

New developments in ASEANFOODS

(Collaboration with ILSI SEA Region)

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Conflict of Interest Disclosure

I have no conflict of interest to report in relation to this presentation.

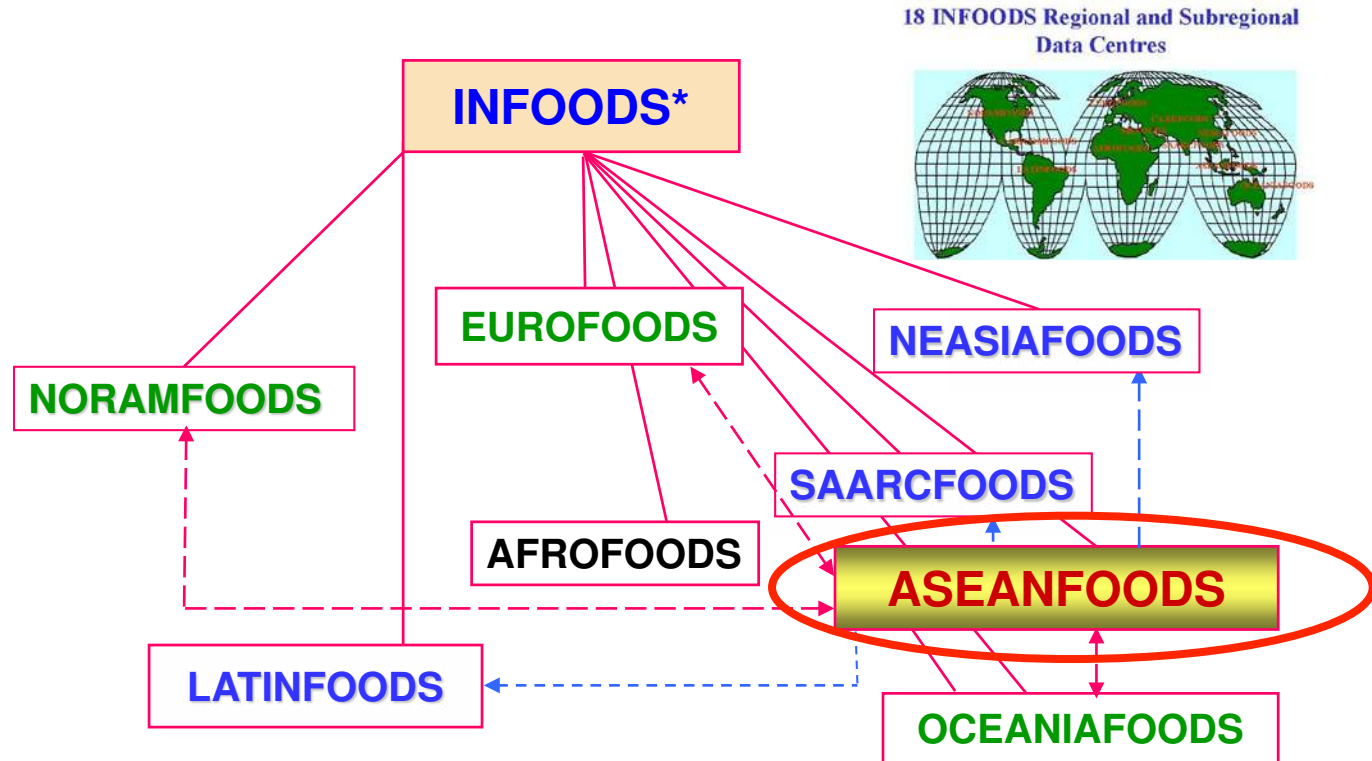
Outline of presentation

- **Introduction to ASEANFOODS and its activities**
- **ASEANFOODS main activities: past, present and future**
- **Current status of National Food Composition Databases in ASEAN countries**
- **Current ASEANFOODS activities - collaboration with ILSI Southeast Asia Region**
- **Concluding remarks**

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INFOODS and Regional Centres



*International Network of Food Data Systems, established in 1984

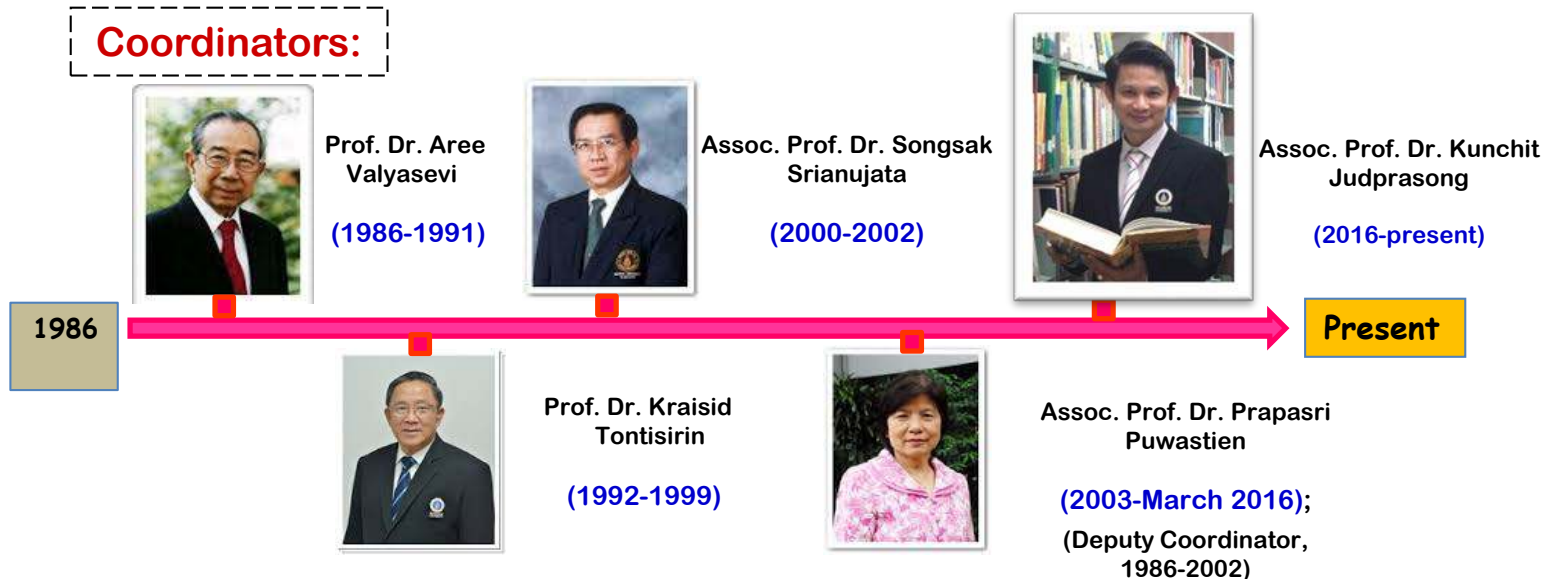
<http://www.fao.org/infoods/infoods/en/>

ASEAN Network of Food Data System - ASEANFOODS

Established: established in 1986

Regional Centre: Institute of Nutrition, Mahidol University (INMU)

Coordinators:



Member countries

Cambodia, Indonesia, Malaysia, Philippines, Singapore,
Thailand, Vietnam, Myanmar, Laos PDR, Brunei Darussalam

Association of Southeast Asian Network of food data systems - ASEANFOODS

ASEANFOODS

www.inmu.mahidol.ac.th

Home Introduction Activities Publication Food composition database Training course Contact

Welcome to Aseanfoods

ASEANFOODS is the Association of Southeast Asian Networks of Food Data systems. It was established in 1986 by the ASEAN Subcommittee on Protein: Food habit Research and Development, with 6 member countries including Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Thailand. In 1996, Vietnam and in 2001 Cambodia, Laos, and Myanmar were submitted as a new country members. The Institute of nutrition, Mahidol University (INMU) was designated as the Regional Centre and as the Regional INFOODS database Centre by INFOODS in 1991.

more

Photos

news

14th International Postgraduate Course on the Production and Use of Food Composition Data in Nutrition (1-6 October 2017, Wageningen, The Netherlands)

12th International Food Data Conference (12th IFDC)
Granada, Spain (12nd-14th September 2013)

20th International Congress of Nutrition (20th ICN)
Granada, Spain (15th-20th September 2013)

Objectives

- ✓ to **promote and support** the activities on development of national and regional food composition databases (FCDBs) which are of **high quality and accessible to users in ASEAN** and other regions,
- ✓ to **contribute knowledge and information** towards improving food and nutrition security and achieving sustainable diets

<http://www.inmu.mahidol.ac.th/aseanfoods/>

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ASEANFOODS: main activities during 1986-present

1. Organised or as invited lecturer at training courses and workshops

1.1 Training areas:

- Internal and external quality control system,
 - Reference material preparation,
 - Proficiency testing, and statistical evaluation
- APFAN training programme: QHSS, Australia (1991-2000) – invited lecturer (ASEANFOODS coordinator)
 - AusAID programme: Indonesia, Thailand, the Philippines (2006) – organised workshop in Thailand; as invited lecturer in Indonesia and the Philippines



<http://www.inmu.mahidol.ac.th/aseanfoods/>

ASEANFOODS: main activities during 1986-present (contd)

1.2 FoodComp course (International Graduate Course on Production and Use of Food Composition Data in Nutrition)

- Organised the first FoodComp-Asia course in Thailand in 2002



- ASEANFOODS Coordinator was an invited lecturer at other regional FoodComp courses: NEASIAFOODS (2006) and OCEANIAFOODS (2009)

<http://www.inmu.mahidol.ac.th/aseanfoods/>

ASEANFOODS: main activities during 1986-present (contd)

2. Strengthening laboratory performance

Organising **proficiency testing programmes** by INMU at national, regional and international levels

Round	Year	Nutrients covered	Level	Test material
I	1989	Main nutrients, minerals	Regional	Rice flour, Soybean flour
II	1993-4	Main nutrients, minerals	Regional	Cereal-soy, fish flour
III	1998-9	Mandatory nutrients for NL	Regional	Weaning food, Fish flour
IV	1999-2000	Mandatory nutrients for NL	National	Instant noodle
V	2001	Proximate composition	National	Fish flour
VI	2001-2	Total folate	International	Soybean, fish flour, breakfast cereal
VII	2002-3	Mandatory nutrients for NL	Regional	Milk powder
VIII	2005-6	Main nutrients, Fe, Zn, vit B1	International	Rice flour
IX	2009-10	Mandatory nutrients for NL	National	Salted broad bean
X	2010-12	Mandatory nutrients for NL	National	Whole wheat cracker
XI	2012-2014	Mandatory nutrients for NL	National	Milk powder
XII	2014-2015	Mandatory nutrients for NL	National	Instant cereal–milk beverage

ASEANFOODS: main activities during 1986-present (contd)

3. Development of ASEAN food reference materials (AS-FRM) from PT test materials

1989	AS-FRM 1 Rice flour AS-FRM 2 Soybean flour	}	Main nutrients and 8 minerals
1994	AS-FRM 3 Cereal-soy AS-FRM 4 Fish flour-1		
1998	AS-FRM 5 Weaning food AS-FRM 6 Fish flour-2	}	Mandatory nutrients for NL* (Main nutrients, 3 minerals, Cholesterol, Sat. Fat, sugars)
2003	AS-FRM 7 Milk powder		
2005-6	AS-FRM 8 Rice powder		Mandatory nutrients for NL* (except DF and vitamins)
2015	FRM 9 Milk powder		Mandatory nutrients for NL* (except DF and vitamins)

* Mandatory nutrients for NL: total fat, saturated fat, cholesterol, protein, dietary fiber, total sugars, sodium, vitamin A, vitamin B1, vitamin B2, calcium, and iron

ASEANFOODS: main activities during 1986-present (contd)

4. Organised the 8th International Food Data Conference (2009)

Theme: “Quality Food Composition Data: key for health and Trade”

Participants: ~ 140 from 43 countries



8th International Food Data Conference
Quality Food Composition Data: Key for Health and Trade
October 1-3, 2009 Bangkok, Thailand

Welcome Message

Dear Colleagues,

On behalf of the Organising Committee, we are pleased to invite you to the 8th International Food Data Conference (8th IFDC) which will be organised by the Institute of Nutrition, Mahidol University (INMU). The conference will take place from **1st - 3rd October 2009** as a pre-conference of the 19th International Congress of Nutrition (ICN 2009) in **Bangkok, Thailand**.

“Quality Food Composition Data: Key for Health and Trade” has been chosen as the main theme to emphasize the importance of the quality and reliability of the analytical food composition data and the quality of data compilation system. These can reflect the quality of the database used in various areas of foods, nutrition, health and trade as well as all related research and development. Important issues included in the conference are quality systems and standards for data generation, compilation and evaluation; Codex issues related to food composition (labeling, health claims, nutrient reference values, analytical methods); Influences on nutrient composition, biological, biodiversity, physical environmental, processing and biotechnology; Emerging techniques for analysis and new compositional data for nutrients and bioactive compounds and their bioavailability; innovative use of food composition data in health and trade; current activities on food composition at national and regional food data network.

Please schedule yourself to attend and present your work orally or as a poster at the conference.

Invitation
Venue
Organising Committee
Scientific Committee
IFDC/ASEANFOODS Task Force
Registration
Abstract Submission
Conference Information
Update: 21 Oct. 2009
Presentation
Announcement
Transportation
Hotel Reservation
Collaboration and

Website: <http://www.inmu.mahidol.ac.th/8ifdc/>

ASEANFOODS: main activities during 1986-present (contd)

5. ASEANFOODS Coordinator and the deputy: served as the scientific committee of several International Food Data Conferences



2011: 9-IFDC, 'Food Composition and Sustainable Diets', Norwich, United Kingdom



2013: 10-IFDC, 'Joining nutrition, agriculture and food safety through food composition', Granada, Spain.



2015: 11-IFDC, 'Food Composition Data and Public Health Nutrition', Hyderabad, India

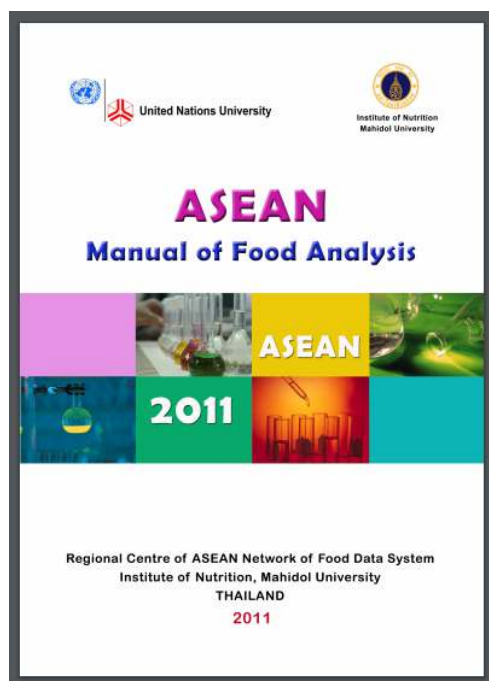
11th-13th October 2017 as a pre-conference of the 21st International Congress of Nutrition.



2017: 12-IFDC, “From Food Composition to Better Policies and Programmes in Nutrition and Agriculture”, Buenos Aires, Argentina

ASEANFOODS: main activities during 1986-present (contd)

6. Published ASEAN Manual of Food Analysis and scientific papers of activities in several international journals



<http://www.inmu.mahidol.ac.th/aseanfoods/>



Original Article

Development of rice reference material and its use for evaluation of analytical performance of food analysis laboratories

Prapasri Puwa:

Institute of Nutrition, Ma

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Laboratory performance on analysis of mandatory nutrients and preparation of nutrition labelling¹⁵

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Keywords:
Laboratory performance
Proficiency testing
Mandatory nutrients
Nutrition labelling

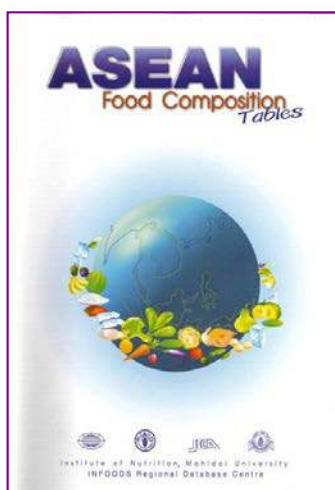
ABSTRACT

This study assessed the performance of 17 laboratories in Thailand in analysing mandatory nutrients in salted, fried broad bean and in using data to prepare nutrition labels. Nutrient levels in the test material, as robust mean (\bar{x}) and robust standard deviation (s^*), were assigned in line with ISO 15528. Data obtained from the laboratories were statistically evaluated against these values. Laboratories with satisfactory, questionable and unsatisfactory results for each nutrient were identified based on robust z-score. Laboratories achieving satisfactory analytical results (z -score ≤ 2) were for lipid, 82%; protein, 85%; Na, 82%; Ca, 62%; Fe, 81%; ash, 70%; and moisture, 62%. Reference values for some nutrients in broad bean powder were developed using data from satisfactorily performing laboratories. Less than 20% of the laboratories demonstrated good performance in preparing nutrition labels. Common mistakes were the nutrition information format, estimation of serving size and serving(s) per package.

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ASEANFOODS: main activities during 1986-present (contd)

7. Published ASEAN Food Composition Tables (2000) and online food composition database (2014)



- 17 food groups
- **1750 food items**
- 21 nutrients



- **616 food items**
- 21 components, as aggregated ASEAN FCD and individual unique data of Thai foods.

ASEANFOODS website <http://www.inmu.mahidol.ac.th/aseanfoods/>

ASEANFOODS: main activities during 1986-present (contd)

8. Coordinator and the Deputy: being the INFOODS Expert committee: developing FAO/INFOODS Guidelines and FCDB

- 1) **2011: FAO/INFOODS Food composition study guide.**
<http://www.fao.org/3/b-ap802e.pdf>
- 2) **2012: FAO/INFOODS Guidelines for Checking Food Composition Data prior to the Publication of a User Table/Database-Version 1.0.**
<http://www.fao.org/docrep/017/ap810e/ap810e.pdf>
- 3) **2013: FAO/INFOODS Technical Meeting Report on the Technical meeting on attributing AOAC methods to INFOODS tagnames, in Granada, Spain.**
<http://www.fao.org/3/a-i3784e.pdf>
- 4) **2016: FAO/INFOODS Global Food Composition Database for Fish and Shellfish Version 1.0- uFiSh1.0.**
<http://www.fao.org/3/a-i6655e.pdf>
- 5) **2017: FAO/INFOODS Global Food Composition Database for Pulses Version 1.0 - uPulses 1.0.** <http://www.fao.org/3/a-i6832e.pdf>



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Current status of National Food Composition Database in ASEAN countries

Brunei Darussalam:

At present, there is **no published National FCTs/FCDB** in Brunei Darussalam. Health workers there uses several regional references, especially the Malaysian and Singapore FCDBs.

Indonesia:

The Indonesian authorities have allocated some funds for the **compilation of the first national FCDB** for the country. ILSI SEA Region facilitated the organisation of a workshop in November 2016. National FCD are developing; data compilation is expected to be completed by the **end of 2018**.

Laos PDR:

The new food consumption survey is nearly completed. **The revised FCDB will be completed by end of 2017**.

Current status of National Food Composition Database in ASEAN countries

Malaysia:

- Malaysia has been centralising the coordination, compilation and documentation of the laboratory analyses of nutrients by the participating institutions through a **web-based system for data generators, data compilers and data users**.
- The project has also been carrying out **updating of analytical methods** such as method validation for fat soluble vitamins in food (vitamin D, K, A) and carotenoids (B-carotene, lutein), B vitamins (vitamin B1, B2, B3, B5, B6, B7, B9, B12) and vitamin C using HPLC methods are currently conducted.




<http://myfcd.moh.gov.my>

Current status of National Food Composition Database in ASEAN countries (contd)

Philippines:

- Current activities are on **updating FCTs and web-based PhilFCT.**
- New food data, focusing on indigenous fruits and vegetables, are being generated, compiled, checked and evaluated until the end of 3rd quarter of 2017.
- Preparation of the camera-ready Philippines FCTs will start on the second semester of 2017 and **expected to be available by 2018.**



The screenshot shows the website for the Philippine Food Composition Tables (PhilFCT). The header includes the I-FNRI logo and navigation links for Services, Database, Partnership, and Contact Us. The main content area features a collage of images of various Philippine foods, including a bowl of fruit, green peas, yellow potatoes, a plate of chicken, a bowl of dark sauce, and several large, round, orange-brown tubers. The text 'Philippine Food Composition Tables' is overlaid on the images. Below the images, there is a paragraph of text explaining the importance of FCTs and FCDBs.

Food Composition Tables (FCT) and databases (FCDBs) are considered important nutrition tools which provide information on the chemical/nutritional composition of foods. They are widely used by users in variety of areas: nutrition, public health surveys, nutrition education, dietetics and clinical practice, nutritional epidemiology, agricultural research, food regulation and consumer action programs. The access to and availability of electronic tables and databases are needed to accommodate the user's specific

<http://i.fnri.dost.gov.ph/fct/library>

Current status of National Food Composition Database in ASEAN countries (contd)

Thailand:

- The Thai Food Composition Tables 2015 was **published in September 2015**.
- The **on-line Thai FCDB** is available since April 2016 at the INMU website
- Food composition data for new food items which include vitamins B₆, B₁₂ and folate are being developed.
- Collection of FCD of **branded food products** from food companies is on-going



<http://www.inmu.mahidol.ac.th/thaifcd/home.php>

Vietnam:

- Updating of the Vietnam FCDB is at the final preparation step which **will be published this year**.
- The on-line database will be available only in PDF format at the National Institute of Nutrition website.



Vietnam FCT 2000

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ASEANFOODS: current activities

Collaboration with International Life Sciences Institute
(ILSI) South East Asia (SEA) Region (since 2015)

Objective: to improve quality and availability of food composition
databases in ASEAN



<http://ilsisea-region.org/>

ASEANFOODS ILSI-SEA activities

Workshop 1. Roundtable discussion on Food Composition Database (FCDB): “Development of Good Quality FCT/FCDB in ASEAN”

Organised by ASEANFOODS and ILSI-SEA Region

December 17-18, 2015

at the Institute of Nutrition, Mahidol University, Thailand



ASEANFOODS-ILSI-SEA collaborations Workshop 1: Roundtable discussion on FCDB (continued)

➤ **Participants:** key representatives who carry out food composition data (FCD) generation and compilation in Indonesia, Malaysia, Philippines, Thailand and Vietnam

➤ **Main objective:** to develop a guideline for quality evaluation of the existing FCT/FCDB in ASEAN

➤ **Outcome:**

1. A draft ASEAN Guideline for FCDB quality evaluation, consisting of **12 criteria**, each with several sub-criteria.
2. A recommended **consensus list of energy and 29 nutrients**, prioritised according to current health problems and issues which also includes fatty acids (saturated, polyunsaturated, monounsaturated) and total sugars, to be included in the national FCDB.

Criteria/sub-criteria	Weighting score		Ranking score of criteria	Maximum quality score of criteria = maximum ranking score of the criterion	Assign score of individual evaluated criterion	Total quality score
	criteria	sub-criteria				
1. Year of publication (recency):						
= < 10 years	1		1			
= 10-20 years			2			
= 20-30 years ago			3	1 x 5 =		
= 30-40 years ago			4			0
= > 40 years			5			
2. Percentage number of new food items in the updated version FCTs compared to the previous version:						
= < 10%			1			
= 10-20%			2	4 x 5 =		0
= 20-30%			3			
= 40-50%			4			
= > 50%			5			

ASEANFOODS-ILSI-SEA collaborations

Workshop 1: Roundtable discussion on FCDB (continued)

Quality evaluation system for assessing published food composition tables and databases in ASEAN

Criteria:

1. **Year** of publication
2. Percentage number of **new food items** in the updated version FCTs compared to the previous version
3. **Documentation** in the FCTs on the followings
4. **Food description**
5. Per cent contribution of **analysed data** from laboratories within country
6. Number of **individual data sets** where $n > 3$ for preparation of user database
7. For FCD derived from **computed data or borrowed data** including recipe calculation
8. **Covered nutrients**
9. **Missing nutrient data** in the FCTs/FCDB
10. **Quality control for lab analysis**: self assessment
11. **Compilation tool** used for establishing and updating FCT/FCDB
12. **Access of FCT/FCDB**

ASEANFOODS-ILSI-SEA collaborations

Workshop 1: Roundtable discussion on FCDB (continued)

Activities after the Workshop

1. Reviewing and modifying the developed draft ASEAN guideline according to the trial of using it to evaluate existing national FCTs at the Workshop and the comments of the participants.
2. **Developing the final ASEAN Guideline for evaluating the existing FCTs/FCDB.**
3. Each country was requested to apply the Guideline to **evaluate the existing national FCTs/FCDB.**
4. The developed ASEAN Guideline was **submitted to INFOODS** for consideration to be included in the INFOODS/FAO Guidelines for evaluating the available FCTs/FCDB

ASEANFOODS-ILSI-SEA collaborations

Workshop 2: Food Composition Database 2016

“Towards improving FCDBs in Southeast Asia to facilitate analyses of food consumption data”

Organised by ASEANFOODS and ILSI-SEA Region
30-31 March 2016, Bangkok, Thailand



ASEANFOODS-ILSI-SEA collaborations Workshop 2: Food Composition Database 2016



Chairpersons: Dr. Prapasri Puwastien, Institute of Nutrition, Mahidol University (INMU), Thailand
Dr. E-Siong Tee, TES NutriHealth Strategic Consultancy, Malaysia
Dr. Kunchit Judprasong, INMU, Thailand
Mr. Le Hong Dung, National Institute of Nutrition (NIN), Vietnam

Participants included:

- **representatives of FCD generators, compilers, and users from 9 ASEAN countries (except Brunei Darussalam)**
- **ILSI-SEA Senior Officers**
- **Representatives from food industries**

ASEANFOODS-ILSI-SEA collaborations Workshop 2: Food Composition Database 2016:

Main activities

1. Follow-up on the roundtable discussion held in December 2015: ASEAN Guideline for evaluation FCTs/FCDB
2. Approaches to improve quality of national FCDB in ASEAN
3. FoodComp course for ASEAN countries
4. ASEAN Food composition database (FCDB), updated version
5. Other activities



ASEANFOODS-ILSI-SEA collaborations Workshop 2: Food Composition Database 2016 – WS outcome

1. ASEAN Guideline for evaluation FCTs/FCDB

- The final ASEAN Guideline for evaluating the quality of available FCTs/FCDBs. *The Guideline can be used for evaluating other FCT/FCDBs in ASEAN for the purpose of quality improvement*
- **The quality status of the existing 8 national FCTs/FCDBs in 5 ASEAN countries**
- The **identified gaps of foods and nutrients** in each national FCDBs for quality improvement.

ASEANFOODS-ILSI-SEA collaborations

Workshop 2: Food Composition Database 2016 – WS outcome

Result: Quality status of published food composition tables and databases in ASEAN countries

Meet the criteria:

Malaysia new FCT,

Thai FCT 2015

Confidence but with limitations:

Malaysia (1997 version)

Philippine FCT 1997

Philippine Selected FCT for Vegetables

Vietnamese Food Composition Table (2000)

Thailand (MOPH 2001)

ASEANFOODS-ILSI-SEA collaborations

Workshop 2: Food Composition Database 2016 – WS outcome

2. Approaches to improve quality of national FCTs/FCDB in ASEAN

- Procedures for selecting foods and nutrients **for data generation** through national food consumption surveys
- Protocols for **compiling FCD (borrowed data)** from other sources
- **Suggestion from ILSI-SEA:**
 - ❖ developing **FCDB of “branded food products”** as they are not available or are incomplete in the national FCDBs of ASEAN countries
 - ❖ Strategies to **collaborate with the food industries** to obtain data for inclusion into national FCDBs
 - ❖ Workshop agreed to **initiate a pilot project in 3 countries - Malaysia, Philippines and Thailand** – for developing FCDB of branded food products

ASEANFOODS-ILSI-SEA collaborations

Workshop 2: Food Composition Database 2016 – WS outcome

3. FoodComp course for ASEAN countries

- **Participants agreed to the presented draft content and plan for organising the FoodComp course as requested by the participants at the last workshop.**
- **Estimation of the budget required for organising the course was requested to INMU by ILSI-SEA.**



ASEANFOODS-ILSI-SEA collaborations Workshop 2: Food Composition Database 2016 – WS outcome

4. ASEAN Food composition database (FCDB), updated version
 - Participants agreed to a plan for the **development of the 2nd version of ASEAN FCDB**
 - ❖ previous version published > 15 years ago
 - The database will be developed over 3 workshops in 2 years
 - **ILSI-SEA region assists in**
 - Identifying potential partners and sponsors
 - Providing other technical support
 - ASEANFOODS to consider channeling proposed plan to ASEAN framework for support



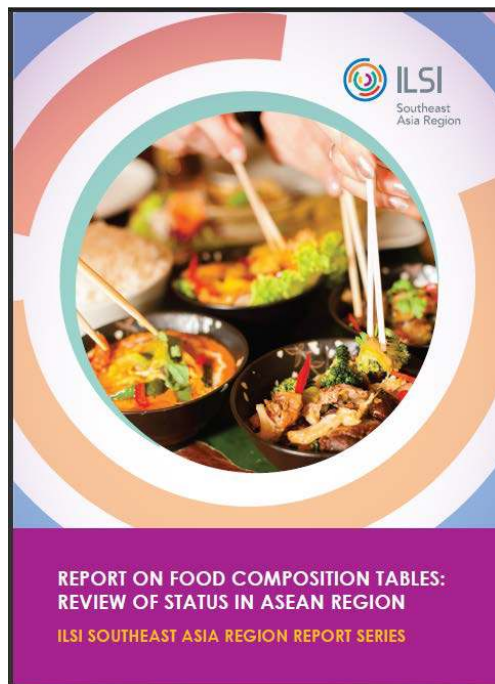
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ASEANFOODS-ILSI-SEA collaborations

Other activities:

Publication of Review of food composition tables in ASEAN



**Jocelyn Wong, Yeli Wang &
Pauline Chan. Report on food
composition tables: review of
status in ASEAN region.**

Jan, 2017, 31 pages.

[http://ilsisea-
region.org/publication/status-review-on-
fct/](http://ilsisea-region.org/publication/status-review-on-fct/)

Concluding remarks

- General agreement within ASEANFOODS member countries that it is vital to **continue to strengthen its role** to promote the generation and compilation of quality food composition data
 - ❖ For **development of policies and programmes** to tackle the double burden of malnutrition in SEA
 - ❖ Persistent undernutrition and escalating overnutrition
- ASEANFOODS need technical support from INFOODS/FAO and the financial support from national and international agencies for **the main activities** of the Network **to be regularly conducted**.
- Imperative that each country should establish **its own food composition database programme**
- ASEANFOODS can assist to **strengthen the competence of the staff** at the ASEAN countries, eg the FoodComp–ASEAN has been planned to be organised.

Concluding remarks (2)

- Some member countries have been **actively working on generating and compiling national FCDBs**.
 - ❖ When the FCDBs are sufficiently available, the members agreed to process the data to **prepare the updated version of the ASEAN FCDB**.
- With the **collaboration and support from ILSI-SEA** several activities have been successfully conducted eg
 - ❖ Workshops to bring together key stakeholders in FCDBs in ASEAN
 - ❖ Review of FCTs in ASEAN
 - ❖ **a pilot project on developing of FCDB of branded food products**, involving 3 countries: Malaysia, Philippines and Thailand, would be implemented

Thank you!



Appreciation to:

- **Assoc. Prof. Dr. Kunchit Judprasong, Coordinator of ASEANFOODS**
- **Assoc. Prof. Dr. Prapasri Puwastien, Advisor of ASEANFOODS**