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APPLICATION OF FARM-TO-TABLE OFFICIAL AND NON OFFICIAL FOOD SAFETY CONTROL IN THAILAND: CASE STUDY ON FRESH PRODUCE

(*Prepared by Thailand)*

1) Introduction

Protection of the health of consumers requires effective food safety control systems. These systems must be implemented on the entire chain of food production from farm to table. The control and inspection of the food safety implementation is carried out by two parties, including both the official governmental sector and non-governmental parties associated with the chain of food production. The governmental sector is responsible for legislating the legal framework relating to food production as well as the augmentation of the other sponsoring programs for the food producers. This paper presents examples of the application of food safety control that are the result of cooperation between the official sector and the private food producers on the entire chain of production system of fresh produce.

2) Food Safety Control of Fresh Produce

Fresh produce is a term for fresh agricultural product that is cultivated and delivered to the consumer. In general, the term "fresh produce" refers to fresh fruit and vegetable, of which many of them can be eaten uncooked. However, consumption of uncooked food that was contaminated from food production process can increase the health risk for the consumers. Possible sources of contamination for fresh produce include: 1) chemical contamination such as pesticide residues; 2) heavy metal; and 3) pathogenic microorganisms that may cause food-borne illness. These contaminations may occur at any step of food production ranging from the farm production, preparation, grading/ packaging, market distribution, and even during retail sale to the consumer.

Food safety control can be achieved through the implementation of a safety and appropriate food production system, of which there are principles or guidelines for taking caution in each step of the food production. These frameworks include Good Agricultural Practice (GAP), Good Hygienic Practice (GHP), Good Manufacturing Practice (GMP), and Hazard Analysis Critical Control Points (HACCP). These guidelines are then to be used as a basis for practice for the voluntary non-official fresh food producers participating in the program and for the government authority to monitor and enacting necessary legal action. The food safety control for fresh produce in Thailand is divided into four major categories including:

- Farm
- Grading/Packing establishment
- Exporting
- Retailing

The next section of this paper discusses the food safety system on the aspect of the official and non-official control.

3) Farm

3.1) Official Control

Since 1992,[i] Thailand has enacted and enforced the Hazardous Substance Act which regulates the authorization and registration of pesticides, declaration of pesticides prohibited for registration, importing or selling. The purpose of this Hazardous Substance Act is to provide safety in the application of pesticides for both farmers and consumers. The enforcement of this Act is carried out during the pesticide registration process, which is a step before the pesticide can be distributed or sold. Moreover, this Act empowers governmental officials to control and inspect pesticide at ports of entry, manufacturing plants, and retailers. Thus allowing governmental officials to control the quality of pesticides sold to the farmers while providing safety to the agricultural products and the farmers who use the pesticide.

To protect the health of consumer in Thailand, the Thai government enacted the Food Act in the year 1979.[ii] By the Food Act, the Ministry of Public Health (MOPH) established the Maximum Residue Limits (MRLs) for pesticide residues on each type of food and agricultural produce. The purpose of the enactment of this regulation is to protect the consumer. However, the investigation and the legal action based upon this Act have been directed toward the trading of food rather than the farm which is less pragmatic.

3.2) Non-Official Control

The safety of fresh produce production resulted from the appropriate agricultural practice by the farmers at the farming level. The non-official control is therefore essential for the safety of fresh produce production. Any of the programmes and frameworks that would aid farmers to understand and implement a good agricultural practice is deemed necessary. In this light, Thailand's Ministry of Agriculture and Cooperatives (MOAC) has begun to promote and encourage farmers to comply with GAP guidelines for several years. In the year 2003[iii] the MOAC declared the standard of GAP for Food Crops. The farmers are, then, able to use these criteria in the cultivation to ensure the safety and quality of the food crop. Additionally, the government authority is able to use the GAP for Food Crops as a basis to evaluate the agricultural farm before awarding certification. To enhance the precision of the criteria, the MOAC will declare the standardized GAP for specific economically significant fresh produce such as durian, mango, longan, asparagus, chilli peppers etc.

Thailand's MOAC is in the process of promoting the standardized GAP to farmers all over the country. A large number of farmers have been persuaded to join the GAP. Those who are ready to join the GAP system will then be registered with the MOAC. The GAP system is planned, at present, to target 27 Food Crops. It is expected that there will be registered 325,000 farmers by the end of the year 2004.[iv] Since the increase of the auditing programme for the farmers' standardized GAP, report in June 2004 indicated that 5,225 farmers have been certified. It is projected that the number of certified farmers will reach 56,000 by the end of the year 2004. Hence, the certification process will generate the greater numbers of farmers who engage in appropriate and safe agricultural practices as well as help increase the amount of safe food crop in the market. This, in turn, will further benefit both the consumers and those who engage in business ventures dealing with agricultural products.

4) Grading/ Packing Establishment

4.1) Official Control

The grading and packing of fresh produce can be done at the farm level, by the farmer, under GAP system or at the manufacturing level under GMP system. According to Thailand's Food Act (1979), any grading/packing establishment categorized as a food industry must receive a permit from the Ministry of Public Health (MOPH) prior to the beginning of the production process. To be eligible for the permit, the grading/packing establishment must pass a hygiene inspection performed by an MOPH's officer.

4.2) Non-Official Control

The most important non-official food safety control measure at the manufacturing level is the promotion of GMP and HACCP system. The implementation of these two systems is based on the Codex standards, particularly the Codex General Principle of Food Hygiene and Codex Code of Hygiene Practice for Production and Handling of Fresh Fruits and Vegetables. Accordingly, Thailand's Ministry of Agriculture and Cooperatives has initiated a certification programme for fresh produce grading establishment. Any certified fresh produce grading/packing establishment that passes inspection will receive GMP certification. To further assure the promotion of the total food safety control, the MOAC has encouraged fresh produce grading/packing establishments to create a network between grading/packing establishment and GAP certified farms. This programme also entails the inspection and evaluation of both farms and the grading/packing establishments. There is the collection of samples from both farms and the grading/packing plants for laboratory analysis. Those who pass the standardized evaluation will be certified and allowed to show the mark "Q" Food Safety. Since the augmentation of the programme, there are 35 certified fresh produce businesses thus far.

5) Exporting

5.1) Official Control

On April 11, 2004, Thailand's Ministry of Commerce, in accordance with the "Exporting and Importing Goods into the Kingdom of Thailand Act," declared that 12 economically significant fresh fruits and vegetables must be inspected for pesticide residues prior to exportation to the United States, Japan, the European Community, the Republic of China, Hong Kong, Malaysia, and Singapore. These fresh fruits and vegetables include mangosteen, durian, mango, tamarind, lychee, longan, pomelo, baby corn, okra, ginger, and chilli peppers. The Department of Agriculture (DOA) is designated as the responsible party for inspecting the pesticide residue in the aforementioned fresh produce. The fresh produce exporter is allowed to proceed with the exportation only if the produce passes the inspection by being tested against the standard, and then receives a certification awarded by the DOA. According to regulation, the exporter must contact and inform the DOA prior to exportation. The DOA's officer will collect samples from the exporter's packing house. The collected samples will then be analyzed for pesticide residues. In the past year alone, the DOA has analyzed more than 20,000 fresh produce samples. The results indicate a trend for the overall decrease in contamination levels of samples. The number of fresh produce samples with residues over maximum residue limit (MRL) has declined from nine percent in the year 2003 to approximately four percent in the year 2004. Up until August 2004, none of the exports that passed inspection have been rejected by the destination country. This policy also promotes awareness among both producers and exporters about food safety at all stages of fresh produce production particularly on the control of food safety at the farm level. While this policy has boosted the importing countries' confidence, the cost for residue analysis is substantial and imposes difficulties for exporters. Therefore, the MOAC has decided to employ the non-official control, for exporting, to alleviate the burden of both the government and exporters.

5.2) Non-Official Control

The MOAC's food safety programme for the entire chain of fresh produce production has increased the confidence of importing countries and domestic market in both the chemical and microbiological safety of Thailand's fresh produce. The MOAC has set criteria that, in effect, lessen the burden of residue analysis before exporting the fresh produce; 100% inspection will be truncated to only 10% random sampling inspection for any food safety certified exporter.

6) Retailing

6.1) Official Control

The hygienic and sanitary practice codes for fresh markets, retailers, restaurants, street food vendors are indicated in the Thai's Public Health Act (1992). Moreover, the Thai's Food Act (1979) has provided regulations which specify that the food, including fresh fruits and vegetables, sold in the fresh markets or other retailers must be safe from chemical or microbiological contamination that may cause diseases or health risks to the consumers. The Ministry of Public Health (MOPH) is in charge of the investigation, inspection, and enforcing the fresh markets, retailers, street vendors to comply with the hygienic and sanitary codes. The MOPH also has authority to close down, issue an order, or punish by law any business venture that violates the law. Additionally, the MOPH is authorized to randomly collect samples of food from these businesses to analyze for food contamination that may be harmful to the consumers. Nonetheless, the implementation of these laws rather focuses on the promotion and increase the awareness of the businesses to be cautious of the sanitary and hygienic practice than taking a legal action or pursuing a punishment stated by law.

6.2) Non-Official Control

The MOPH has augmented programs to encourage retailers, restaurants and other food services to take more caution on the practice of food safety and hygiene. The programmes include the inspection and certification to elevate the status of food service business such as:

- "Clean Food Good Taste" programme: This programme started in the year 1999.[v] It includes the all over the country inspection of food services and street vendors on the hygienic and sanitary standards. Since the augmentation of the "Clean Food Good Taste" programme, the MOPH has certified and awarded the "Clean Food Good Taste" mark to more than 30,000 food services, which is almost 30% of the overall food service business.
- The certification of fresh markets programme: This programme entails the inspection of fresh markets for sanitary standards and analysis for the contamination of 6 chemical hazards including pesticide residues. The inspection involves the sampling of food collecting from fresh markets. Any fresh market that passes inspection will be certified and awarded the label of fresh market certification. Fresh markets may then use the label for advertisements. More than 700 fresh markets have applied to join this programme thus far.

7) Conclusion and Recommendations

The food safety control system in Thailand involves the whole chain of food production – from farm to table. The implementation of the control system is the amalgamation of the enforcement and the enactment of supporting programmes from authority, or the official control, and the cooperation of the private sectors or the non-official control which made up of those who deals with food production. The roles of governmental sectors include the promotion and providing various forms of programmes to: promote awareness, educate, train, advise, certify, protect the rights, and give the privilege to the certified participants from business sector. The implementation of food safety control on the whole chain of food production starts from the farm level to the grading/packing establishments, exporting, and retail business.

Recommendations:

- Government should support and encourage farmers to follow GAP guidelines to increase the safety of fresh produce production on the farm. The supporting programme can be done by using both the promotion and the inspection by the authorities themselves as well as by driving force set in motion by the private sector, such as grading/packing establishments and exporters.
- There should be cooperation at both regional and international level to develop and train the GAP implementation. This should include the evaluation and consideration on the practice of GAP in each country, by using the Codex standard as a reference.

- Government should employ the public relation strategy to advertise and educate both domestic and international consumers about farmer certification programmes. This will increase appreciation and acceptance of both the certification systems and the certification marks issued by the government authority.
- Agreement should be made between authorities of trading parties to increase the acceptance of, and build confidence in, exporting country's official and non-official food safety control system.

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[i] 2535 B.E.
[ii] 2522 B.E.
[iii] 2546 B.E.
[iv] 2547 B.E.
[v] 2542 B.E.