_\_\_\_

7.5.5 ወደ ውጭ የሚያስወጡ ወይም ከሚቀጥለው ክፍል ጋር የሚያገናኙ በሮች በራሳቸው ይዘጋሉ?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

8.ንፁህ ውሃን በተመለከተ

8.1 ለግልጋሎት የሚውለው ውሃ ከየት ነው የሚገኘው?

- 1/ በግል ከተዘረጋ ሀይል \_\_\_\_\_
- 2/ ከቦና ሀይል \_\_\_\_\_
- 3/ ሌላ / ግለጽ / \_\_\_\_\_

8.2 በግል ከተዘረጋ ሀይል ውሃ የሚያገኙ ከሆነ በምግብ ማዘጋጃና ዕቃ ማጠቃያ ክፍሎች ውስጥ የሀይል ተዘርግቷል።

1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

8.3 መልሱ አዎ ከሆነ ሙቅ ውሃ አለው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

9. መታጠቢያን በተመለከተ

9.1 ድርጅቱ የእጅ መታጠቢያ አገልግሎት ይሠጣል?

1/አዎ \_\_\_\_\_ 2/አይደለም \_\_\_\_\_

9.2 መልሱ አዎ ከሆነ ለበላተኛና ለሠራተኞች በተለየ ሥፍራ?

1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

9.3 ለመታጠቢያ የሚያገለግሉ ሳሙና እኅ የመሳሰሉ በቦታው ተቀምጠዋል?

1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

10. የመመገቢያና የመሥሪያ ቁሳቁሶችን በተመለከተ

10.1. በጥሩ የጥገና ሁኔታ ላይ ናቸው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

10.2. በንጽህናና ባግባቡ ተቀምጠዋል? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

10.3. ለተለያዩ ጥቅም የሚውሉትን ቁሳቁሶች እንዴት ይታጠባሉ?  
1/ የማጠቢያ መሣሪያ/ ማሽን/ በመጠቀም \_\_\_\_\_  
2/ ባለ ሰዓት ክፍል የማጠቢያ ዘዴ በመጠቀም \_\_\_\_\_  
3/ ሌላ /ይገለጽ / \_\_\_\_\_

11. የሥራና የመመገቢያ የቁሳቁሶች አያያዝና አቀማመጥ

11.1. የታጠቡና ንጽህናቸው የተጠበቀ ቁሳቁሶች የሚቀመጡት ከመሬት ክፍ ባለ ደረቅ ፣ ለአባሪና ለዘንብ በማይጋለጡ ቦታ ነው?  
1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

11.2. በመመገቢያ ክፍል ውስጥ ጠረጴዛና የመመገቢያ ቁሳቁሶች በሥርዓትና በንጽህና ተቀምጠዋል? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

12. ቆሻሻ አወጋገድን በተመለከተ

12.1. የድርጅቱ ፈላሽ ቆሻሻ እንዴት ይወገዳል?  
1/ ወደ ከተማ ፈላሽ ማስወገጃ ሲስተም \_\_\_\_\_  
2/ ወደ ማጠራቀሚያ ገንዳ \_\_\_\_\_  
3/ ሌላ፣ ግለጽ / \_\_\_\_\_

12.2. የድርጅቱ ደረቅ ቆሻሻ የሚጠራቀመው  
1/ በተለይ በተዘጋጀ የቆሻሻ ማጠራቀሚያ \_\_\_\_\_  
2/ በተቆፈረ ጉድጓድ \_\_\_\_\_  
3/ አይጠራቀምም፣ የትም ይጣላል \_\_\_\_\_  
4/ ሌላ ግለጽ \_\_\_\_\_

12.3. በተለይ የተዘጋጀ የቆሻሻ ማጠራቀሚያ የሚጠቀሙ ከዞነ፣  
12.3.1. በቁጥር ስንት ናቸው? \_\_\_\_\_  
12.3.2. በአግባቡ ተክድነዋል 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_  
12.3.3. ጠንካራና ሰብዙ ጊዜ ያገለግላሉ 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_  
12.3.4. በተገቢው ሥፍራዎች ተቀምጠዋል 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

12.4. የተከማቸው ደረቅ ቆሻሻ የሚወገደው ?  
1/ በማዘጋጃ ቤት ቆሻሻ ማጠራቀሚያ ውስጥ \_\_\_\_\_  
2/ የቆሻሻ ማንሻ መኪናን በመጠቀም \_\_\_\_\_  
3/ በአካባቢ የትም ይደፋል \_\_\_\_\_  
4/ ሌላ/ ግለጽ/ \_\_\_\_\_

13. ማቀዝቀዣ

- 13.1 ድርጅቱ ማቀዝቀዣ መሣሪያ አለው ሀ/ አዎ \_\_\_\_\_ 2/አይደለም \_\_\_\_\_
- 13.2 በተላሉ ሊበላሾ የሚችሉ የምግብ ዓይነቶች/ወተት፣ ሥጋ፣ ዓሳ፣ ወዘተ ከ10 ዲግሪ ሴንቲግራድ በታች ተቀምጠዋል? ሀ/ አዎ \_\_\_\_\_ 2/አይደለም \_\_\_\_\_
- 13.3 በማቀዝቀዣው ውስጥ የተቀመጡት የምግብ አይነቶች በተገቢው መንገድ ተለያይተው ተደርድረዋል? ሀ/ አዎ \_\_\_\_\_ / አይደለም \_\_\_\_\_
- 13.4 በሬፍራጅተሩ ውስጥ የተቀመጡት ምግቦች የመበላሸት ምልክት ያሳያሉ? ሀ/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

14. ያልበሰሉ የምግብ ዓይነቶችን በተመለከተ

14.1 ለድርጅቱ ግልጋሎት የሚውለው የበሬ ወይንም የበግ ሥጋ ከየት ያገኛሉ ወይም ይገኛሉ?

- 1/ ከመንግሥት ቋራ / ደረሰኝ ይመልከቱ/ \_\_\_\_\_
- 2/ ከከተማ ውስጥ ከሚገኙ ልኪንዳ ቤቶች \_\_\_\_\_
- 3/ ከሁለቱም ( 1 እና 2) \_\_\_\_\_
- 4/ ሌላ ይግለጹ/ \_\_\_\_\_

14.2 ወተትና የወተት ተዋዕኔ ከየት ያገኛሉ?

- 1. ከመንግሥት ሱቅ \_\_\_\_\_
- 2. ከግለሰብ ከብት አርቢዎች \_\_\_\_\_
- 3. ከሁለቱም ( 1 እና 2) \_\_\_\_\_
- 4. ሌላ/ ይግለጹ/ \_\_\_\_\_

15. ሠራተኞችን በተመለከተ

- 15.1 ሠራተኞች የሠራ ልዥኒ ይሰጣሉ? ሀ/አዎ \_\_\_\_\_ 2/አይደለም \_\_\_\_\_
- 15.2 መልሱ አዎ ከሆነ የኩቸና ሠራተኞች የተሟላ ዩኒፎርም ይሰጣሉ? ሀ/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_
- 15.3 ጥሩ የግል ንዕስና አላቸው? ሀ/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_
- 15.4 የሠራተኞች የ1986 የሕክምና ምርመራ ተደርጎላቸዋል? (ሰርተፊኬት ይመልከቱ) ሀ/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_
- 15.5 መልሱ አዎ ከሆነ፣ ለስንት ሠራተኞች? \_\_\_\_\_
- 15.6 በምግብ አዘጋጃጅትና አደያዝ ሥልጠና የወሰዱ ሠራተኞች አሉ? 1. አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_
- 15.7 መልሱ አዎ ከሆነ

- 15.7.1/ ስንት ሠራተኞች? \_\_\_\_\_
- 15.7.2/ መቼ? \_\_\_\_\_ ወር/ዓ.ም \_\_\_\_\_
- 15.7.3/ የት? \_\_\_\_\_ ሀ/ ኢትዮጵያ \_\_\_\_\_ 2/ውጭ ሀገር \_\_\_\_\_ ግለፅ \_\_\_\_\_

16. ሌሎች መረጃዎችን በተመለከተ

16.1 ድርጅቱ የአገልግሎት ዓይነትን

- 1/ ሆቴል \_\_\_\_\_ 2/ ምግብ ቤት \_\_\_\_\_ 3/ መዝናኛ \_\_\_\_\_ 4/ ቡናቤት \_\_\_\_\_

ሌላ ግለጽ \_\_\_\_\_

16.2 የድርጅቱ የአገልግሎት ዘመን \_\_\_\_\_

16.3 ባለፉት አሥራ አምስት ቀናት ውስጥ በቀን የተመዘገቡዎት ብዛት \_\_\_\_\_

16.4 የድርጅቱ ሠራተኞች ዓይነትና ብዛት \_\_\_\_\_

- |             |          |          |
|-------------|----------|----------|
| 1/ ወጥ ቤት    | 1/ ወንድ   | 2/ ሴት    |
| 2/ አስተናጋጅ   | 1/ »     | 2/ »     |
| 3/ ባራከታ     | 1/ »     | 2/ »     |
| 4/ ጽዳት ሠራተኛ | 1/ »     | 2/ »     |
| 5/ ሌላ ይገለጽ  | _____    | _____    |
| 6. _____    | 1. _____ | 2. _____ |
| 7/ _____    | 1. _____ | 2. _____ |
| 8. _____    | 1. _____ | 2. _____ |

16.5 ባለፉት ስድስት ወራት ድርጅቱን በክልሉ የጤና ተቆጣጣሪዎች ተጎብኝቷል?

- 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

16.6 ድርጅቱ የንግድ ፈቃድ አለው? 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

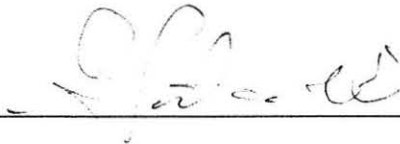
16.7 መልሱ አዎ ከሆነ የድርጅቱ ግልጋሎት ዘፈቃድ መሠረት ብቻ ነው?

- 1/ አዎ \_\_\_\_\_ 2/ አይደለም \_\_\_\_\_

**DECLARATION**

I, the undersigned, declare that this is my original work and has not been presented for a degree in this or any other university and that all sources of material used for this thesis have been duly acknowledged.

Name Getachew Fissola

Signature 

Place Addis Ababa, Ethiopia

Date of submission May 1995