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The Roles of NGOs in Skill Development of The Street Food Vendors for Hygienic Food Preparation and Serving in Bangladesh

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ABSTRACT

This paper tried to explore the roles of non-government organizations in developing the skills of street food microentrepreneurs in health and safe food preparation and servicing in the western part of Bangladesh. The study utilized a qualitative approach, using a purposive sampling method to select respondents for in-depth interviews, key informant interviews, and focus group discussions. The street food vendors and stakeholders were selected from the project team, and the research tools included in-depth interviews with 20 vendors, interviews with 8 key stakeholders, and two focus group discussions with customers and entrepreneurs. The researcher discovered that NGO plays a critical role in skill development for street food vendors in Bangladesh. Prior to the project, vendors were unfamiliar with safety, hygiene, cleanliness, and sustainable promotion. The project improved their skills in safety and security, market promotion, hygiene maintenance, cleanliness, and sustainable development by implementing various activities like training, meetings, workshops, food festivals and fairs, market linkage, stakeholder involvement, online and offline market promotion, and so on. The project also increased restaurant customers and market creation. However, the study found that food safety NGO workers and street food programs have collaborated to raise awareness about food safety, health, hygiene, and environmental issues. These initiatives have improved health and lifestyles, improved food quality, increased client numbers, and increased business profits. The stakeholders gathering in Bogura and Rajshahi focused on promoting product certification, with some microenterprises pursuing it. Microenterprises received work-based training on food safety and hygiene, leading to advancements in food packaging, safe raw materials, cleanliness, and hygiene practices. Product certification training increased stakeholders' understanding of the importance of certification, and some MEs are now following it. The NGO organized a fair to highlight reputable food businesses and raise awareness of environmental sustainability, hygiene, and food safety. The entrepreneurs know how to prepare healthy dishes, increasing sales and revenue. This awareness have been raised due to the NGO's interventions implemented for street food vendors in the study area.

INTRODUCTION

Street food indicates the broad range of prepared foods and drinks that are sold and occasionally cooked in public areas. According to Kosek *et al.* (2003), street food can be eaten right immediately or moved to another location. Von and Makhoane (2006) define street-vended foods as foods and beverages made and/or sold by vendors in streets and other public locations for consumption immediately away or at a later time without additional processing or preparation. Around the world, selling street food is a common practice in big cities like Mexico and Bangkok (Walsh, 2014). In urban locations, street meals are typically found in concentrations around taxi ranks, train stations, bus terminals, hospitals, universities, and places of employment. Street food vendors are a regular feature of life in many nations, and in Ghana, they are highly visible. Millions of people from all walks of life can now acquire competitively priced food and provide support for street vendors thanks to the growth of the street food sector (Walsh, 2014). It also plays a vital role in many countries' cities and towns in satisfying the needs of their urban residents (Ruel *et al.*, 1999). Ghana is not

an exception to the global trend of the rapid growth of the street food industry. It is widely known that street foods, served at reasonable costs to lower- and middle-class, and occasionally high-income, groups worldwide, play a vital socio-economic role in terms of women's income and employment opportunities (Henderson, 2010). Furthermore, Tinker (1997) notes that the street-food industry is acknowledged as a significant economic and sociocultural phenomenon and has been taking on new forms in developing nations. Since most street food sellers do not have registered enterprises, street food vending is considered informal. They are often tiny in size and operate out of houses, sidewalks, or unofficial spaces (Valodia, 2001). Idowu and Rowland (2006) also pointed out that, despite the fact that millions of people rely on street food as a source of both sustenance and a means of subsistence, there is a belief that, by its very nature, contamination occurs. According to a WHO research (Hrbek *et al.*, 2014), 74% of African countries' urban food supplies include a significant amount of street food. For food control officers, the hygienic aspects of vending operations are a primary issue. For instance, running

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water cannot always be available, and stands are frequently rudimentary constructions. Toilets and sufficient laundry facilities are also infrequently accessible. Washing hands, plates, and utensils in buckets or bowls is common practice. In places where there is no systematic sewage disposal, insects and rodents may be drawn in and disinfection is not typically performed. Furthermore, food is frequently without refrigeration and is not sufficiently shielded from flies (Mensah *et al.*, 2022). Food-handling employees are crucial to maintaining food safety along the chain of food production and storage, according to Nunes *et al.* (2010). Food vendors' carelessness and mishandling of hygiene protocols could allow harmful germs to get into contact with customers, thrive, and grow to the point where the customer becomes unwell (Martinez-Tome *et al.*, 2000). But by the start of the twenty-first century, a sizable fraction of Bangladeshis were open to eating outside of their homes, particularly if it was available on the street, which they welcomed more than meals from restaurants. Behind this ingrained behavior were certain conditions. Among the most significant concerns was the ease of access to street food. However, the majority of the vendors lacked formal training in proper food handling, sanitation and hygiene, and the use of potable water. They were also mostly ignorant. For this reason, eating meals on the street was thought to pose a serious risk to the public's health (Bhowmik, 2010). Additionally, foodborne infections of microbial origin that pose a serious threat to public health have been linked to street food (Biswas *et al.*, 2010; Tabashsum *et al.*, 2013; Mamun *et al.*, 2013). A survey revealed that over 30 million individuals in Bangladesh suffered from foodborne illnesses annually. There were advantages to street food in addition to its drawbacks. In addition to meeting dietary and nutritional needs for lower- and middle-class families at extremely low costs, street foods made significant contributions to the nation's economy and were highly valued for their distinct flavor, taste, and benefits (Ackah *et al.*, 2011; Cross and Morales, 2007; Muzaffar *et al.*, 2009). In addition, the vendor was prepared to provide their clients with ready-to-eat food and drinks that they could either prepare at home or right there on the sidewalk and eat while strolling down the street (Rane, 2011).

It was discovered in Bangladesh that younger people had a greater propensity than adults to eat street cuisine. Since street food is becoming more and more popular, the government and food safety organizations must act to ensure that the public has access to sanitary food, as it is a major source of income for many lower-class and middle-class households (Shah *et al.*, 2021). The Bangladeshi economy's thrust subsector is increasingly becoming street food. For many, these serve as a source of livelihood and are an essential supply of food and nourishment for those with poor incomes. Bangladesh's population growth has resulted in a rapid expansion of the street food industry, including the emergence of an unregulated street food sector. They are more well-liked in divisional cities than in practically all of the districts.

However, because they are so difficult to make at home, street foods are immensely appealing in wealthy nations. People prefer consuming street food over home-cooked food because of their fast-paced lifestyles. Schoolchildren, college and university students, office-going people, and even households purchase street food. Furthermore, the physical environment of those locations is conducive, and the street food is clean. However, the general public in poor nations like Bangladesh occasionally dislikes street food since it is filthy and unhealthy. Extremely high levels of dust in the air and on the streets have a negative impact on the environment. Despite being aware of the unclean nature of street food, individuals nevertheless prefer to eat it out of habit and taste. Furthermore, it is anticipated that in the near future, its potential would greatly expand (Islam *et al.*, 2017). In this connection, this paper tried to explore the roles of non-government organizations in developing the skills of the street food microentrepreneurs in health and safe food preparation and servicing in the western part of Bangladesh.

Street Food in Bangladesh

Due to its accessibility and cost, street food is a popular option in Bangladesh, particularly for those with low incomes (Sanin *et al.*, 2022). Studies, however, have raised serious questions about the safety and microbiological purity of the nation's street food supply. Colistin-resistant *Escherichia coli* with the *mcr-1* gene has been found in street food samples, water, vendor hand rinse samples, and even in the guts of healthy people in Bangladesh (Johura *et al.*, 2020). This research emphasizes the possible health hazards connected to eating certain types of street cuisine. Additionally, studies have shown that street food vendors in Bangladesh frequently don't have the necessary skills, attitudes, or behaviors when it comes to food safety (Hossen *et al.*, 2021; Abid *et al.*, 2022). There are difficulties in guaranteeing the proper preparation and handling of these food items due to the fast urbanization and rising demand for street food (Hossen *et al.*, 2021). Additionally, research has revealed a high frequency of antibiotic-resistant Gram-negative bacteria in foods sold on the street, raising serious concerns for the nation's public health (Alim *et al.*, 2022; Meem *et al.*, 2022).

Moreover, Hassan *et al.* (2019) have documented the presence of pathogens like *Salmonella* in street foods, indicating a potential risk of foodborne illnesses for consumers. Additionally, studies have established the link between street food consumption and health issues like hepatitis A, underscoring the need for enhanced food safety measures in street food preparation and vending (Rashid *et al.*, 2022). Overall, the street food sector in Bangladesh faces critical challenges related to food safety, hygiene, and the prevalence of antibiotic-resistant bacteria. Addressing these issues requires comprehensive efforts to enhance food safety knowledge among vendors, improve hygiene practices, and implement stringent regulations to safeguard public health.

Street Food Vendor

In many nations, street food sellers are quite important because they offer quick and reasonably priced food options, especially in cities. Nonetheless, there are issues with food safety and hygienic standards among street food vendors all over the world. Research has indicated that although consumers and vendors share a good understanding of food safety (Ma *et al.*, 2019), there are gaps in the vendors' actual application of safe food handling procedures. For example, a study conducted in Ghana found that street food vendors face difficulties with safety and hygienic conditions in preparation and sale areas (Haleegoah *et al.*, 2020). According to research, street food sellers can improve food safety procedures and lower the frequency of foodborne illnesses by participating in education and training programs (Sabbithi *et al.*, 2017). Furthermore, research has demonstrated the significance of elements like availability of handwashing stations and adequate sanitation in guaranteeing food safety for street food vendors (Bereda *et al.*, 2016). To stop foodborne illness outbreaks, it is essential for vendors to comprehend and follow food safety procedures (Htway & Kallawicha, 2020).

Moreover, the COVID-19 pandemic has brought attention to the spread of pollutants through street food practices, emphasizing the need for improved hygiene and sanitation knowledge among vendors (El-Latif & Abouelenein, 2020). Research has demonstrated the effectiveness of educational interventions in enhancing the knowledge and awareness of food safety among street food vendors (Karunapema, 2021). While street food vendors play a significant role in the food supply chain and local economies, there is a pressing need to address food safety and hygiene practices among vendors globally. Education, training, access to facilities, and regulatory support are essential components in improving the overall safety of street food vending operations.

Hygienic Street Food

In poor nations, street food is a major source of protein and energy for people's diets (Steyn *et al.*, 2013). On the other hand, there are issues with street food's hygienic and safety conditions. Research has indicated that there may be a lack of appropriate food safety knowledge and practices among street food vendors and customers (Ma *et al.*, 2019; AlHazmi *et al.*, 2021). The idea of unclean street food is influenced by various elements, including unfavorable weather, a lack of understanding about food preparation, and improper handling (Jores *et al.*, 2018; Nurudeen *et al.*, 2014). It is needed to make efforts to address these challenges. Research has focused on developing models for street food vending that incorporate guidelines for hygiene and safety, aiming to provide healthy and safe food options for consumers (Hill *et al.*, 2019).

Additionally, studies have highlighted the importance of education and awareness among both vendors and consumers to improve the quality and safety of street food (Hanan *et al.*, 2021). Implementing and scaling up models

like the healthy plate model have faced barriers related to policy, food production environments, and individual obstacles (Kagaruki *et al.*, 2022). Along with this, microbial contamination in street food remains a concern due to factors such as low education levels, poor hygiene practices, and inadequate sanitation (Adzhani *et al.*, 2018). The COVID-19 pandemic has also raised awareness of the need for proper hygiene practices among street food vendors to prevent the spread of pollutants (El-Latif & Abouelenein, 2020). Overall, while street food offers convenience and affordability, ensuring its safety and hygiene requires a concerted effort involving education, regulation, and improved practices among vendors and consumers alike.

NGO in Street Food Development

NGOs are essential to the skill development of street food vendors because they offer them help and training to improve their food safety procedures, commercial acumen, and general standard of living. According to research, street food vendors play a crucial role in many developing nations' food supply chains (Okojie & Isah, 2014). Scholars have emphasised the need of providing training programmes to street vendors in order to improve their proficiency and understanding of food safety (Ma *et al.*, 2019; Jores *et al.*, 2018). These programs are essential to ensuring that the food sold by street vendors is safe to eat and that hygiene regulations are followed (Monney *et al.*, 2013). Furthermore, research highlights the need of augmenting the abilities and proficiencies of street food sellers via instruction, dissemination of knowledge, and infrastructural assistance in order to enhance their output and competitiveness (Nilakusmawati *et al.*, 2019). Such initiatives to empower street vendors and increase their economic options might be implemented with assistance from NGOs. Furthermore, the expansion and sustainability of street food enterprises might be enhanced by NGOs' participation in the provision of financing opportunities (Mahopo *et al.*, 2022).

Furthermore, street food vendors' role in maintaining food accessibility for consumers, especially in urban areas, is critical during economic transitions and changes in food retail policies (Huynh-Van *et al.*, 2022).

NGOs can champion the acknowledgement and backing of street food vendors, guaranteeing the preservation and appreciation of their contributions to the local economy and food culture. By offering educational interventions and capacity-building initiatives, NGOs can help street vendors comply with technical and hygienic requirements, ultimately enhancing the overall quality and safety of street food (Wickrematilake *et al.*, 2022). Specifically, the collaborative efforts of NGOs, government officials, and policymakers are essential in promoting the skill development, food safety practices, and socioeconomic well-being of street food vendors. By investing in training programs, microfinance opportunities, and infrastructure support, NGOs can empower street vendors to thrive in their businesses while ensuring the safety and quality of the food they provide to consumers.

METHOD AND MATERIALS

The study followed qualitative approach to meet the objectives of the study. The methodology also included a statistically reliable and acceptable sampling method and estimation, as well as an appropriate study method. However, the researcher used innovative ideas where needed in the scope of the study. The researcher also used purposive sampling method to select respondents for in-depth interview, key informant interview and focus group discussion. The list of the street food vendors and stakeholders were collected from the project team who implemented street food project in the study area. The following methodology and research tools were applied during the study: a) In-deep interview with the 20 street food vendors were conducted; b) Interviews with the 8 key stakeholders; c) 2 FGD with the customers, entrepreneurs. A total of eight key informants were interviewed to fulfil the research objectives.

RESULT AND DISCUSSION

Growing Awareness of Food Safety, Cleanliness, the Environment, and Health

Together with the street food initiative, the food safety NGO workers organized a number of community-level awareness programs. There were about fifteen to twenty people present at each gathering. These community meetings had as their main goal raising awareness of food safety, health issues, hygiene, and environmental issues. In addition, the community members received training regarding the various ailments that might result from eating tainted or dangerous food. The community members have gained important knowledge about food safety, hygiene, environmental awareness, and health habits as a result of these programs. Their ability to implement this newly acquired knowledge in their daily lives has greatly improved, which has finally resulted in better health and a healthier way of life.

In addition, as manufacturing safety and security are closely adhered to, food quality improves, client numbers rise, and business profits rise accordingly. Furthermore, good food safety and hygiene procedures avoid potential health risks associated with food contamination. They stop the manufacture of contaminated food. In cooperation with the project, the NGO staff planned a two-day awareness campaign about food safety, the environment, health, and hygiene. Because the activity raised awareness of the value of producing food in a safe environment, preserving food safety increased demand, which eventually translated into profit for the businesses. Additionally, the health problems that the patrons had from eating tainted food can be remedied. Therefore, it can be concluded that preserving a healthy environment for food production is a practice that the MEs, including the community, may be aware of and sustain.

Make Sure the Product is Certified

A stakeholder gathering with the objective of promoting product certification took place in Bogura. The

BSTI (Bangladesh Standards and Testing Institution) representative and the NGO staff had multiple conversations regarding the food product certification process. Other subjects discussed during the meeting included determining which items need to be certified, how to get certified, and how much it will cost to get certified. A significant portion of microenterprises (MEs) exhibit a serious interest in obtaining the appropriate certification to run their business in an ethical and lawful manner, indicating that they are well-informed about the notion of certification. Some MEs have taken the lead in pursuing product certification for their own street food companies after attending an advocacy conference concerning the certification of products. Additionally, a product's accreditation contributes to gaining the confidence of buyers. It helps to ensure the credibility of the products and increase their acceptance by their customers. A notable number of MEs were observed taking the initiative to pursue product certification for their respective street food businesses, and the number of MEs may increase with time. As such, the impact of the activity will be considered sustainable.

Work-Based Training on Food Safety and Hygiene

The street food project organized a number of courses on food safety and hygiene for microenterprises (MEs). Four training sessions were held, with the NGO workers conducting the courses in both Rajshahi and Bogura. At most twenty-five people showed up for each training session. The MEs received thorough training from the safe food NGO staff, which covered a wide range of food safety topics and emphasized the value of upholding personal hygiene. Additionally, during the training sessions, the NGO workers received assistance from a food safety officer from the Bangladesh Food Safety Authority's (BFSA) office. The inspector went over the principles established by the BFSA for food production and business, emphasizing the advantages of following food safety protocols, including using safe raw materials, guaranteeing water safety, and upholding personal hygiene standards like hand washing. The training sessions had a significant impact on the awareness and behaviors of microenterprises (MEs). Their heightened awareness of and adherence to food safety protocols is indicative of this influence.

The MEs have demonstrated progress in areas like food covering, the use of safe raw materials, making sure that safe drinking water is used, cleanliness, improving hand washing facilities (including soap and water), and using masks, aprons, and hairnets more frequently to maintain hygiene standards. Furthermore, food safety encompasses all necessary procedures that establishments must adhere to when handling, preparing, processing, storing, and distributing food. Food safety precautions lessen the possibility of contamination and shield consumers from food-related illnesses and injuries. Similar to during the training, the NGO staff attempted to persuade the MEs of the value of food safety and hygiene, and since the

MEs are observed to follow through on this, it can be assumed that the MEs in the project area will continue to carry out the activity.

Training on Product Certification and Awareness-Building

The goal of product certification training is to increase the awareness and accountability of MEs operating street food companies in Rajshahi and Bogura. The goal of this action is also to increase stakeholders' understanding of the significance and need for food product certification. As a result of this activity, the street food entrepreneurs' interest in understanding the advantages and necessity of obtaining product certification for their businesses has grown significantly thanks to the influence of the NGO workers. A certificate also serves as written documentation that a good or service satisfies specific quality standards. It enables customers to choose between various goods and services with more knowledge. The MEs learned about the significance of their product's certification during the training. It depicts the MEs receiving their lunch certificates. The MEs in Bogura and Rajshahi seem to be monitoring the activity since it is so important; to put it another way, the MEs want to eventually obtain certificates for their products.

Training on Food Processing and Management

The employees of the Safe Food NGO held two training sessions on food management and processing in Rajshahi. Twenty people in total attended each session. The personnel from the food safety NGO gave lessons on a variety of topics related to food processing, preservation, and management throughout the training. Additionally, there were hands-on culinary demonstrations, highlighting the significance of personal hygiene, safety precautions, and food safety protocols. The personnel of the NGO also instructed the trainees in various food preservation techniques. Microenterprises (MEs) now have the capacity to safely prepare a variety of foods and present them in a suitable way, thanks to the training. They are actively using the information and abilities they learned throughout the program to improve their own companies.

With the right preservation methods, food can be kept fresh for long periods of time without losing flavor or aroma, according to the MEs. Their expertise in food management boosts the reputation and notoriety of their street food businesses. Furthermore, any technique used to transform fresh components into food products is referred to as food processing. This can involve any number of the following procedures, among many others: cleaning, chopping, freezing, fermenting, packaging, cooking, and pasteurization. Food management or preservation following processing is something that requires careful consideration. In the previously described exercise, the MEs learned about the handling and production of food in their businesses. The MEs hope to implement the training's lessons in their businesses, which holds significance in and of itself.

Visiting the Food Fair and Knowledge Sharing

To demonstrate how safe food stores or enterprises run, the researched NGO arranged a food fair in Bogura. A variety of food varieties were on display at the fair, with an emphasis on the need to keep them covered, use eco-friendly packaging materials, use safe raw ingredients, and put safety precautions like masks, aprons, hairnets, and hand gloves in place. The food fair's main goal was to increase the locals' awareness of food safety, hygiene, and environmental sustainability while also educating them about the MEs' dedication to creating food that complies with all safety regulations. The personnel from the safe food NGO visited every stall throughout the event to watch the MEs' food production procedures. The NGO employees conversed with the entrepreneurs in an active manner about their present production, sales, and profitability, as well as the processes by which they produce food. The MEs also used the occasion to talk to the NGO staff about other issues they were worried about, including production difficulties.

In response, the NGO staff gave the microentrepreneurs advice on how to raise the standard of their food in a way that was both hygienic and sustainable. The NGO employees taught the businesses many useful things, such as how to expand the range of products they offer and how to get better access to markets. The safe food NGO workers' active participation in the food market has had a significant impact on the street food vendors. It has inspired them to take a more cautious and responsible approach to the management, marketing, and production of food, guaranteeing the safety, variety, and quality of their food items. The entrepreneurs have prioritized these areas and taken the necessary steps to reach the needed standards due to the direct involvement of NGO personnel. Furthermore, the term "festival benefit" refers to the highest value that individuals attach to the knowledge and experiences they have obtained from watching or taking part in events and interacting with festival settings. The MEs who took part in the food expo had the good fortune to learn from one another and appeared to incorporate what they learned into their businesses. Attending a food market will have a long-lasting effect.

Professional Chef Training

In Rajshahi, the NGO employees arranged a six-day professional training program. The training's primary goals were to teach entrepreneurs how to prepare a few popular foods in a healthy way and how to use the knowledge they gained from the program to enhance their quality of life through business applications. The NGO employees mostly concentrated on a few favorite foods that already had substantial market demand during the six-day training. Fourteen food items—chowmin, noodles, fuchka, chicken cutting, chicken patties, yogurt fuchka, veggie burgers, pani fushka, maton halim, Thai soup, chicken soup, pani puri, pickle preparation, etc.—were prepared with the beneficiaries hands-on. The

purpose of this program was to help the entrepreneurs further their businesses by applying the knowledge and skills they learned to food production and incorporating them into their current food offerings.

ME had a major change in her life during the six days of training. They have acquired the skill to cook a few delectable dishes that are in high demand and popular among the residents of the project area. The MEs' business grew as a result of learning about new culinary items. There are more people shopping and dining at the establishment. Consequently, the businesses saw a surge in sales, which raised the MEs' revenue. Additionally, six days of "Professional Chef Training" have taught small company owners how to make certain popular cuisine dishes. Because of the rising need for fast food, it will be sustainable. People occasionally consume fast food. As a result, the MEs will keep producing these foods, and if they provide wholesome, delicious meals, their clientele will be more receptive.

CONCLUSION

The street food business owners received active assistance from non-governmental organizations (NGOs) to improve food quality, production, safety, processing, management, personal hygiene, and ecologically friendly practices. The stakeholders and MEs are knowledgeable about hygiene, health, the environment, and food safety. A considerable proportion of microenterprises (MEs) possess knowledge regarding certification and have a significant inclination towards obtaining appropriate certification to ensure moral and lawful business practices. The MEs have made improvements in areas including making sure food is sufficiently covered, utilizing safe raw materials, keeping drinking water safe, and adhering to cleanliness regulations. Microenterprises (MEs) have become adept at handling different kinds of food and using the right preservation methods in a safe manner. MEs are driven to prioritize the quality, diversity, and safety of their products and to take a conscientious and responsible approach to food production, management, and marketing. MEs have acquired expertise in making 14 popular fast food varieties while upholding a clean and safe atmosphere. Through the experience exchange tour, MEs have gained firsthand knowledge of several aspects of the field, such as how well-known restaurants ensure food safety, provide a safe working environment for employees, handle customer service, and so forth.

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