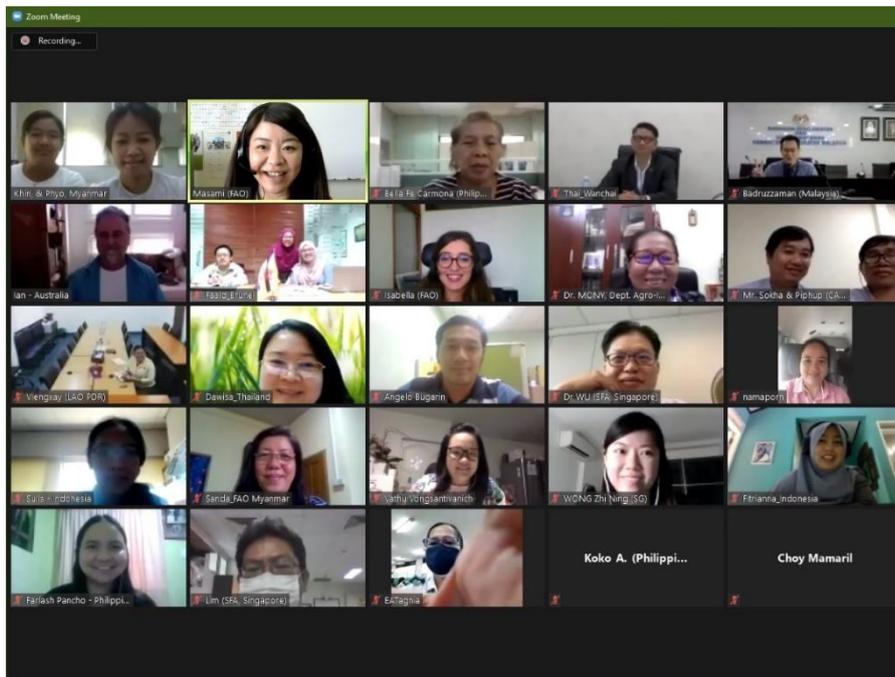




**Food and Agriculture Organization
of the United Nations**

**FAO pesticide residue monitoring project for Association of South
East Asian Nations (ASEAN) countries
Situation assessment
Meeting report
25 August 2020**



**FAO pesticide residue monitoring project for Association of South
East Asian Nations (ASEAN) countries
Situation Assessment
Meeting Report
25 August 2020**

Required citation: FAO. 2020. *FAO pesticide residue monitoring project for Association of South East Asian Nations (ASEAN) countries. Situation Assessment. Meeting report, 25 August 2020*. Bangkok.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO, 2020



Some rights reserved. This work is made available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO license (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this license, this work may be copied, redistributed and adapted for non-commercial purposes, provided that the work is appropriately cited. In any use of this work, there should be no suggestion that FAO endorses any specific organization, products or services. The use of the FAO logo is not permitted. If the work is adapted, then it must be licensed under the same or equivalent Creative Commons license. If a translation of this work is created, it must include the following disclaimer along with the required citation: "This translation was not created by the Food and Agriculture Organization of the United Nations (FAO). FAO is not responsible for the content or accuracy of this translation. The original English edition shall be the authoritative edition. Any mediation relating to disputes arising under the license shall be conducted in accordance with the Arbitration Rules of the United Nations Commission on International Trade Law (UNCITRAL) as at present in force.

Third-party materials. Users wishing to reuse material from this work that is attributed to a third party, such as tables, figures or images, are responsible for determining whether permission is needed for that reuse and for obtaining permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

Sales, rights and licensing. FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org. Requests for commercial use should be submitted via: www.fao.org/contact-us/licence-request. Queries regarding rights and licensing should be submitted to: copyright@fao.org.

Photo cover: ©FAO/Masami Takeuchi

Abstract

The Food and Agriculture Organization of the United Nations (FAO) recognize the need for a comprehensive framework for pesticide residue risk management through science-based risk assessment, management and communication. FAO and Codex Alimentarius Members also recognize that a sound pesticide residue risk management framework does not rely only on residue monitoring but importantly includes pesticide registration, chemical control-of-use, traceback investigation and a chemical review process. Moreover, there is an increasing focus on harmonization of the pesticide management framework including the setting of maximum residue limits. Noting the broad spectrum of pesticide residue risk management frameworks present in the Association of South East Asian Nations (ASEAN) countries, FAO recognizes the need to develop a guidance document to assist countries in establishing such a framework through appropriate residue monitoring initiatives, trace back review, farm level education and pesticide use review. In order for the FAO to assist ASEAN country participants via guidance documents, it is necessary to determine the current situation in the ten countries to better understand the needs, gaps and opportunities. The FAO project team arranged an initial virtual meeting with a view to encouraging open constructive discussion between the FAO and participating countries. This report sets out the key information obtained from the 25 August 2020 Situation Assessment virtual meeting that presented the background to FAO Pesticide residue monitoring project for ASEAN countries and asked four introductory questions of the participants designed to obtain information about the current situation with respective national residue monitoring initiatives.

Keywords:

Pesticide, food safety, maximum residue limit, monitoring, regulation, compliance, chemical hazard, risk assessment, risk management, food standards, Codex Alimentarius, Food and Agriculture Organization of the United Nations (FAO)

Contents

Abstract	iv
Acknowledgments.....	vi
Abbreviations and acronyms.....	viii
1 Background	1
2 Objectives	1
3 Highlight of the meeting.....	1
4 Conclusions	9
5 Next steps	10
Annex 1. List of participants.....	12
Annex 2. Meeting agenda	13
Annex 3. Questions	14

Acknowledgments

The Food and Agriculture Organization of the United Nations (FAO) would like to express its appreciation to the many people who contributed to this report, which was developed by Ian Reichstein (International Consultant), and prepared and developed for FAO under the coordination of Masami Takeuchi (FAO). FAO would like to acknowledge the valuable inputs provided by Jarunee Intrasook and Namaporn Attaviroj (Health Cluster 4 of the Association of South East Asian Nations, AHC4) during the meeting. The meeting participants, namely Mohamad Faa'id Bin Mohamad Kasim (Brunei Darussalam), Chuon Monyrot and Bou Mengcheng (Cambodia), Sulistiyorini, Tri Wahyu Cahya Rini and Dian Fatikha Aristiami (Indonesia), Douangchay Malyvanh, Phoxay Sysomvang, Chansay Phommachack and Viengxay Vansilalom (the Lao People's Democratic Republic), Badruzzaman Bin Abdul Rahim (Malaysia), May Phyo Aung and Khin Moe Kyaw (Myanmar), Choy Mamaril, Bella Fe Carmona, Angelo Bugarin, Falash Pancho and Koko Aborido (the Philippines), Wu Yuansheng, Lim SFA Poh Leong, and Wong Zhi Ning (Singapore), Wan Chai and Dawisa (Thailand) have provided valuable inputs during the zoom meeting. FAO acknowledges the inputs and contributions provided by Isabella Apruzzese (FAO). The project is financially supported by the FAO project GCP/RAS/295/JPN entitled "Support for Capacity Building for International Food Safety Standard Development and Implementation in ASEAN Countries" funded by the Government of Japan.

Abbreviations and acronyms

ASEAN	The Association of South East Asian Nations
AHC4	ASEAN Health Cluster 4 “Ensuring Food Safety”
FAO	Food and Agriculture Organization of the United Nations
GAP	Good Agricultural Practices
MRL	Maximum residue limit
NRS	The Australian National Residue Survey

1 Background

The Food and Agriculture Organization of the United Nations (FAO) conducted a regional workshop entitled “Capacity building on risk categorization for ranking risk of the Association of South East Asian Nations (ASEAN) food hazards for developing the risk-based monitoring protocol for food safety” from 23-25 April 2019. In parallel, the ASEAN Secretariat members responsible for the Health Cluster 4 “Ensuring Food Safety” (AHC4) collaborated with FAO and planned to develop a series of criteria for food safety risk categorization. An Electronic Working Group was established within AHC4 and the topic of pesticide residues in agricultural commodities has been selected to be a common prioritized issue to work on collecting relevant scientific data in various ASEAN countries. FAO and AHC4 agreed that the best approach is to develop an ASEAN-wide guide to develop/improve pesticide residue monitoring and surveillance programme.

Initially ASEAN countries wish to develop a harmonized pesticide residue monitoring protocol, however, as the level of technical capacity and institutional settings vary among the countries, it was agreed to come up with a commodity with a limited number of pesticides to initiate the project. After the pilot phase, two desired outputs are expected to be developed through the project:

- a regional guide for countries to develop / improve national pesticide residue monitoring programme which include 1) key elements that are needed for basic (bare essentials), intermediate, advanced programmes and 2) the unified/harmonized ASEAN efforts; and
- a list of proposed activities for the future follow-up FAO project (project code: GCP/RAS/278/JPN).

The project consists of the following steps:

1. Consultative online meeting with countries as well as AHC4 members to discuss the current status, and the progress.
2. Administration of the situation assessment questionnaire.
3. Analysis of the questionnaire results.
4. Discussion between FAO and AHC4 to discuss the direction of the work.
5. Confirmation of the objectives and direction of the work with the countries.
6. Development of the guide to develop/improve pesticide residue monitoring and surveillance programme for ASEAN countries.

This meeting report records the activity at its first step, a consultative online meeting with ASEAN countries.

2 Objectives

The specific objectives of the online meeting were:

- to share and discuss the current situations in each country for the pesticide monitoring programme;
- to discuss the priorities in improving the pesticide residue monitoring programme; and
- To determine the direction of the project to target national programmes and ASEAN programme.

3 Highlight of the meeting

The online meeting to assess the pesticide residue monitoring situations and capacities was conducted by FAO on 25 August 2020, 10.00 to 11.30, Bangkok time. A total of 22 people from nine ASEAN countries (Viet Nam sent their regrets) attended the meeting. The list of participants is attached in Annex 1 and the meeting agenda is attached in Annex 2.

Masami Takeuchi, Food Safety Officer of FAO opened the meeting and welcomed all participants. The consultative online meeting is a first step to develop a guide for pesticide residue monitoring to discuss countries' status and progress. An assessment questionnaire will follow the consultative meeting and the synergy of the work will then be discussed with ASEAN. Then, a confirmation of the direction of the work will be obtained from the different countries, and as a final output, a regional guide will be developed to develop or improve monitoring programmes. Depending on the levels of capacities of each country, the guide will fit the different purposes. The initiative is done in collaboration with ASEAN.

Adding up to Takeuchi's introduction, Wan Chai, from the ASEAN Health Cluster 4 (AHC4), Thailand provided background of the FAO-AHC4 collaborative project. Following the fourth meeting of AHC4 held on 26-28 June 2019, an electronic working group was established to work on the pesticide residue issues among ASEAN countries. This is part of the project on development of guideline/manual for monitoring and surveillance programme for food hazards. The criteria and factors for selection of one common hazard are based on the FAO Guidance materials entitled "Food Safety Risk Management: Evidence-informed policies and decisions, considering multiple factors" and experiences from the FAO Regional training course April 2019 on "Capacity building on risk categorization for ranking risk of ASEAN food hazards for developing the risk-based monitoring protocol for food safety". This regional workshop was conducted under the FAO Project: GCP/RAS/295/JPN and collaboration with ASEAN Health Cluster 4. The one common hazard was determined to be pesticide residues in fruit and vegetables.

Ian Reichstein, international FAO consultant, was the person identified to develop the pesticides monitoring residues guide. Reichstein took the floor and presented a range of residue monitoring programmes undertaken in Australia. Australia's pesticide risk management framework is oversights by government agencies including the Australian Pesticide and Veterinary Medicines Authority, State / territory departments of Agriculture, Food Standards Australia and New Zealand and the National Residue Survey in cooperation with Australian agriculture and pesticide manufacturers. The principal objective is to ensure farmers and others use pesticides in accordance with Good Agricultural Practice to ensure pesticide residues in agricultural produce do not exceed the maximum residue limits (MRLs).

To explain some of the many differing types of residue monitoring programmes, Reichstein outlined some examples of programmes undertaken by the Australian National Residue Survey (NRS). The NRS in its current format has been operating since 1992 with industry-funded national programmes covering, amongst many, cattle, sheep, eggs, fish, honey, grains, pome fruit and tree nuts. The residue monitoring data, accumulated over the past 20 years, help demonstrate Australia's long term record of meeting domestic and export MRLs.

Programmes covered by NRS include mandatory random monitoring and targeted programmes required for export certification to a range of overseas markets. Other industries such as grains, pome fruit and tree nuts voluntarily elect to participate in the NRS to support market access requirements and quality assurance in the domestic market based on the industry needs.

Australian analytical laboratories must meet strict accreditation and proficiency requirements prior to being contracted to the NRS to conduct analyses of about 20 000 samples collected throughout Australia each year. Traceback investigation may be undertaken by state / territory government agencies, in the event of a MRL exceedance. Information gained from residue monitoring programmes is used to verify good agricultural practice and support market access.

Reichstein explained several other programmes conducted within Australia. These included the industry-managed quality assurance programme called FreshTest which is conducted in all major

Australian fruit and vegetable markets. Results from FreshTest are provided to farmers to assist with quality assurance requirements. Over 200 fruit and vegetable products are covered in the programme. The Australian Imported Food Testing Scheme is operated by the Australian Government Department of Agriculture Water and the Environment in cooperation with Food Standards Australia and New Zealand. The role of the Imported Food Testing Scheme is to randomly sample and test product imported into Australia for pesticide residues and micro-organisms. Food Standards Australia and New Zealand manages the Australian Total Diet Survey, which is designed to estimate the dietary exposure of the Australian population to substances which may be found in food.

The key point of the presentation was to emphasize that project participants should assess respective needs and requirements to determine what type of residue monitoring programme was relevant.

After explaining the residue monitoring programmes conducted in Australia, each participant had an opportunity to indicate, in terms of a pesticide residues programme, what each respective country required as soon as practicable. The main themes that participants to the consultation meeting reported as their main priorities were: 1) standardized guidelines for residue monitoring programmes, 2) coordination, 3) consultations, 4) consistent analytical methodology and 5) improvements to analytical laboratory capacity and proficiency.

During the structured discussion session, Reichstein moderated the questions so that each country can provide the current issues and situations from their country contexts. The questions are reported in Annex 3 of this document, and the results of the discussions are summarized in the Tables 1- 4.

Table 1. Government agencies responsible for pesticide residue monitoring?

Country	Residue monitoring	Food safety / health	Comment
Brunei Darussalam	Department of Agriculture and Agri-food under the Ministry of Primary Resources and Tourism		Technical aspect of the residue analysis has been taken over by the Department of Scientific Services, Ministry of Health. Agricultural MRL Taskforce tasked to monitor and analyse the results over the MRL, as well as the use of restricted or banned pesticides.
Cambodia	Department of Agroindustry, Ministry of Agriculture, Fisheries and Forestry		Others: General Directorate of Agriculture, General Directorate of Animal Health and Production and Department of Agro-Industry
Indonesia	The Ministry of Agriculture: Agency for Food Security (for distributed fresh food of plant origin), Quarantine Agency (in the	Institution responsible for food safety/health : Agriculture (for fresh food of plant and animal origin),	Applies to national and imported product. For national product: it is focused on high consumption fresh food of plant origin or for (presumed) high pesticide use. Imported food focused on product with notification.

	entry point), and technical DG (in on farm level/cultivation practices)	Marine and Fishery (fresh food of fishery and marine origin), National Food and Drug Control (processed food), Health (ready to eat food)	
The Lao People's Democratic Republic	Ministry of Health, Ministry of Agriculture and Forestry		Priority: imported fruits and export vegetables monitoring
Malaysia	The Ministry of Agriculture and Food Industry at farm level	Ministry of Health: food supply chain from farm (post-harvest) and country's entry points including retail markets and exports	Others: Fisheries, Vet Services, Local Authorities
Myanmar	Plant Protection Division, Department of Agriculture	Food and Drug Administration especially for processed and pre-packaged foods	Residue monitoring especially for banned pesticides applies to Good Agriculture Practice (GAP) implementation. Plant Protection Division is responsible for pesticide registration. Currently does not have laboratory capability enough for pesticide quality control and residue monitoring.
The Philippines	Department of Agriculture Bureau of Plant Industry	Department of Agriculture; Department of Health	Pesticide registration – Department of Agriculture: Fertilizer and Pesticide Authority. Adoption of MRL as national standard: Department of Agriculture: Bureau of Agriculture and Fisheries Standards
Singapore	Singapore Food Agency		
Thailand	Ministry of Public Health		Domestic and imported food. The Ministry of Agriculture at farm level

Observations	<ul style="list-style-type: none"> Across all participants, the Ministry of Agriculture tends to be the government agency responsible for residue monitoring and interactions at
---------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>farm level, while food safety tends to be the responsibility some government's ministries/institutions.</p> <ul style="list-style-type: none"> • Most participant countries have, to varying extents, initiated pesticide registration, pesticide control-of-use and residue monitoring activities. • Residue monitoring for imported foods, exports and domestic trade are present in most of the participant countries. • The lead government agency may determine whether the overarching emphasis is on compliance or food safety.
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Table 2. Triggers to develop / improve pesticide residue monitoring programme

Country	Public concern	Health incident	Compliance	Export	Comment
Brunei Darussalam			Yes		Improve food safety in domestic and imported product. improving the monitoring Standard operating Procedures in compliance to Pesticide Act, Public Health Food Act, Imported Country's Requirements and GAP certification programme, similar to Malaysia
Cambodia			Yes		Ministry of commerce is responsible for pesticide residue in market product and imported product
Indonesia	Yes		Yes		pesticide monitoring residue programme is important for public health (so that it is included in the regulation) and exports
The Lao People's Democratic Republic					
Malaysia	Yes		Yes		Pesticide Act 1974; Food Act 1983 and Food Regulations 1985; Importing country's requirements; GAP Certification programme
Myanmar	Yes		Yes		need both compliance for national food safety and export requirements with trading partners
The Philippines	Yes		Yes		Regulations- Import Risk Analysis
Singapore			Yes		need both compliance for national food safety and export requirements with trading partners

Thailand	Yes		Yes		Need both compliance for domestic and imported food product under regulations regarding MRLs for pesticide residues for consumer health protection.
-----------------	-----	--	-----	--	-----------------------------------------------------------------------------------------------------------------------------------------------------

Observations	<ul style="list-style-type: none"> • The common thread in most response was the need for monitoring programmes to cover both compliance and food safety concerns. • Participant countries appeared to place strong emphasis on domestic and imported product. • Residue monitoring in several participant countries is underpinned by legislation and regulations. • The country's import: export ratio appears to be determining factor in the importance of imported food testing and export testing for market access.
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Table 3. What commodities are of the biggest concern? Is it particular commodities or commodity groups? Is it particular commodities or commodity groups?

Country	Commodity	Commodity	Commodity	Comment
Brunei Darussalam	Leafy vegetable import and domestic	Imported spices	Celery	
Cambodia	Leafy Vegetable, Mango, Cashew	Other vegetables	cassava	Animal / fish products
Indonesia	Leafy vegetable and vegetable presumed to use high pesticide	fruit	Staple food of grain, such as rice	This is the focus of Agency for Food Security (Ministry of Agriculture). Other institutions (Directorate General of Animal Health/Ministry of Marine and fishery) have their own focus.
The Lao People's Democratic Republic	Leafy vegetable: cabbage	apple	Orange	
Malaysia	Leafy vegetable	Herbs	Spices	
Myanmar	Leafy vegetable	Export rice and sesame		Multiple pesticide applications in a short season
The Philippines	Imported rice			Regulatory requirement for food safety analysis
Singapore	Leafy vegetables			
Thailand	Leafy vegetable	fruit		High consumption products and results of annual monitoring plan

Observations	<ul style="list-style-type: none"> • The common commodity group causing concern for almost all participants was leafy vegetables. • The group discussion indicated that leafy vegetables were a high volume consumption commodity and as such could potentially contribute to the overall dietary exposure to pesticide residues. • Further, participants also suggested that leafy vegetable production could involve multiple application of insecticides and fungicides. • Generally, multiple applications due to high pest pressures was identified as a potential residue risk, which warranted residue monitoring.
---------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Table 4. Residue monitoring scenarios

Options:	
a.	Residue monitoring programme, which involves all farmers selling fruit / vegetable / grain into the domestic market. The programme may support national quality assurance, which allows farmers to continue to trade. The residue testing result is compared to the national MRL
b.	Random monitoring programme, which surveys the produce, traded domestically. (could also apply to exported product) A target number of samples is collected per annum from pack-houses, wholesale markets and supermarkets. The residue testing result is compared to the national MRL.
c.	Export consignment testing programme, which involves the collection of representative samples from each consignment prior to export. The residue testing result is compared to the national MRL and the import MRL applying in the importing country.
d.	Targeted export testing programme. Samples are collected based on a risk profile.
e.	Targeted domestic testing programme. Samples are collected based on a risk profile.
f.	Imported food testing programme. Based on a risk profile, a certain proportion of imported consignments are tested upon arrival. Some programmes involve ‘test and hold’, while others allow the commodity into the country and provide results of testing at later date.
g.	Dietary exposure testing programmes. Programmes are designed to determine, based on consumption and residue monitoring data, the dietary exposure to a range of pesticides.

Additional comments	<ul style="list-style-type: none"> • Brunei Darussalam: More information from Ministry of Health • Cambodia: Targeted domestic testing at whole-markets, supermarkets and local markets • Indonesia: safety controls on fresh food of plant origin (including for pesticide residues) in the Ministry of Agriculture are carried out by cross-work units according to their duties: At the point of entry, they are carried out by the Indonesia Agricultural Quarantine Agency. On the pre-market and post market positions they are carried out by Agency for Food Security. Pre market controls assess the safety of fresh food of plant origin before it is circulated on the market: this is made through certification (which includes exports as requested by target country) and registration of fresh food of plant origin. Post market or control on fresh food of plant origin is made through inspection, surveillance and circulation inspection, both regular and incidental. The technical Directorate General provides guidance/assistance on cultivation practices. • Malaysia: Residue monitoring at farm level for GAP Certification • Myanmar: Residue monitoring programme which involves farmers who are implementing GAP on fruit, vegetables and rice.
----------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<ul style="list-style-type: none"> • The Philippines: all scenarios align • Singapore: Priority for import control and total dietary study • Thailand: compliance monitoring to confirm MRLs regulations of pesticide residues and to support GAP
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Country	a	b	c	d	e	f	g
Brunei Darussalam	Yes	Yes	Yes	No	No	Yes	Yes
Cambodia	No	No	No	No	Yes	No	No
Indonesia	Yes	Yes	Yes	No*	Yes	Yes	No
The Lao People's Democratic Republic	Yes	Yes	Yes	No	No	No	No
Malaysia	No	Yes	No	Yes	Yes	Yes	Yes
Myanmar	Yes	No	No	No	No	No	No
The Philippines	No	Yes	Yes	No	No	No	No
Singapore	No	No	No	No	No	Yes	Yes
Thailand	Yes	Yes	No	No	No	Yes	No

*for export testing, it depends on target country requirement.

Observations	<ul style="list-style-type: none"> • The focus of residue monitoring programmes varies significantly among the participating countries. • The types of monitoring are dependent on the level of domestic production and volumes of imports and exports. • Participant countries appear to be focused on compliance monitoring at a farm level to confirm GAP. • Countries which import a high proportion of raw and processed food focused residue monitoring on imported food testing.
--------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

4 Conclusions

Participant country requirements

The project team confirmed a wide range of current residue monitoring undertaken by each country. For example, to focus on the volume of imported raw and processed food, Singapore has a residue monitoring programme in place to sample and analyse imported product. A few countries such as Malaysia, Thailand and Indonesia indicated imported food testing and domestic farm level monitoring were required given the countries were both importers and exporters. Some other countries indicated a strong focus on both domestic compliance and imported food testing but suggested that programmes were in the early stages of development.

With this diverse range of monitoring requirements and noting the differing rationales for a national monitoring programme, there is good reason for an overarching guidance document, which includes material covering specific requirements such as imported food testing, domestic compliance testing and mandatory export monitoring programmes.

The guidance document must be cognizant of the ASEAN Food Safety Policy noting that members have indicated a desire to address sectors concerned with food safety assurance including agriculture, health, industry and trade. The guidance document should be mindful of the ASEAN Food Safety Policy's ten principles notably science-based risk assessment, consistency with The World Trade Organization's Sanitary and phytosanitary measures and Technical Barriers to Trade agreements, equivalence, mutual recognition, harmonization with international standards, reliable traceability and regional harmonization of food control systems.

Pesticide residue risk management framework elements

During the discussions on responsible government agencies, participant countries identified areas within the management framework for which government oversight was required. These included pesticide registration, farm level education to ensure appropriate safe pesticide use by farmers, verification of GAP through residue monitoring, trace back investigation for MRL breaches and pesticide review to support continuous improvement.

In that regard, the project team identified a wide range of capability, capacity and expertise in identified elements of a pesticide residue risk management framework.

Participant countries appeared to appreciate the need to address each element of the pesticide residue risk management framework. However, many indicated a lack of technical capacity to undertake regulatory functions such as pesticide registration. Again, Singapore appeared to demonstrate a strong management framework which focuses on the elements necessary to conduct an imported food programme that seeks to protect public health within the country. Based on the responses provided at the videoconference, the project team considered Thailand, Malaysia, Philippines and Indonesia to have moderate to high capacity, Brunei Darussalam and Viet Nam moderate capacity and Cambodia, the Lao People's Democratic Republic, Myanmar to have low to moderate capacity.

The project team agreed that this should be taken into consideration in developing the monitoring guidelines.

The project team should be mindful of initiatives arising from the ASEAN Food Safety Policy. Of note, the ASEAN Risk Assessment Centre for Food Safety and work on technical requirements harmonization will be of significant benefit to those participants categorized with low to moderate capacity. Adoption of ASEAN Food Safety Policy elements should help participants to meet some of the desired outcomes articulated during the video-conference including improved regional

coordination, consultation and cooperation along with the highly desired establishment of standardized guidelines for residue monitoring programmes.

Rationale for a pesticide residue risk management framework

During the videoconference discussion, participants indicated several key drivers significantly influenced decision making on the type of residue monitoring programmes already in place or highly desired in the future. These included, amongst other things, trade / market access, public health, consumer concerns, political direction and farmer compliance. Other factors such as a country's import / export ratio influenced the focus of pesticide residue risk management. For example, Singapore imports a significant proportion of its raw and processed foods and, in order to protect public health, undertakes a comprehensive imported food testing programme.

Conversely, and with limited capacity according to Myanmar, Cambodia and the Lao People's Democratic Republic, the ability to undertake farm level residue monitoring programme would, in the first instance, be desirable to establish a baseline compliance in pesticide use.

Given certain participants were in the process of developing a pesticide residue risk management framework, it is reasonable to expect that many of the elements of a comprehensive framework are absent. Further discussion on the following elements will be critical to the project's success: pesticide registration, pesticide control-of-use with farmers, residue monitoring programmes, food traceability, trace back investigation, farmer education, pesticide use review.

Key commodities

In early discussions, the project team agreed that implementation of proposed guidelines for a residue monitoring programme should focus on a key commodity of concern rather than attempt a more complex comprehensive approach which might exceed the capacity and resources of participant countries.

Participants were asked to indicate which commodities present the most concern in regard to MRL compliance, food safety and consumer concerns. All participants placed leafy vegetables in the high concern category citing high pesticide use and high consumption as reasons for the elevated risk potential. Should a residue monitoring programme trial be considered to test the effectiveness and comprehensiveness of the proposed guidelines, leafy vegetables would be expected to be the key commodity group.

5 Next steps

Among the follow up actions discussed at the meeting, a questionnaire to be administered by FAO/AHC4 collaboratively was discussed. The project team believes the focus of the questionnaire should be public health, addressing consumer concerns and trade facilitation rather than an over emphasis on farmer / MRL compliance which, with different legislation, would vary among countries.

To assist in the development of the guide, it will be critically important for each participant country to self-assess its capacity level in regard to pesticide residue monitoring. Further, the project team will require a firm understanding of the elements of the pesticide residue risk management framework, which exist in each country including pesticide registration, pesticide control-of-use with farmers, residue monitoring programmes, food traceability, trace back investigation, farmer education and pesticide use review.

Finally, the level of implementation (or intent to implement) the ASEAN Food Safety Policy is key to the development of the guide. The project team acknowledges that laboratory capacity / capability and proficiency are difficult issues to tackle as part of the guide. This matter can be tackled by

ensuring strong links between the Policy, ASEAN Risk Assessment Centre and the proposed guidelines, which can emphasize the importance of this collaborative approach.

Following completion of the questionnaire, it may be necessary for the project team to arrange separate meetings with each participant to clarify matters and seek further information.

It follows that ongoing coordination and consultation between the project team and the participant countries is critical to the project's success.

Once all information is collected from participant countries, the outline of the guide "Pesticide monitoring programme for ASEAN countries" will be developed. The guide will draw on information provided from the two questionnaires, additional information sources provided by the participants and where necessary and appropriate information gathered from 'one on one' contact with the participants.

Annex 1. List of participants

Countries	Attending Zoom	Registered
Brunei Darussalam	- Mohamad Faa'id Bin Mohamad Kasim	- Mohamad Faa'id Bin Mohamad Kasim - Adi Lisea binti Mohd Addly - Helwa binti Hj Mazlan
Cambodia	- Bou Mengcheng - Chuon Monyroth	- Bou Mengcheng - Heng Chysin - Chuon Monyroth
Indonesia	- Sulistiyorini Sulistiyorini - Fitrianna	- Sulistiyorini - Tri Wahyu Cahya Rini - Dian Fatikha Aristiami
The Lao People's Democratic republic	- Viengxay Vansilalom - Douangchay Malyvanh - Phoxay Sysomvang - Chansay Phommachack	- Viengxay Vansilalom - Douangchay Malyvanh - Phoxay Sysomvang - Chansay Phommachack
Malaysia	- Badruzzaman bin Abdul Rahim	- Badruzzaman bin Abdul Rahim - Anida Azhana Husna binti Zainudeen - Nurhayati binti Kamyon
Myanmar	- Dr Khin Moe Kyaw - Phyo Phyo Aung	- Dr Khin Moe Kyaw - Aung Thu Win - Phyo Phyo Aung
The Philippines	- Choy Mamaril - Bella Fe Carmona - Angelo Bugarin - Falash Pancho - Koko Aborido	- Choy Mamaril - Bella Fe D. Carmona - Angelo S. Bugarin
Singapore	- Wu Yuansheng - Lim SFA Poh Leong - Wong Zhi Ning	- Wu Yuansheng - Lim Poh Leong - Wong Zhi Ning
Thailand	- Wan Chai - Dawisa - Namaporn Attaviroj	- Jarunee Intraseek - Namaporn Attaviroj
Viet Nam		- Luong Thi Hai Yen

FAO	- Masami Takeuchi - Isabella Apruzzese - Vathu Vongsantivanich - Sanda Siang - Ian Reichstein	- Masami Takeuchi - Isabella Apruzzese - Vathu Vongsantivanich - Xiaojie Fan (FAOR Myanmar) - Sanda Siang (Myanmar) - Fidel Rodriguez (Philippines)
-----	-----------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------

Annex 2. Meeting agenda

#	Time (ICT, Bangkok)	Item	Note
1.	10.00 – 10.05	Welcome	Masami Takeuchi
2.	10.05 – 10.10	Background of the FAO-AHC4 collaborative project	AHC4
3.	10.10 – 10.15	Quick overview of the Zoom functions	FAO
4.	10.15 – 10.20	Introduction of the expert Mr Ian Reichstein	Masami Takeuchi
5.	10.20 – 10.35	The basics of the pesticide residue monitoring programmes – what is the “bare minimum” of an effective (worthwhile) system?	Ian Reichstein
6.	10.35 – 10.45	Q&As	All
7.	10.45 – 11.25	Structured discussion session (See below)	Facilitated by Ian Reichstein
8.	11.25 – 11.30	Introduction to the questionnaire, next steps and closing	Masami Takeuchi

Annex 3. Questions

Government

Which government agency is responsible for pesticide residue monitoring? (Chat Box)
Are there other government agencies taking responsibility for food safety, health and consumer affairs?

Reasons for change

What triggers your country to develop / improve pesticide residue monitoring programme?

- High public concerns
- Health incidents (hospitalization, deaths, etc.)
- Compliance (regulations state the need of monitoring)
- Export requirement

Key concerns

- What commodities are of the biggest concern? (Chat Box)
- Is it particular commodities or commodity groups?
- What do you think is creating the concern?

Monitoring scenarios

Which of the following residue monitoring scenarios closely aligns with respective objectives?

1. Residue monitoring programme, which involves all farmers selling fruit / vegetable / grain into the domestic market. The programme may support national quality assurance, which allows farmers to continue to trade. The residue testing result is compared to the national MRL
2. Random monitoring programme, which surveys produce, traded domestically. (could also apply to exported product) A target number of samples is collected per annum from pack-houses, wholesale markets and supermarkets. The residue testing result is compared to the national MRL.
3. Export consignment testing programme, which involves the collection of representative samples from each consignment prior to export. The residue testing result is compared to the national MRL and the import MRL applying in the importing country.
4. Targeted export testing programme. Samples are collected based on a risk profile.
5. Targeted domestic testing programme. Samples are collected based on a risk profile.
6. Imported food testing programme. Based on a risk profile, a certain proportion of imported consignments are tested upon arrival. Some programmes involve 'test and hold', while others allow the commodity into the country and provide results of testing at later date.
7. Dietary exposure testing programmes. Programmes are designed to determine, based on consumption and residue monitoring data, the dietary exposure to a range of pesticides.

Regional Office for Asia and the Pacific

E-mail: FAO-RAP@fao.org

Web address: www.fao.org/asiapacific

Tel: +662 697 4124

Food and Agriculture Organization of the United Nations

39 Phra Artit Rd, Bangkok Thailand 10200