HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP) CERTIFICATION OF MICRO AND SMALL SCALE FOOD COMPANIES IN THE PHILIPPINES

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Abstract

A review of the country's micro and small scale food companies revealed that Hazard Analysis Critical Control Point (HACCP) implementation and certification is hindered due to common issues problems and gaps also experienced by some neighboring countries such as limited financial capability, lack of prerequisite program such as hygiene and sanitation in the factory, limited HACCP knowledge and technical competence, proper training, lack of external support from the government and industry associations, management problems like commitment, motivation, and interest in the long term benefits of HACCP to the company, and lack of government infrastructure and support. Initiatives done by the government to assist small scale food industries through the Department of Trade and Industry Accreditation Program is one way to encourage voluntary HACCP certification in the food industry. Other HACCP interventions done by the government were cited. Challenges and problems encountered should never hinder the small scale companies' aim to upgrade its food safety systems. With adequate knowledge

and expertise, strong government support and commitment, the companies' will and interest to adjust to EU and US food legislations, HACCP implementation in small scale food companies will be achieved and will open avenues to product quality improvement, ensured consumer protection, export opportunities and profit maximization.

Keywords

HACCP, micro and small scale food companies, GMP

1. Introduction

Micro, small and medium enterprises in the Philippines are important sectors in the country that dominate the economy and account for almost 99.6% of the total number of establishments (Adalba, 2005). Limitations relating to the financial, technical, human resources constraints in small organizations of the food sector are among the serious hindrances to the implementation of the HACCP principles in small scale food businesses (FAO/WHO, 2006). The existing food audit systems by food hygiene inspectors in the local government units for commercial food services are still entirely based on a walk-through assessment of Good Manufacturing Procedure implementation (Azanza, 2004). HACCP implementation is still voluntary for small scale food companies except for fish processing establishments which export to EU and the US but there is an increasing trend in the number of HACCP-certified establishments most of which are export-oriented establishments. HACCP certification difficulties in micro and small scale food manufacturing companies are due to a number of internal and external factors such as lack of management commitment, hygienic practices, awareness and expertise, proper mindset and behavioral outlook, limited financial and lack of governmental infrastructure and support (FAO, 2004).

This paper sought to review and analyze the food safety issues, gaps, problems, challenges and present scenario of HACCP implementation in the Philippines. It is also the objective of this study to review the HACCP initiatives and interventions done by the government of the country and that of neighboring countries.

2. Micro and Small Scale Food Manufacturing Companies in the Philippines

Small-Scalle Food Manufacturing Companies in the Philippines SMEs dominate the

economy and account for almost 99.6% of the 761,409 establishments in 2008 (Adalba, 2005). In a survey conducted by Capanzana, *et al.* (1999), the industry was estimated at 4,914 firms of which 90 percent or 4,400 firms are of micro, small or medium scale in size. Philippines has two operational definitions of SMEs (Small & Medium Enterprises) based on employment, and assets (Adalba, 2005). Based on financial assists, it is quite clear that small scale food companies cannot afford to hire adequate number of personnel needed and the upgrading of production and food safety system is secondary.

Table 1**:** *Classification of Philippine Enterprises According to Employment and Assets*

Enterprise	Number of Employees	Financial Assets (PhP)
Large	More than 200	100 million or more
Medium	100-199	15-100 million
Small	10-99	3-15 million
Micro	1-9	3 million or less

SMEs contribute to job generation in the country, generating seventy percent (70%) of total employment in the country (DTI, 2013). SMEs played a major role in employment generation. Only 30% of total employment is provided by large organizations in the Philippines. The food processing industry is one of the important sectors of the Philippine economy that converts most of the country's agricultural produce to new value-added products and provides employment to about 335,000 people, which was the highest among the manufacturing sector in 1995 (Bureau of Small & Medium Business Development , 2001). The industry is composed of establishments engaged in the processing, preserving/curing, canning, drying, freezing or smoking of food products. The food industries in the Philippines is composed of the following major sectors: cereal products, bread and other bakery products, beverages, dairy products, processed fruits and vegetables, processed fish and other marine products, processed meat and poultry, processed coffee and cocoa products, confectionery products and sauces, spices and other ethnic foods (Vito, 2005) .

There are about 5,000 registered food manufacturing establishments in the country, accounting for 25% of the total manufacturing sector (Chavez, 2006). Most (90%) are small and medium enterprises, with the 10% large establishments producing about 90% of the output. Most small and medium food manufacturers are family-owned and are managed as single

proprietorship but are registered corporations with family members (Chavez, 2006). HACCP certification in the Philippines is still voluntary for small scale food companies and for establishments which export to EU and the US, HACCP implementation is a mandatory accreditation program (Yeap, 2003). Thus, some small food companies that do not have future plans to export their products delays HACCP implementation due to cost, difficult certification process and cumbersome document preparation. But for food safety of all Filipino people, the government should have the strong will to require GMP and HACCP for all food companies regardless of their size or financial standing whether they export or not.

3. HACCP in Philippine Small Scale Industries- Issues, Problems and Gaps

The existing system of Food Audits conducted by food hygiene inspectors in the local government units for commercial food services like school and work places in the Philippines are still entirely based on a walk-through assessment of Good Manufacturing Procedure or GMP implementation (Azanza, 2004). A study on Global competitiveness of small scale food industries products' revealed that products are detained due to (1) presence of filth and decomposition (2) improper process for low acid foods; (3) labeling violations (4) non-declaration of some additives (5) use of prohibited additives(6) microbiological standards not met; and (6)presence of chemical hazards (Chavez, 2006). Most of the reasons for detention cited were related to the manufacturing practices of the processor.

HACCP implementation in the Philippines is still voluntary for small scale food companies except for fish processing establishments which export to EU and the US which have to comply with a mandatory accreditation program for HACCP implementation (Yeap, 2003). Nevertheless, there is an encouraging trend in increasing number of establishments that are HACCP-certified, most of which are export-oriented establishments. From only 9 HACCP-certified establishments in 1995, to date (mid-2003), there are now 67 HACCP-certified establishments (Yeap, 2003). Implementation of an effective HACCP system requires commitment of the management and involvement of every employee in the company. It calls for defining the role and responsibilities of each and every employee managing, performing and verifying work affecting food safety. In FAO report, Philippines is one among the five southeast asana countries with the lowest number of trained food inspectors from both government and private sectors having only 60 inspectors (Baht, 2013) (Table 2). Adequate food inspectors
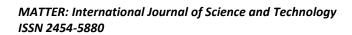
were trained in countries like Japan, Indonesia, China and Malaysia (Baht, 2013). This database only proves that food outbreaks in the country is partly caused by absence or very few food inspectors in the locality. This finding also imply that there is a great need of training food inspectors on the principles of GMP and HACCP to holistically solve the issues and gaps of food safety in the Philippines.

Table 2: *Number of Inspectors trained in HACCP*

Country	Government	Private
Bangladesh	12	10
Bhutan	29	6
Cambodia	4	5
China PRO	1000	800-900
India by EIC	200	700
Indonesia	3100	NA
Japan	100 every year	NA
Lao PDR	45	25
Malaysia	312	NA
Maldives	20	40
Myanmar	28	None
Nepal	NA	NA
Pakistan	NA	NA
Philippines	60	NA
South Korea	423	2000
Thailand	Hundreds	Hundreds

Philippines is not the only country facing dilemmas related to HACCP. In a FAO report, the following are HACCP problems faced by the some countries; in Bangladesh, some food industries are not aware about GMP & there few competent staff, in Bhutan, no HACCP training and its requirements were conducted and there is lack of competent audit officials , in to Cambodia, it was observed that there is no cooperation from various food industries regarding HACCP, in Indonesia, inadequate knowledge and skill of HACCP technicalities, lack of top

management commitment and limited human resources (Baht, 2013). Moreover, the FAO report of Baht (2013) also discussed that in Nepal, there is lack of HACCP certifying bodies and in Pakistan, there is inadequate number of trained inspectors who are well oriented to GMP and HACCP.

4. HACCP Challenges - Certification Problems, Technicalities, other Internal and External Factors

HACCP certification in the Philippines requires the company to hire a certified Food Safety consultant to ensure that all required specifications and documents are appropriate prior to application not mentioning the tedious documentation. Moreover, the company should have a competent and trained food safety officer to regularly check if everything is in place, thus, a lot of SMEs in the country cannot comply in this certification procedure, they remain to be only GMP complaints. It was reported in FAO that emergence of food safety gaps and issues in the Philippines were due to limited funding in the improvement of facilities/infrastructures such as metal detectors and other similar equipment necessary for monitoring CCPs; lack of management support/commitment and lack of understanding of HACCP and technical expertise, HACCP implementation costs, cumbersome documentation/record keeping, difficulty in interpretation by food auditors or Government thus needs further clarification. Common criticisms made by small businesses trying to operate the HACCP system are its requirement for documentations (Taylor, 2001). For many, especially micro-businesses, paperwork of any kind is a burden with verbal communication playing a major role in the successful management of their businesses. The message that HACCP aims to ensure food safety if correctly applied may be sold to small companies and necessary record keeping can be integrated into existing practice with minimal disruption if managers believe it to make good business sense.

In a study of Ragas a et al (2013), firm-level data were collected in 1998 to 2005 from 59 seafood processors located in the Luzon, Vishay's, and Mindanao regions of the Philippines. Of these 59 firms, 15 were cottage scale, 14 very small, 6 small, 15 medium, and 9 large categorized into 17 frozen tuna processors, 10 milkfish, 9 shrimp, 8 canned tuna, and 15 other products (Ragas a, 2013) Based on the survey and interviews, 41 firms that initially received EU HACCP certification, 15 of which were subsequently decertified. The remaining 18 firms in the sample.

Table 3: *Barriers to HACCP implementation*

1. Lack of good hygienic practices as prerequisite program due to ;
1.1 Inadequate location, layout or size of facility
1.2 Non-cleanable structures
1.3 Old non-cleanable equipment
1.4 Poor staff training
2. Lack of awareness and expertise
2.1 Owners/operators may be committed to food safety but unaware of HACCP importance
2.2 Owners/operators know about HACCP, but lack technical competence/ skills to operate an effective prerequisite program;
3. Lack of proper HACCP training
3.1 Workers/managers lack basic food hygiene training
3.2 Workers/managers lack understanding that HACCP is not the sole target but they should understand all relevant hygiene aspects
3.3 Workers/managers lack training that integrates basic hygiene and HACCP principles
4. Lack of external support
4.1 Companies do not have access to consultants that help them identify food process hazards
4.2 Government and industry/trade associations do not provide technical support to companies
5. Human resource problem
5.1 management lacks commitment to invest in staff training due to cost
6. Behavioral problems
6.1 lack of motivation – management do not believe that HACCP would make a difference
6.2 Lack of self -efficacy – management cannot see how HACCP can deliver safer food
7. Financial constraints
7.1 Assistance provided by governments and trade associations is not adequate to affect change
7.2 Lack of evidence of the cost-benefit ratio of the HACCP system
7.3 Lack of data and studies relating to HACCP implementation and its impact on food safety
7.4 Lack of studies/evidence relating to visible benefits of HACCP
8. Lack of government infrastructure and commitment
8.1 Government lacks of external and internal commitment
8.2 Lack of common policy is needed to achieve uniformity among trainers
8.3 Lack of trained food auditors
8.4 Lack of coordination within government structures
8.5 Inconsistencies in HACCP enforcement
9. Legality of requirements
9.1 Companies are not persuaded to implement HACCP because it is not a legal requirement

Never received EU HACCP certification. Ragas a (2013) found out that the initial decision of these firms to HACCP certify appears to be influenced significantly by scale economies and easily observable information such as output prices, access to credit, and institutional pressures from association membership. Other incentive- and capacity-related factors do not appear to have a significant influence. After certification, a firm's decision to continue or discontinue certification at a point in time was influenced by the same set of incentive- and capacity-related factors, but with the availability of additional information concerning realized costs and benefits. As a result decertification decisions appear to be significantly affected by a larger number of revenue, cost, and nonfinancial factors (that is, output price differentials, product and market diversification, input costs, and institutional factors). Found in Table 3 are common problems to HACCP implementation in micro and small scale food companies as identified by FAO (2014).

5. HACCP Initiatives and Interventions Done By the Government

The Department of Trade and Industry initiated a technical cooperation between the government and the food industry to meet international standards for GMP and HACCP through an accreditation Program. This program aims to increase food exports by providing buyers and interested parties with information on local processed food products that meet international requirements for quality and safety. All food manufactures, processors and exporters are invited to apply for HACCP accreditation by just writing to the Food Development Center (FDC) and submit required documents such as HACCP Plan, BFAD License To Operate, to mention a few and after document evaluation, series of plant inspections be conducted prior to release of ratings and findings.

6. Conclusions and Recommendations

There is little doubt that HACCP can bring numerous benefits to the food safety scenario of the country. To conclude, it is important to note that, HACCP implementation problems should not hinder the small scale companies noble aim to upgrade its food safety systems, with adequate knowledge and expertise, strong government support and commitment and a positive outlook on the long term benefits it would bring to the company and the country as a whole, nothing is impossible. For micro and small scale Food Company to successfully implement HACCP, the management should employ a good HACCP team, a competent consultant, start

With one product first to gain experience, prepare required documents and training plan. HACCP implementation in small scale food companies and their adjustment to EU and US legal regulations concerning food hygiene, safety and quality will give them stronger market orientation leading to product quality improvement, ensured consumer protection and increase in production profit.

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