



**KGID
2026
SEJONG**

Strengthening Food Composition Data Systems: Thailand's Contributions to AFACI and Global Recognition



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**Funded by the Asian Food and Agriculture Cooperation Initiative (AFACI)
under the Rural Development Administration**

Outline

➤ **The Significance of Food Composition Data**

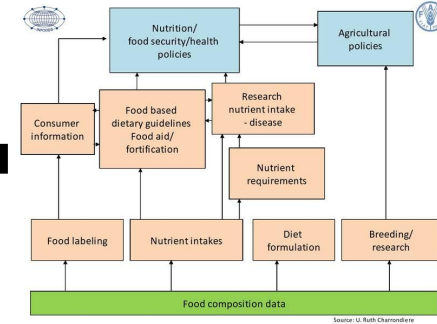
➤ **Institutional Journey & Experience**

➤ **Regional Strategic Partnership: RDA-AFACI**

➤ **Preserving Culture through Science: Traditional Food Booklet**

➤ **Global Recognition & Success Factors**

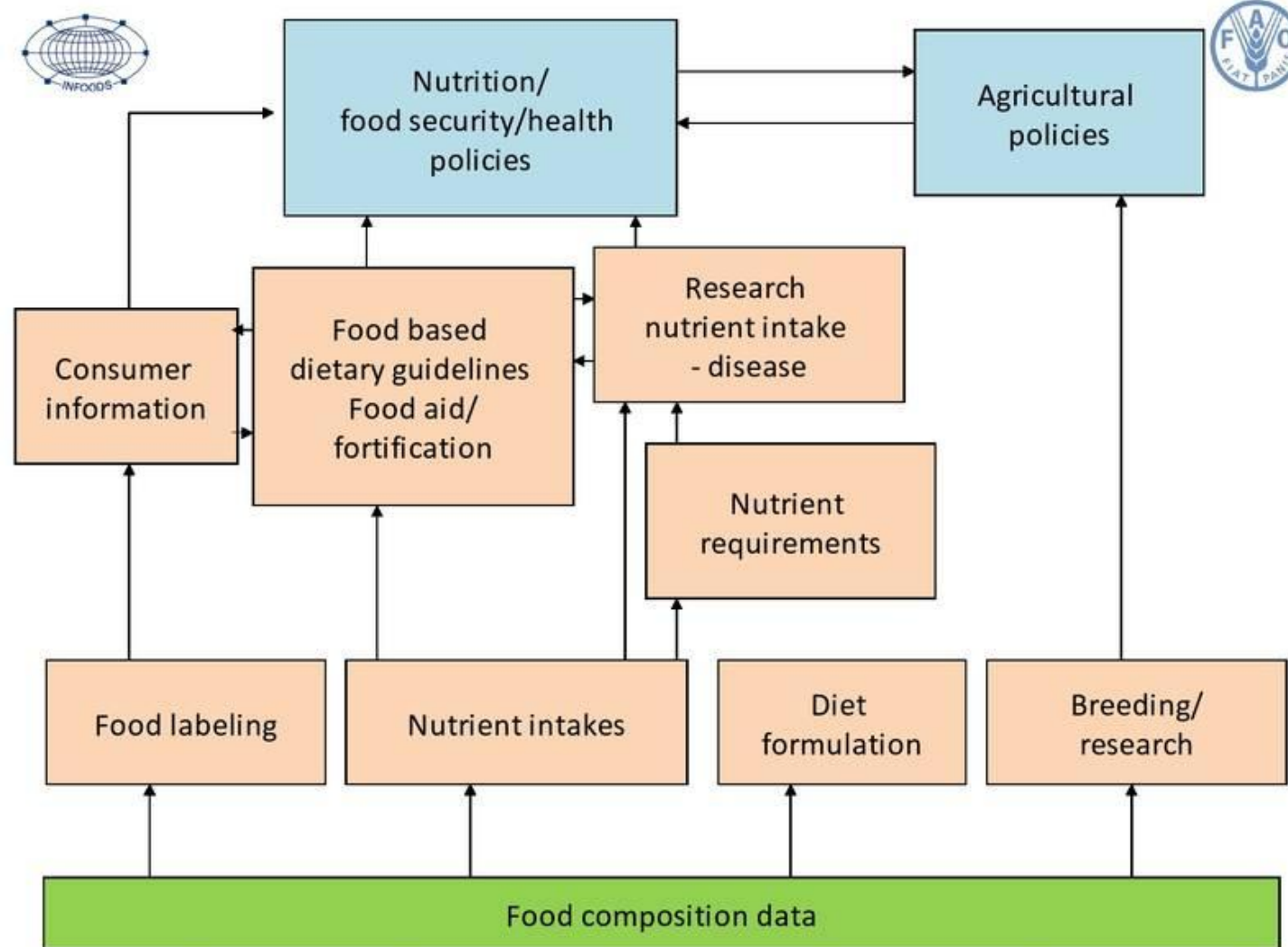
➤ **Conclusion & Future Directions**



Traditional Local Foods of Thailand



Food composition data (FCD) are detailed sets of information on the nutritionally important components of foods. It provides values for energy and nutrients including protein, carbohydrates, fat, vitamins and minerals, and for other important food components such as dietary fiber, sugar.



Source: U. Ruth Charrondiere

The Silent Hero of Nutrition

Why Food Composition Data Matters

Accurate food composition data forms the foundation of effective nutrition intervention. Without knowing what's in our food, we cannot properly address malnutrition or design targeted public health strategies. This critical information bridges laboratory science and real-world health outcomes, enabling evidence-based policies that save lives.



Policy Design

Informs national nutrition guidelines and dietary recommendations

Clinical Care

Enables precise dietary interventions for patients

Research Foundation

Provides essential data for scientific studies

How did I become involved in food composition work?



Study Master of Science (Food and Nutrition for Development),
INMU, Thailand

Jun. 1997

JOURNAL OF FOOD COMPOSITION AND ANALYSIS 12, 9–16 (1999)
Article No. jfca.1998.0800
Available online at <http://www.ideallibrary.com> on **IDEAL**

Proximate Composition of Raw and Cooked Thai Freshwater and Marine Fish

Prapasri Puwastien,¹ Kunchit Judprasong, Eakkarach Kettwan,
Kriengkrai Vasanachitt, Yupaporn Nakngamanong and Lalita Bhattacharjee

Institute of Nutrition, Mahidol University, Phuthamonthon 4, Salaya, Nakhonpathom 73170, Thailand

Attend the **4th IFDC**,
Present 1 Poster
Bratislava, Slovakia

2001



May 1987

Start work at Institute of
Nutrition, Mahidol University
(INMU), Thailand



Oct. 1998

Attend 10 days training
FoodComp Course,
Wageningen University,
The Netherlands



How did I become involved in food composition work?



Attend the 6th IFDC,
Pretoria, South Africa
Present 1 Poster

2005



Organise 8th IFDC,
Bangkok, Thailand
Present 1 Oral

2009



2003

Attend the 5th IFDC,
Washington DC, USA
Present 1 Poster



Attend the 7th IFDC,
Sao Paulo, Brazil
Present 1 Poster &
1 Oral



2007

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

Conference Programme	
<ul style="list-style-type: none"> Site 2 Aug 2005, 18:47:18 Invitation Venue Organising Committee Scientific Committee IUNS/INFOODS Task Forces Registration Abstract Submission Conference Information Website: 21 Oct 2009 Presentation Announcement Transportation Hotel Reservation Collaboration and 	<p>Wednesday, 30th September 2009</p> <p>16:00-19:00 Early Registration (Kwanchow room, 3rd floor, Asia Hotel)</p> <p>Thursday, 1st October, 2009</p> <p>07:30-08:30 Registration (Ratthavee 2 room, 3rd floor, Asia Hotel)</p> <p>08:30-09:15 Opening Ceremony Welcome - INMU Director (Assoc. Prof. Dr. Visith Chevasit)</p> <p>Remarks:</p> <ul style="list-style-type: none"> • Prof. Dr. Kraissid Tontisirin: Professor Emeritus and INMU consultant Former Director, FAC's Food and Nutrition Division pdf • Conference convener: Assoc. Prof. Dr. Pragasit Pawastien pdf • INFOODS/FAD: Dr. Barbara Burlingame PowerPoint <p>Memorial to David Southgate by Dr. Paul Finglas</p> <p>Opening remark: Prof. Dr. Nevin Scrimshaw Award to Prof. Dr. Nevin Scrimshaw by Prof. Dr. Kraissid Tontisirin</p>

How did I become involved in food composition work?



Attend the 10th IFDC,
Granada, Spain
Present 2 Oral &
1 Poster
2013



Attend 12th IFDC,
Buenos Aires, Argentina
Present 1 Oral
& 1 Poster
2017

Technical
Cooperation RDA-
AFACI Project:
Establishment of
Asian Food
Composition
Database

2021-present



2011

Attend the 9th IFDC,
Norwich, United Kingdom

Best poster award



2015

Attend the 11th IFDC,
Hyderabad, India

Best poster award
& 1 Oral presentation



INFOODS Success
Story Award 2015



A New Chapter with RDA-AFACI in 2021

The partnership with the **Asian Food and Agriculture Cooperation Initiative (AFACI)**, **Rural Development Administration (RDA)** from the Republic of Korea and AFACI member countries marked a turning point in Thailand's food composition research capabilities.



International Collaboration

Research initiatives of AFACI member for Asian Food Composition Database including Thailand

Technical Expertise

Access to advanced analytical methods and standardized protocols

Infrastructure Investment

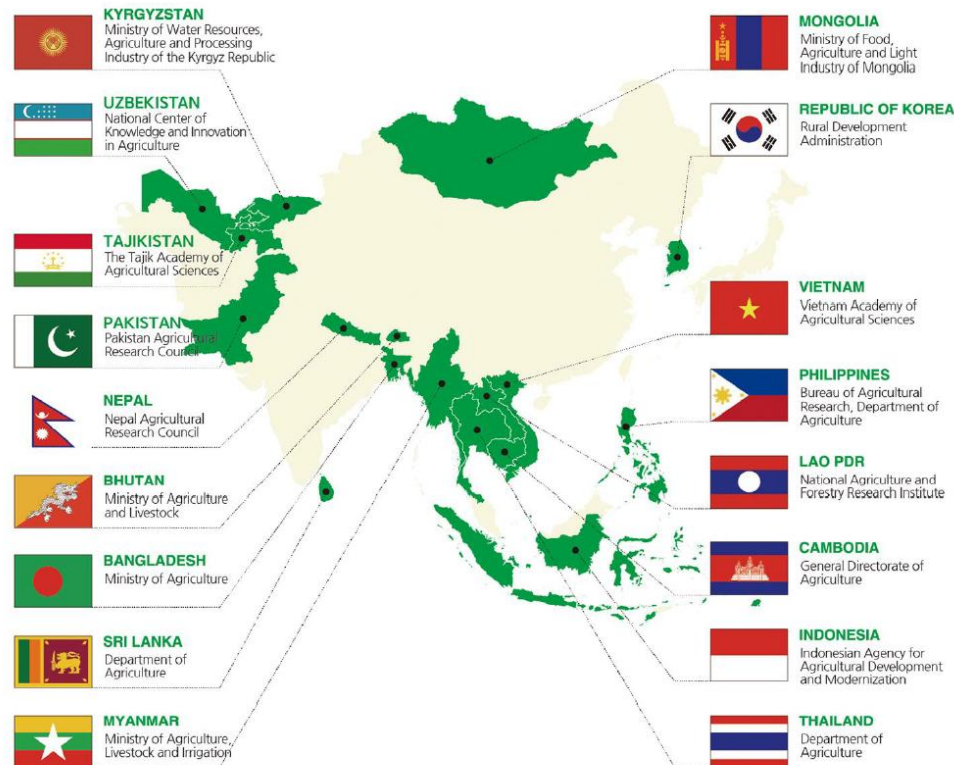
Upgrading laboratory facilities to meet the ISO 17025 standards



Quality Improvement of Asian Food Composition Database

*Participating Countries (11):

Bangladesh, Bhutan, Cambodia, Indonesia, Kyrgyzstan, Mongolia, Nepal, Philippines, Sri Lanka, Thailand, and Vietnam



From Laboratory Bench to Global Impact



1

Early Years

Building analytical capabilities to get accredited ISO/IEC 17025, establishing protocols for nutrient analysis and create Thai FCDB 2015.

2

AFACI Partnership: 2021-present

Collaboration with AFACI, RDA develop high quality food composition database of the selected foods

3

National Database

Updating Thailand's comprehensive food composition database for public health use via website online Thai FCDB

4

Global Recognition

Contributing to regional and international efforts to develop national and regional FCDB

Phase 1: Building the Infrastructure

Years 1-3 (2021-2024): Establishing the Foundation

Key Achievements

- **Development of standardized analytical protocols**
- **Training programs for laboratory technicians**
- **Analysis of 100+ common Thai food items**
- **Establishment of quality control procedures**
- **Creation of Thai food composition database**
- **Establishment of ASIAN FCDB**



Mahidol University Institute of Nutrition | Rural Development Administration | AFACI

Standard Operating Procedure (SOP)
For
Developing Good Quality Thai Food Composition Database

THAILAND

Prapasri Puwastien
Kunchit Judprasong
Piyanut Sridonpai
Konpong Boonyingsathit

Institute of Nutrition, Mahidol University,
Salaya, Phuthamonthon, Nakhon Pathom, Thailand
May 2024

Phase 1 focused on building robust analytical capabilities and creating a reliable database for future expansion.

AFCD 1st project: Plans

<p>1st Year (July, 2021~June, 2022)</p>	<ul style="list-style-type: none"> - Development of sampling plan: 100 items for 3 years - Analysis of nutritional contents for 20 foods - Making a sample information database for 20 foods
<p>2nd Year (July, 2022~June, 2023)</p>	<ul style="list-style-type: none"> - Analysis of nutritional contents for 50 foods - Making a sample information database for 50 foods - Development of SOP (Standard Operation Procedure)
<p>3rd Year (July, 2023~June, 2024)</p>	<ul style="list-style-type: none"> - Analysis of nutritional contents for 30 foods - Making a sample information database for 30 foods - Establishment of the Asian Food Composition Database

AFCD+ 2nd project: Plans

<p>1st Year (Sep, 2024~Aug, 2025)</p>	<ul style="list-style-type: none"> - Revision of SOP on the data validation procedure - Produce material on information for 10 traditional food items - Selection of sample list by expanded food groups (100 items) - Sample collection, preprocessing (standardization), analysis and data production (20 items)
<p>2nd Year (Sep, 2025~Aug, 2026)</p>	<ul style="list-style-type: none"> - Sample collection, preprocessing, analysis and data production (50 items) - Discussions and activities of steering committee (1~2 times per year) - In-depth training to strengthen food composition analysis and database construction capabilities (in cooperation with Mahidol University)
<p>3rd Year (Sep, 2026~Aug, 2027)</p>	<ul style="list-style-type: none"> - Sample collection, preprocessing, analysis and data production (30 items) - Discussions and activities of steering committee (1~2 times yearly) - In-depth training to strengthen food composition analysis and database construction capabilities (in cooperation with Mahidol University) - Establish expanded food composition database by member country

Phase 2: Scaling for Impact

Phase II (2024-2027): From Analysis to Application

1

Expanded Analysis

Increased coverage to 200+ food items including traditional and ingredients

2

FCDB training workshop

Food Composition Workshop: Development of Good Quality FCDB

1) Bangkok, Thailand: 17–20 November 2024

2) Santa Rosa, Philippines: 26–27 June 2025

3

Regional Network

Established ASIAN countries for data sharing



AFCD+ Technical Workshop on Information of Asian Traditional Foods

28 July - 3 August 2025, Institute of Nutrition, Mahidol University,
Nakhon Pathom, Thailand

Participants:



Bangladesh

Nazma Shaheen
Mariam Hossain Nupur
Hafizul Islam



Bhutan

Karma Wangchuk
Shacha Gyeltshen
Chimi Yoezer



Indonesia

Winda Haliza
Ika Hikmahwati
Adhita Reztin Widayaksa



Thailand

Piyanut Sridonpai
Karaked Tongdonpo
Pinyada Karnjanaranya

Goal: Development of the "Asian Traditional Foods"

10 Traditional Recipes

- Preparation & Shopping
- Cooking
- Filming



2025
AFCD+ TECHNICAL
WORKSHOP ON
INFORMATION OF ASIAN
TRADITIONAL FOODS

Information Sheet
28 July - 3 August 2025
Institute of Nutrition, Mahidol University,
Nakhon Pathom, Thailand

Organized by
Institute of Nutrition,
Mahidol University (INMU)

Supported by
Asian Food and Agriculture
Cooperation Initiative (AFACI)

Synergy in Action: Thailand Traditional Local Food Booklet

Preserving Cultural Heritage

A landmark achievement was the publication of the **Traditional Food Booklet in collaboration with RDA-AFACI**, documenting nutrient profiles of Thailand's heritage foods. This resource became **invaluable for nutritionists, healthcare providers, and researchers working with traditional diets.**



10 Traditional Recipes

Documented nutrient values for heritage dishes

Regional Coverage

Represented all four regions of Thailand

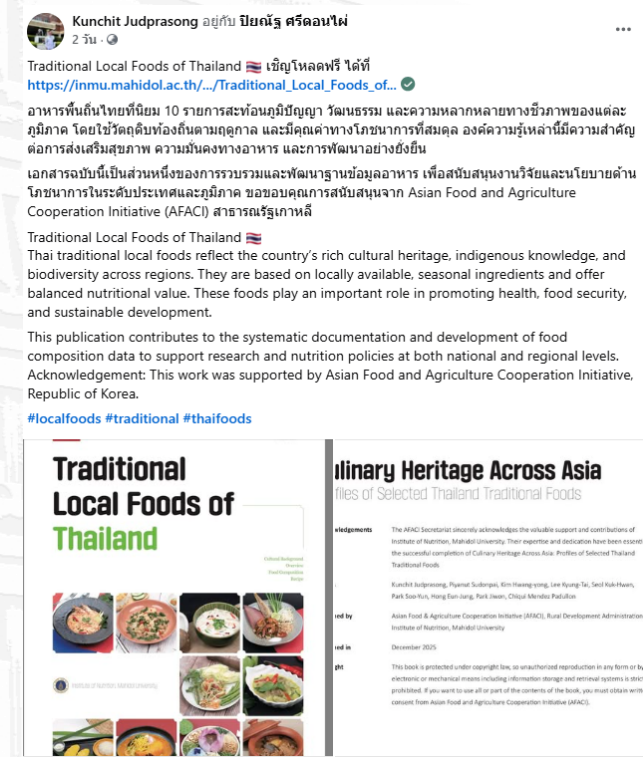
Health Applications

Enabled dietary planning for diverse populations

Publishing of the traditional food booklet in collaboration with RDA-AFACI



<https://inmu.mahidol.ac.th/aseanfoods/AFACI.php>



Facebook: [INMU](https://www.facebook.com/INMU) & [Kunchit.judprasong](https://www.facebook.com/Kunchit.judprasong)

Key Success Factors

01

Strong FCD Foundation

Long-term commitment to food composition data infrastructure

02

ISO /IEC 17025 Accreditation

High-quality analytical data with validated methods

03

AFACI Supports & Collaboration

Research funding, technical expertise, infrastructure, and regional partnerships

04

Systematic AFCD Development

Standardized protocols and phased implementation approach

05

AFCD+ Expansion

Data to application focus with enhanced coverage and training

06

Cultural Integration

Traditional foods booklet combining heritage with science

07

International Recognition

FAO, AFACI, and regional hub

Global Recognition: AFCD+, FAO & APFAN (2025)

AFCD+ Project

2024 Most-Outstanding Principal Investigator in the project “Establishment of Asian FCD” and leading in the **Asian Food Composition Database**, and harmonizing data across AFACI member countries.

FAO Recognition

Awarded at the **2025 FAO International Conference** for outstanding contribution to **food composition science**

APFAN Recognition

Awarded at the **2025 APFAN PT5 Workshop / AOAC SWP Annual Meeting** in **Suva, Fiji** for outstanding contribution to **food analysis**.

Global Network

Established Thailand as a **regional hub for food composition research**, training scientists from across **ASEAN**



These achievements demonstrate how persistent research and international collaboration can elevate national science to global impact, contributing directly to efforts to combat malnutrition across Asia.

Take-home Messages

Food Composition Data is Fundamental

Accurate and high-quality food composition data serves as the foundation for evidence-based nutrition policy, scientific research, and effective public health interventions worldwide.

Quality Systems are Critical

ISO/IEC 17025 accreditation and standardized analytical methodologies are essential for ensuring data reliability, reproducibility, and international acceptance across laboratories and regions.

Collaboration Drives Impact

Regional and international partnerships, exemplified by RDA-AFACI initiatives, are crucial for harmonizing data standards, sharing expertise, and strengthening capacity across countries.

Sustained Effort Leads to Recognition

Long-term commitment, systematic development, and collaborative partnerships can elevate national research programs to global recognition and meaningful scientific influence.

Integrating Culture with Science

Linking traditional foods and indigenous knowledge with validated nutritional data enhances both cultural preservation and nutritional relevance for diverse populations.

Future Direction

Continued expansion of databases, adoption of advanced analytical techniques, and **strengthening regional networks will be essential for sustaining progress and global impact.**



50 Years

ANNIVERSARY

INSTITUTE OF NUTRITION MAHIDOL UNIVERSITY