



Status Review of FCTs in ASEAN countries

Roundtable Discussion
on Food Composition
Database

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Objective

- Gather information on SEA country FCTs
 - Sources of data
 - Food groups and number of food items in each group
 - Nutrients analyzed
 - Methods of analysis
 - Other details (handout)



	Hard copy available	Source of data
Cambodia	No. Cambodia do not have their own FCT. They adopt ASEAN food composition table/database published in 2000.	Bognar, UK 6th, DK7.01, US21, NLG, AAFCT, VNFCT, THFCT, PHFCT, MYFCT, MPHCT, USDA, IDFCT, Own sample
Indonesia	YES	Data presented are based on 1964 Indonesian Food Composition Table and research results of the Centre of Nutrition Research and Development of Indonesia MOH.
		SMILING - Local recipes, Indonesian Sources (DABM-1964, KZGPI-1990, KZGMS-1993, KZGPI 2001, dkbm 95, Nutrisurvey) and ASEAN Food Composition Tables
Lao PDR	YES	ASEAN FCT 2000; Thai FCT 2007; USDA; New Zealand 2009; KZGPI-1990 IND Indonesia 1990; DABM1964 and Package of Food Analyzed
Malaysia	YES	Data presented in this 4th edition of the Tables are based on the 1988 edition (Tee et.al.,1988). Some additional data on specific nutrients are also presented in this edition. Some of these data have been extracted from published reports whereas others are previously unpublished data.
Myanmar	YES	Own Analysis

	Hard copy available	Source of data
Philippines	YES	Local analysis of foods, local publications and foreign references
Singapore	YES	Energy and nutrient values come from laboratory analysis conducted in Singapore. Data from overseas sources are also use in this book.
Thailand	YES	Analyzed locally
Vietnam	YES	Analyzed locally, borrowed from other national and regional food composition tables.



CATEGORIES IN FCT	Number of food items								
	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Cereal and Grain Products	2	159	17	63	??	203	312	78	23
Starchy Roots, Tubers and Products	8	94	3	9	??	41	0	18	26
Vegetables and Vegetable Products	36	251	37	110	??	293	204	292	126
Fruit and Fruit Products	5	137	8	93	??	116	186	183	56
Meat, Poultry and Fish and Their Products	19	343	43	150	??	495	558	397	141
Eggs and Egg Products	1	22	6	12	??	22	24	32	11
Dairy and Dairy Products	1	24	7	19	??	26	90	49	9
Legumes, Nuts and Seeds and Their Products	2	163	4	52	??	69	89	92	33
Fast Food	0	0	0	46	0	0	216	17	0
Local Kuih, Pastries, Desserts and Snacks	0	4	5	82	??	0	86	0	0
Beverages	2	2	3	7	0	66	119	30	16
Oils and Fats	2	21	1	9	??	11	38	43	14
Sugars and Syrups	2	19	1	22	??	50	0	9	27
Sauces and Condiments	0	37	4	0	0	30	0	81	23
Composite Dishes	0	10	??	75	0	87	1374	314	0
Baby Foods (Commercial)	0	0	1	0	??	21	0	0	0
Miscellaneous	10	3	0	39	0	11	279	30	0
Canned Food	0	0	0	0	0	0	0	0	21

Southeast Asia Region

Legend: ?? Present but number not indicated

Methods of analysis										
	Number of Countries with FCT values	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Protein	9	Total N	Kjehldahl	Total N	Total N	Kjehldahl	Kjehldahl	Kjehldahl	Kjehldahl	Kjehldahl
Total fat	9		Soxhlet		All methods, Soxtec system	All methods	All methods	Mixed solvent	All methods	Soxhlet
Carbohydrate	9		By difference	By difference	By difference	By difference	By difference	Weight of starch & sugars	By difference	By difference



Methods of analysis										
	Number of Countries with FCT values	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Fiber	8	Gravimetric	Enzymatic/gravimetric		Acid/alkali treatment		Acid/alkali	Enzymatic/gravimetric	Enzymatic/gravimetric	
SFA	4				GLC (gas-liquid chromatography)			GLC	GLC	GC
MUFA	4				GLC			GLC	GLC	GC
PUFA	4				GLC			GLC	GLC	GC
Cholesterol	4				GLC, colorimetric			HPLC	GLC	GC
Sugar	3							HPLC	Sum of monosaccharides & disaccharides	Titration Bartran method
Starch	1							HPLC		



Methods of analysis										
VITAMINS	Number of Countries with FCT values	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
Retinol	9		HPLC		HPLC		Carr-Price	HPLC	Not specified	HPLC
B1 thiamine	9		Spectrophotometry		Thiochrome method (fluorometry)	All	Thiochrome method (AOAC)	Fluorometry	All (AOAC)	HPLC
B2 riboflavin	9		Microbiology		Fluorometry		Fluorometry (AOAC)	Fluorometry	All (AOAC)	HPLC
Vit C	9		Titration		Indophenol dye method, microfluorometric method	All	Dinitrophenyl hydrazine (DNPH) colorimetric method	Fluorometry	All (AOAC)	Titration with voltages, HPLC
Niacin	8		Spectrophotometry		Colorimetric (spectrophotometry)	All	Microbiological (AOAC)		All (AOAC)	HPLC



Methods of analysis										
Minerals	Number of Countries with FCT values	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
VITAMINS										
beta carotene	6		HPLC		HPLC		Moore chromatographic method	HPLC	All (AOAC)	HPLC
Folate	4		Microbiological assay							HPLC
vit D	3									HPLC
B12 cobalamin	3									HPLC
B6 pyridoxine	3		Not specified							HPLC
B5	1									HPLC
Biotin	1									HPLC
Vit E	1									HPLC
Vit K	1									HPLC



Methods of analysis										
Minerals	Number of Countries with FCT values	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
calcium	9		AAS		Titrimetric method (precipitation of oxalate), AAS	All	Titrimetric method involving precipitation of oxalate	ICP	All (AOAC)	All
iron	8		AAS		Colorimetric method, AAS	All	Modified Hahn colorimetric method	ICP	All (AOAC)	All
phosphorus	7		AAS		Colorimetric method based on Misson's reaction	All	Fiske & Subbarow colorimetric method	ICP	All (AOAC)	All
zinc	7		AAS		AAS			ICP	All (AOAC)	All



Methods of analysis										
Minerals	Number of Countries with FCT values	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Vietnam
potassium	5		AAS		AAS			ICP	All (AOAC)	All
copper	4		AAS		AAS				All (AOAC)	All
Mg	3				AAS				All (AOAC)	All
selenium	2							ICP		All



Observations

Countries that do not use borrowed data

- Thailand
- Myanmar
- ? Malaysia

Countries that borrow FCT data, in addition to their own data

- Cambodia
- Indonesia
- Lao PDR
- Philippines
- Singapore
- Vietnam



Observations

- Some countries have more food categories than others
- **The number of food items differ among countries (many in some, few in others)**
- Some countries with FCT values for specific nutrients do not have specified methods of analysis for these nutrients



Outcomes we hope to achieve

- Quality evaluation of country specific FCTs
- **Identify discrepancies**
- discuss possibility to harmonize food groups, criteria for selecting food items and nutrients for analysis, FCTs/FCDB format
- **Identify gaps for improvement and future collaboration**
- Develop action plan for succeeding workshop and future activities



THANK YOU

