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RESEARCH PAPER No. 2011 — 01 HYGIENE AND SANITATION OF STREET FOOD VENDORS IN BAGUIO CITY Mark Ace Acosta, Franco Alvarado, Cristine Baturi, Eva Marie Galamgam, Lukelene Nisperos and Joni Therese Razote

HOSPITALITY AND TOURISM MANAGEMENT RESEARCH IN BAGUIO CITY We envision Saint Louis University as an excellent, missionary, and transformative education institution zealous in the formation of human resources who are imbued with the Christian spirit and who are competent, creative, and socially involved.

SCHOOL OF ACCOUNTANCY AND BUSINESS MANAGEMENT SAINT LOUIS UNIVERSITY PHILIPPINES MARCH 2011 Hygiene and Sanitation of Street Food Vendors in Baguio City Mark Ace Acosta, Franco Adalard Alvarado, Cristine Baturi, Eva Marie Galamgam, Lukelene Nisperos and Mrs. Joni Therese P. Razote

ABSTRACT The street food industry has an important role in meeting the demands of urban dwellers, but along with that are risk health hazards that may occur to people. The paper examines the food safety and hygienic practices of food vendors of Baguio city and the data gathering shows that almost street vendors here do not practice proper food handling; only few of them attended seminars regarding safety and sanitation. The study aims to know the awareness and practices of street food vendors in food handling thus the finding recommends that there is a need for health education in order to ensure food safety to consumers. KEYWORDS: food safety; hygienic; street food vendors 1.

INTRODUCTION Street foods today are becoming more popular because of its cheap price and relatively easy accessibility to urban residents. While this development is positive in many ways, it also prevents new public health challenges for the urban population. Safe food hygiene is difficult to practice

at street level, and outbreaks in diarrheal diseases have been linked to street food. Few vendors only acquired the knowledge of food preparation by formal training. Volume and price are considered more than freshness and cleanliness when purchasing raw materials. Some of the food safety knowledge of the vendors is not practiced due to the absence of basic facilities such as water and toilets. The objectives of this study are to inform people whether foods being sold at the street levels are safe to eat, to know if this vendors are observing proper hygiene and sanitation, and to be able to know if the street food vendors are knowledgeable that improper hygienic practices can affect their customer's health.

Review of Related Literature

According to studies done in Africa on street foods, their tremendous unlimited and unregulated growth is adversely affecting daily life. FAO further stipulates that street foods raise concern with respect to their potential for serious food poisoning outbreaks due to improper use of additives, the presence of adulterants and environmental contaminants and improper food handling practices amongst street food vendors. Street food vendors are often unlicensed, untrained in food hygiene and sanitation, and work under crude unsanitary condition. (Latham MC Human nutrition in tropical Africa. FAO, Rome. 1997: 329-437), (FAO. Agriculture food and nutrition for Africa. A resource book for teachers of Agriculture. FAO, Rome. 1997: 123) According to the study in Kumasi, Ghana, diarrheal diseases due to contaminated and unhygienic food are among the leading causes of illness and deaths in low-income countries, and several outbreaks of disease have been attributed to the consumption of street food. Research among 117 street vendors in Accra showed that all vendors exhibited good food

hygiene, but samples of salads, macaroni, fufu, omo tuo, and red pepper had unacceptable levels of pathogens. *Shigella sonnei* and enteroggregative *Escherichia coli* were isolated from macaroni, rice, and tomato stew, and *Salmonella arizonae* from light soup. Recent research has highlighted the low quality of vegetables sold in urban markets in Ghana, including Kumasi, which are bought and prepared by many street vendors. Of total of 180 vegetable samples (lettuce, cabbage, and spring onion) from major markets in three major Ghanaian cities, most samples had pesticide residue levels exceeding the maximum limit for consumption, and all were focally contaminated. The study took place in Kumasi, the second largest city in Ghana, with a fast-growing population of 1.2 million inhabitants according to the latest census. The Kumasi Metropolitan Assembly (KMA) estimated that approximately 10,000 registered food vendors operated within the Kumasi suburbs by the end of 2005 (according to KMA director for Sanitation and Environmental Health, Mr. A. LAntwi, personal communication Oct. 2005). (<http://www.who.int/mediacentre/factsheets/fs237/en/index.html>) Further, an EU study in Botswana showed that the consumers of street foods in Gaborone and Francistown included both the working class and professionals. The number of customers served per day varied from 20 to 40 people. The vendors reported that the most food sold was maize-meal porridge, followed by rice, "Samp" and sorghum porridge in that order. Also dumplings, plain "samp", "samp" and beans were sold in small quantities. Due to lack of transportation, the street food vendors in this study reported that the frequency of buying raw materials was high. (Pakistan Journal of Nutrition 2 (2): 76-81, 2003c Asian Network for Scientific Information

200376 Nutritional Aspects of Street Foods in Botswana Omo Ohiokpehai
Global Net Consultants, P. O. Box 2647, Gaborne, Botswana) According to
(Studies in Sociology of Science Vol. 1, No. 1, 2010, pp. 50-57 ISSN 1923-
0176 50 Food Safety and Hygienic Practices of Street Food Vendors in
Owerri, Nigeria Comfort O. Chukuezi). (www.escanada.net/www.escanada.org)
FRAMEWORK: Awareness and Practices of street vendors in food
handling METHODOLOGY Educational attainment serve as the profile
because it intervenes independent variable which is the self awareness and
to the dependent variable which is the practice s in food handling, the level
of awareness and practices in food handling varies on their educational
attainment whether they have higher or lower attainment. I. METHODOLOGY
A descriptive survey design was used to answer questions concerning the
current status of food hygiene and sanitation practiced by vendors of street
foods. Hygiene and sanitation were determined by the use of structured
interview and through observations. Practices such as acquisition of cooking
skills, place of preparation, environmental conditions, methods of washing
utensils and preservation methods were studied. Location of the street
vendor, utensils used, environment surrounding the street food vendors,
general processing of the food and hygienic practices were observed and
recorded through an observation checklist. The questionnaire utilized a likert
scale to measure the impact of the Hygiene and sanitation where a 4- point
rating scale was used. Respondents were asked to rate the items according
to the following responses: 1 not aware 2 slightly aware 3 aware 4 very
aware and another set of items which is 1 never 2 rarely 3 sometimes 4
always. Cronbach's Alpha was used to reliability after the questionnaires

were initially floated to 20 street food vendors. The results yielded . 720. After which the questionnaire was floated to entire sample population. The target population constituted all street food vendors in Baguio City. The accessible population was all street food vendors in preparing and selling the commonly consumed foods were purposively selected based on a list of street food vendors compiled before the actual data collection. The total number of street food vendors included in the study was 5000, giving a total of 198 street food vendors who represented 13% of the total population of street food vendors. Data gathered was analyzed using the Statistical Package for Social Sciences (SPSS) program. Descriptive statistics such as means and frequencies were used to present the findings. Qualitative data was transcribed to themes and patterns that addressed the objectives of the study.

2. RESULT AND DISCUSSION

Table 1. Did the respondents Attended Seminars regarding food safety and sanitation? [pic] The table shows that 54% of the respondents attended the seminar once, 35% of them never attended the seminar and 11% of them attended the seminar regarding food safety and sanitation more than twice. | | [pic] | | | | | | | Table 2. Did the respondents process their health certificate? The table shows that 46% of the respondents is still processing their health certificates, 43% of them not done yet with the processing and 11% of them are finished processing their health certificates.

Table 3. CORRELATION The table above shows that the respondents are aware that hand washing is important thus they were able to moderately apply hand washing before and after handling foods so as in the fact that they know that insects landing on food may cause food illnesses to their customers that is why they prevent insects from landing on foods

they are selling and on the fact that personal towel and utility towel should be separated where in they do separate their utility towel and personal towel. The respondent's awareness on the importance of having a clean food stand is weak same is through in the awareness of having clean source of water. Respondents are not aware that being sick with cough and colds may cause illnesses to their customers. | Level of Awareness | Application | Pearson correlation | | Hand washing is important for those people who | I wash my hand before and after handling |. 040(No Correlation) | | handle food. | food. | Sig.(2-tailed) . 571 | | | | | Being sick with cough and colds may cause | I still prepare food even if I have cough|-. 057(No correlation) | | illnesses to your customers. | and colds. | Sig.(2-tailed) . 422 | | Insects landing on food may cause illnesses to | I prevent insects from landing on the |. 335(Moderate) | | your customer. | food I am selling | Sig.(2-tailed) . 000 | | It is important to have a utility towel and | I have personal towel and utility towel |. 392(Moderate) | | personal towel separated | separated | Sig.(2-tailed) . 000 | | It is important to have a clean food stand. | I keep my food stand clean |. 132(Weak) | | | | Sig.(2-tailed) . 063 | | It is important to have a clean source of water. | I always have a clean source of water |. 131(Weak) | | | | Sig.(2-tailed) . 066 | | | | | |

Table 4. Hand washing is important for those people who handle food. | | Model | Unstandardized| Standardized | | | Coefficients | Coefficients | The table shows that the awareness of the importance of hand washing to those who handle food has no relation to washing of hand before and after handling of food. The respondents do not apply hand washing before and after handling of foods. | Table 5. Being sick with cough and colds may cause illnesses to your customers. | | Model |

street of Baguio City. This does not include those stands with proper authorization from the government. Only few of the street food vendors in Baguio City are observing proper hygiene and sanitation practices. They are somewhat aware that proper hygiene and sanitation practices should be observed and improper hygiene and sanitation would cause illnesses to their customers but they were not able to apply those practices to make their products clean and safe to eat. Majority of the street food vendors were not able to process their health certificate which is very important to all food handler that signifies cleanliness and safety so thus, it mean that food being sold at street levels are not safe to eat. We have observed that the brush used for applying the margarine for the Sweet corn which is one of the products being sold at street levels can cause diarrheal diseases because we are not sure that this tool is being soaked with warm water or boiling water and a soap to remove excess margarines. We have seen a lot of street vendors are located nearby the terminal of jeepneys that causes another issue or problem regarding on food safety and sanitation. The foods are exposed to smokes coming from the jeepneys. Another concern is that majority of the street food vendors doesn't have any business permits which means they are not legal to operate their business. Majority of them do not wear aprons, hair net and gloves. They do not have someone to accompany them to receive money so that their hand would not be contaminated with the bacteria coming from it.

4. RECOMMENDATION It is highly recommended that the next researchers should not only depend on the questionnaires or interviews that they will be conducting among the street food vendors. But should also rely on their observations during the course of the interview

because in some cases street food vendors don't give out information on how they prepare the food that they are selling. We would also like to suggest that the next researchers study on street food vendors that have higher educational attainment so that we would be able to know and compare whether they really apply proper hygiene and sanitation than those who have lower educational attainment. We would also like to advise that customers who are fond of eating streets foods should be more careful on possible food illnesses that they may acquire. This term paper would also like to recommend that every food handler should undergo a basic training in food hygiene and safety. This is to ensure that they will follow the required rules for proper hygiene and sanitation. The government should invest in street food industry that provides employment to people. Through the ministries of Health and Local government, legislation should develop to recognize the street food industry by developing code of practice for street food vending. The local government should consider the establishment of street food centre's with adequate facilities and utility services. Such centre will provide an environment for storing, preparing and serving safe food. They must provide the necessary utilities such as portable water source, drainage and solid/water disposal, provide conducive environment for consumers to be served with safe food and provide good setting for the relevant authorities to conduct information, education and training programs for vendors and consumers. And spread the information regarding of proper hygiene and sanitation to all people that will add their awareness.

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REVIEWED ARTICLE No. 7 HYGIENIC AND SANITARY PRACTICES OF VENDORS

OF STREET FOODS. JAN F. R. LUES, MPELI R. RASEPHEI, PIERRE VENTER, & MARIA M. THERON School for Agriculture and Environmental Sciences, Central University of Technology, Free State, Comfort O. Chukuezi, Food Safety and Hygienic Practices of Street Food Vendors in Owerri, Nigeria Ayeh-Kumi PF, Vol 32 (No. 1) June 2009 THE JOURNAL OF TROPICAL MEDICINE AND PARASITOLOGY J Trop Med Parasitol. 2009; 32: 1-8. ORIGINAL ARTICLE Prevalence of Intestinal Parasitic Infections among Food Vendors in Accra, Ghana Mr. A. LAntwi, personal communication Oct. 2005 KMA director for Sanitation and Environmental Health. O. Chukuezi, Studies in Sociology of Science Vol. 1, No. 1, 2010, pp. 50-57 ISSN 1923-0176 50 Food Safety and Hygienic Practices of Street Food Vendors in Owerri, Nigeria

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the time we had to sacrifice to give way on this task. This research wouldn't be possible if we had no teamwork and cooperation, all of us had contributed well on this work and we are grateful that we had overcome all the problems, difficulties, troubles that we had to face in completing this task. APPENDIX |

Table 10. ANNOVA Table on the significant of Level of awareness and application of hygiene and sanitation by age. | | | | | N | % | | Cases | Valid | 20 | 100. 0 | | | Excludeda | 0 | . 0 | | | Total | 20 | 100. 0 | | a. Listwise deletion based on all variables in the | | procedure. | | Reliability Statistics | | Cronbach's Alpha | N of Items | | . 720 | 12 | Final Reliability Test [DataSet1] H: Results. sav Scale: ALL VARIABLES | Case Processing Summary | | | N | % | | Cases | Valid | 198 | 100. 0 | | | Excludeda | 0 | . 0 | | | Total | 198 | 100. 0 | | a. Listwise deletion based on all variables in the | | procedure. | | Reliability Statistics | | Cronbach's Alpha | N of Items | | . 728 | 12 | ----- Profile Educational Attainment DV Practices in food Handling IV Self Awareness