

II. TRAINING PROGRAMS

1. Existing Training programs by the Ministry

- 1-1 Purpose and objectives
- 1-2 Participants number and qualification of applicants
- 1-3 Duration
- 1-4 Curriculum
- 1-5 Expenses borne by the Ministry

2. Training plans, if any, which will be carried out in cooperation with Japanese experts

- 2-1 Purpose and objectives
- 2-2 Role of Japanese experts
- 2-3 Participants number and qualification of applicants
- 2-4 Duration
- 2-5 Curriculum

3. Training of Thai counterpart personnel in Japan

3-1 Observation tour (for high-ranking administration personnel)

- 3-1-1 Selection of applicants
- 3-1-2 Expected course contents
- 3-1-3 Expected role of the counterparts who took a training course in Japan when they return to the Ministry

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- 3-2-1 Selection of applicants
- 3-2-2 Expected course contents
- 3-2-3 Expected role of the counterparts who took a training course in Japan when they return to the Ministry

III. ADMINISTRATION OF THE PROJECT

- 1. The name of the position and institution which will bear overall responsibility for the administration and implementation of the project
- 2. The name of the position and institution which will be responsible for the managerial and technical matters of the project
- 3. Committees
 - 3-1 Joint Coordinating committee
 - 3-1-1 Functions
 - 3-1-2 Composition: Chairman and members

3-2 Steering Committee

3-2-1 Functions

3-2-2 Composition: Chairman and members

4. Administrative structure and relationship among the institutions concerned listed below (with organizational chart)

- Department of Medical Sciences (DMSc)
 - Division of Food Analysis
 - Division of Food-for Export Analysis
- Food and Drug Administration (FDA)
 - Food Control Division
 - Inspection Division
 - Technical Division
 - Public Relation & Advertisement Control Division
- Provincial Health Offices under the Provincial Chief Medical Officers
- 9 Regional Medical Sciences Centers

5. The site(s) of project implementation

5-1 Address

5-2 Area

6. Logistic personnel

6-1 Administrative personnel (number, full-time/part-time)

6-2 Provision of local allowances for secretaty, typist and driver accorded to Japanese Experts under Technical Cooperation Programs endorsed by Department of Technical Economic Cooperation

6-3 Arrangement of secretary, typist, and driver by DMSc and FDA

7. Provision of buildings and facilities

7-1 Office for the leader of Japanese experts

7-2 Offices and necessary facilities for Japense experts

7-3 Facilities such as electricity, as and water supply, sewerage system, telephone, facsimile, copy machine, furniture and vehicle necessary for project activities

8. Allocation of all running expenses for the implementation of the project

Budget of:

8-1 Administrative expenses

8-2 Operating expenses

8-3 Expenses for supply and/or replacement of equipment and machinery

8-4 Expenses for maintenance of equipment and machinery

9. Technical assistance which has been/will be conducted by other donors

9-1 The names of donors

9-2 Outline of assistance

10. Extention plan of the effect of the project to the whole country after the termination of the project

IV. IMPLEMENTATION AGENCIES

1. Outline of implementation agencies

- 1-1 Authorities and detailed duties of each divisions involved in the project

- 1-2 Number, level, sex and age of personnel allocated to the divisions

- Department of Medical Sciences (DMSc)

- Division of Food Analysis

- Division of Food-for Export Analysis

- Food and Drug Administration (FDA)

- Food Control Division

- Inspection Division

- Technical Division

- Public Relation & Advertisement Control Division

- Provincial Health Offices under the Provincial Chief Medical Officers

- 9 Regional Medical Sciences Centers

2. Rules and regulations relating:

- 2-1 Food sanitation

- 2-2 Animal slaughter sanitation

- 2-3 Quarantine of food-for-import/export

- 2-4 Food sanitation inspection

- 2-5 Standards for food and food additives and examination methods

3. Statistics (in the past five years)

- 3-1 Infectious diseases and food poisoning

- 3-2 Food-for-import/export

4. Annual budget of implemetation agencies

- 4-1 Administrative expenses, operating expenses, (breakdown, including equipment and machinery maintenance expenses, expendable supplies expenses), others and total budget

5. Existing buildings and facilities

- 5-1 Type, layout, area, number of years since construction, present condisions and main purposes of the buildings and facilities

- 5-2 Capacity of power supply (layout) and coverage of backup generator

6. Existing equipment

- 6-1 Type, specifications including the manufacturer's name, model, the date of purchase, number and working conditions of equipment
- 6-2 Arrangement for maintenance of equipment (division in charge in the Ministry, contract with private companies, etc)
- 6-3 Arrangement for purchase of spare parts, expendable supplies, reagents (dealers, procedures, number of days required, etc)

V Related information

- 1. Food inspection system (organization, number of personnel involved, main duties and present activities)
- 2. Protocols for chemical analysis of food components and food contaminants
 - 2-1 Food components
 - 2-1-1 harmful components (cyanide, alkaloid, etc)
 - 2-1-2 Beneficial components (nutritional ingredients, dietary fiber, etc)
 - 2-1-3 Degeneration (peroxide lipid, histamine, decayed amine, etc)
 - 2-2 Food contaminants
 - 2-2-1 Agricultural chemicals (organo-phosphorous compound, organo-oxacid compound, etc)
 - 2-2-2 Environmental pollutants (low-boiling-point organo-oxacid compound, organo-tin compound, etc)
 - 2-3 Antimicrobial synthetic compound, antibiotics, hormone drugs for animal
 - 2-4 Fungal toxin
 - 2-5 Heavy metals
 - 2-6 Food additives
 - 2-7 Containers-packages
 - 2-8 Testing procedures concerning above listed components (scope of a kind of food for testing, annual number of cases, type of equipment for testing, etc)
- 3. Number and scale of testing institutions, numbers of handling cases and violation cases per annum, items of violation
 - 3-1 National level
 - 3-2 Provincial level
 - 3-3 Private institutions
- 4. Procedures of technical and administrative guidance by the Ministry (national level) to provincial and private food testing institutions

5. Food testing institutions under the jurisdiction of the Ministries other than the Ministry of Public Health (the Ministry of Agriculture, etc)
6. Administrative measures taken in case of oral-infectious diseases and food poisoning (including cases found in testing procedures)
7. Divisions responsible for food analysis relating:
 - 7-1 In case of incidence
 - 7-2 Quarantine of food-for-export/import
 - 7-3 Guidance and inspection to maintain food safety for the public

QUESTIONNAIRE ON THE PROJECT FOR
STRENGTHENING OF FOOD SANITATION ACTIVITIES

I MASTER PLAN OF TECHNICAL COOPERATION

1. Objectives of food sanitation activities in the National Public Health Development Plan formulated in the 7th National Economic and Social Development Plan. October 1992 - September 1997, and the middle- and long term goals of food sanitation activities.

Objectives :

1. To continuously improve food safety for public consumption.
2. To minimize and solve problems that may arise in exporting food and to facilitate international food trade.

Goals :

1. Raising the standard of living and the well being of the people of Thailand through the improved health condition.
2. Sustaining the recognition of Thai food products in international market.

2. The relevance of the Project to the objectives and goal mentioned above.

To achieve the objectives and goals of food sanitation activities mentioned above, the most effective food control system for both domestic and export levels is needed by the Ministry of Public Health. Modern technology and equipment to support the implementing agencies are necessary. The Project which will provide modern instruments, experts and fellowships for technical transferring and creating well-trained personnel will surely fulfill the need of the ministry for carrying out its task.

3. Outline of the Project

3-1 Objectives

3-1-1 Goal:

Promoting consumer's health protection program through the improvement of food sanitation for both domestic and exporting level.

3-1-2 Project purposes:

Strengthening the capabilities of food analytical services of DMSc and food control activities of FDA.

3-1-3 Outputs:

1. Food laboratories and the implementing agencies (DMSc and FDA) will be well equipped with appropriate instruments supplied by the government of Japan.
2. A considerable number of well-trained personnels in the field of food analysis and food control will be created in both agencies by means of fellowships and technique transfer from the Japanese experts.
3. Legal food control system of the country will be more strengthened.
4. Loss of food marketed due to poor quality and number of food consignments detained at and rejected from importing countries will be reduced.

3-1-4 Activities:

The main activities of the project on technical collaboration that must be undertaken in order to accomplish outputs will be as follows:

1. Technical transfer and information exchange.
(dispatch of experts):

2. Development of competency for Thai participants through study and training in Japan.
(fellowship program)
3. Provision of appropriate lab and other equipment to facilitate effective implementation.
4. In house trainings and workshops in Thailand will be contributed by the Japanese counterparts.
5. Other activities when necessary

(Please see more details in Attachment 1)

3-2 Verifiable indicators :

- Successful installation and utilization of equipment donated throughout the project
- Knowledge acquired by Thai counterparts in related fields.

3-3 Means of verification:

- Increasing in service capabilities of DMSc and FDA.
- Implementation of food sanitation control will be more concrete and systematic.

3-4 Assumptions and external factors:

- the budget from the Government of Thailand will be allocated when necessary to support the project.

4. Expected impact of the project on those who are involved in:

4-1 The project activities

Food control personnels from FDA and food analysts from DMSc will be well-trained in appropriate fields necessary to their responsibilities.

4-2 The food industry sector

The food sanitation control techniques acquired will be transfered to the quality control laboratory of food industry.

4-3 The area covered by the project activities

- Both central and provincial areas of the country.
- Countries to which Thai food products are exported.

5. Perspectives of sustainable development in terms of technical improvement after the termination of the project

5-1 Application of knowledge and skills transferred:

- Analysis of new food additives, residues and contaminants caused by development in food processing and industry.
- Transfer of technical knowledge to private sector and governmental provincial food agencies.

5-2 Allocation of the sufficient number of personnel in the related divisions in the Ministry:

A maximum of two percent increasing in the number of personnel will be allocated each year according to policy and the need of individual institute.

5-3 Utilization and settlement of the technique acquired through project activities:

The establishment of a modernized center in Thailand for food analysis and sanitation control will be planned to serve as training base for Indochina region.

5-4 Plans of fostering new recruits in order to maintain the technical level:

The on-job training will be held for new recruits in order to maintain the technical level.

II TRAINING PROGRAMS

1. Existing training program by the Ministry (1994)

DMSc:

DFA :

Training needs: Technical refreshment course for junior lab staff

Objective : to promote the capabilities of food analysts from Regional Centers Medical Sciences and private laboratories.

1. Determination of iodine in food (15 persons/4 days)
2. Hygienic problems of food packaging (15 persons/4 days)
3. Chemical analysis of food; Part I (15 persons/4 days)
4. Chemical analysis of food; Part II (15 persons/4 days)

The participants will be those from Regional Centers of Medical sciences and private laboratories.

Expenses borne by the Ministry is approximate 300,000 Baht.

DFA :

Training needs: Industrial QC personnel

Objective: To promote the capabilities of quality control personnel in food-for-export processing plants.

1. The determination of oxytetracycline in cultivated black tiger shrimp (25 persons/1 days)
2. Chemical Analysis and Control of chemical additives in food-for-export (25 persons/4 days)
3. Microbiological Control of food-for-export (25 persons/4 days)

The participants are QC personnel of food-for-export processing plants especially those who are members of TFFPA and TFPA.

Expenses borne by the Ministry is approximate 500,000 Baht.

FDA:

Objective: To strengthen FDA staffs on administration management system and inspection techniques.

1. Administration technique (3 courses)
2. Project management
3. Training for the trainer
4. Inspection technique

The participants will be selected from FDA staff with the total number of 150.

Expenses borne by the Ministry is approximate 1.2 million Baht.

2. Training plans, if any, which will be carried out in cooperation with Japanese experts

2-1 DHSc:

The training courses will be carried out with the purpose of promoting the capabilities of the food analysts of DHSc. The Japanese experts are invited as lecturers and/or technical trainers. Participants will be selected from food analysts of DHSc. Qualification of participants depend on specific objective of the course with at least one year experience in food analysis.

The fields and duration of training should be as follows:

Field	No. of participants	Duration (days)
1. Laboratory management (QC/QA in laboratory)	10	5
2. Antibiotics in food	10	5
3. Hormone in food	10	5
4. Food parasite	10	5
5. Bacterial toxin	10	5
6. Marine toxin	10	5
7. Polyphosphate in food	10	5
8. Food additive in food	10	5

2-2 FDA:

The topic of the training course will be Inspection Technique with the purpose of strengthening the FDA inspectors on sampling and inspection technique. Japanese experts are expected to propose training module and provide knowledge on sampling and inspection techniques. Participants will be selected from inspectors with at least one year experience. The total number of participants are 50. The duration of training depend on the experts.

3. Training of the counterpart personnel in Japan

3-1 Observation tour (for high-ranking administration personnel)

3-1-1 Selection of applicants:

The applicants will be nominated by the Director General of DMSC and Secretary General of FDA.

3-1-2 Expected course content:

Administration and Information system

3-1-3 Expected role upon returning home:

1. To give advice to the implementing agencies on administration and information matter.
2. To execute and keep the implementation of the project in line.
3. To evaluate the progress of the project.
4. Other tasks concerning the implementation of the project when necessary.

3-2 Study tour

3-1-1 Selection of applicants:

The applicants are the directors or heads of sub-division from the relevant agencies of DMSc and FDA

3-1-2 Expected course content:

Laboratory management system and accreditation system (for DMSc)

Public relation programme and inspection programme (for FDA)

3-1-3 Expected role upon returning home:

1. To give advice on the management of laboratory and accreditation (DMSc) and on public relation and inspection (FDA).
2. To evaluate the progress of the project at each level.
3. Other tasks concerning the implementation of the project when necessary.

III ADMINISTRATION OF THE PROJECT

1. The name of the position and institution which will bear overall responsibility for the administration and implementation of the project:

Permanent Secretary of Ministry of Public Health

2. The name of the position and institution which will be responsible for the managerial and technical matters of the project:

1. Director General, DMSc
2. Secretary General, FDA

3. Committees

- 3-1 Joint Coordinating committee

- 3-1-1 Functions

The Coordinating Committee will meet at least once a year or whenever necessity arises and work in the following scopes;

1. To formulate policy in line with master plan objective of the project,
2. To evaluate the progress of the project,
3. To advise the both governments on;
 - a. the implementation of the project,
 - b. the budgetary matters,
 - c. the recruitment of Thai counterpart personnel,
 - d. other matters mutually agreed upon as necessary, for execution of the specific activities.
4. To establish the subcommittees, when necessary, for the execution of specific activities.

- 3-1-2 Composition: Chairman and members

Chairman: Permanent Secretary,
Ministry of Public Health

Members:

1. Thai side:
 - a. Director General, DMSc
 - b. Secretary General, FDA
 - c. Deputy Director General, DMSc
 - d. Deputy Secretary General, FDA
 - e. Principal scientist, DMSc
 - f. Director of Food Control Division, FDA

g. A representative of the Department of
Technical and Economic Cooperation

2. Japanese side

- a. Team leader
- b. Coordinator/Liaison officer
- c. Other experts and personnel concerned to be
dispatched by JICA, if necessary.
- d. Resident representative of the Bangkok office,
JICA.

3. Secretariat staff

3-2 Steering committee

3-2-1 Functions

The steering committees will meet every three months or
whenever necessity arises and work in the following
scopes:

- 1. To review the overall progress of the implementation
in line with the master plan and the policy and
recommendations of the Coordinating Committee of
the project.
- 2. To review the measures taken by the government of
Japan, i.e.:
 - a. Dispatch of Japanese experts,
 - b. Acceptance of Thai counterpart personnel in
Japan for training,
 - c. Provision of equipment.
- 3. To review the measures taken by the Government of
Thailand, i.e.:
 - a. Allocation of necessary budgets, (including
local cost expenditures)
 - b. Allocation of necessary counterpart personnel,
 - c. Utilization of equipment provided by the

Government of Japan.

4. To formulate the annual work plan and prepare the report of the project.
5. To recommend to the both Governments, particularly on:
 - a. Appointment of the Thai counterpart personnel,
 - b. Effective utilization of equipment,
 - c. Appropriate dispatch of Japanese experts,
 - d. Acceptance of Thai counterpart personnel, for training in Japan,
 - e. Other matters mutually agreed upon as necessary.

3-2-2 Composition: Chairman and members

Chairman: Director General, DMSc

Members:

1. Thai side:
 - a. Deputy Secretary, FDA
 - b. Deputy Director, DMSc
 - c. 2 Senior technical adviser (DMSc, FDA)
 - d. 2 Directors, DMSc
 - e. 4 Directors, FDA
2. Japanese side:
 - a. Team leader
 - b. Coordinator/Liaison officer
 - c. Other experts and personnel concerned to be dispatched by JICA, if necessary.
3. Secretariat staff

4. Administrative structure and relationship among the institutions concerned listed below (with organizational chart)

Please see Attachment 2

5. The site(s) of the project implementation

1. Department of Medical Sciences

1.1 Division of Food Analysis

1.2 Division of Food-for-Export Analysis

Address: 693 Bamrungmuang Road, Bangkok 10100

Area: DFA and DFEA together occupy 7 floors of the ten-floor building. By the end of 1993, they will occupy the whole building.

2. Food and Drug Administration

Address: (before March 1994)

Ministry of Public Health Samsen road, Bangkok 10200.

After March 1994, the address will be:

Ministry of Public Health, Tiwanon Road, Bangkrasoa, Nonthaburi.

Area : FDA occupies 6 floors of the 8-floor building.

6. Logistic personnel

6-1 Administrative personnel will be arranged by the steering committee

6-2 The Royal Thai government will provide local allowances, for secretary, typist and driver for Japanese experts in collaborate of accordance with the Department of Technical Economic Cooperation (DTEC).

6-3 Upon the implementation of the project DMSc And FDA will arrange the secretary, typist, and driver.

7. Provision of buildings and facilities

7-1 Office for the leader of Japanese experts is provided at the Department of Medical Sciences (Yod-se).

7-2 Office and necessary facilities for Japanese experts

Regarding the activities to be implemented at DMSc, the office will be arranged at DMSc.

Regarding the activities to be implemented at FDA, the office will be arranged at FDA.

7-3 The facilities such as electricity, water supply, telephone and office furniture will be arranged by DMSc and FDA.

8. Allocation of all running expense for the implementation of the project Budget:

8-1 Administrative expenses will be provided partly by the government of Thailand according to DTEC financial support.

8-2 Operating expense will be provided by the Government of Japan under the technical cooperation program. However, when necessary, The annual budget of the implementing agencies will be allocated to support this expense.

8-3 Expense of supply and/or replacement of equipment will be provided by the Government of Japan throughout the project.

8-4 Expense for maintenance of equipment will be provided by DMSc/FDA and the Government of Japan under this project.

9. Technical assistance which has been/will be conducted by other donors

None

10. Extension plan of the effect of the project to the whole country after the termination of the project

1. Promotion and strengthening of the activities of the regional area such as Regional Centers of Medical Sciences or Provincial Health Offices in term of technical subject to enable them to solve the problems on food sanitation which differ from region to region.

2. Transfer of the technical knowledge regarding food-for-export Laboratory service to regional level of DMSc.

3. Promotion of food-for-export analysis by private food to private sector.

IV. IMPLEMENTATION AGENCIES

1. Outline of implementation agencies

1-1 Authorities and detailed duties of each divisions involved in the project

DNHSc:

Division of Food Analysis is responsible for the quality assurance of food both produced locally and imported to ensure safety for public consumption.

Duties:

1. Analysis of food, beverage, water, food container and food additive.
2. Study and research on food composition, adulteration, natural toxin, food processing and effect from pollution in order to amend and update food standard and support food processing improvement. Study on the cause and epidemiology surveillance of food-borne disease.
3. Assessment of the quality assurance of food products for both private and governmental laboratories.
4. Coordination and cooperation with national and international organization with regard to all aspects of food.

Division of Food-for-Export Analysis is responsible for quality and safety assessment, certification of food for export and promotion of quality and safety improvement in food industries especially food-for-export.

Duties:

1. Providing laboratory services for exporters and food producers for export.
2. Issuing certificates for food consignments in the fields of food safety and health standards according to the requirements of importing countries and/or importers.
3. Promoting improvement of food for export industry with

reference to health requirements.

4. Giving technical advisory services to food processing plants for export.
5. Providing specific information exchange.

FDA : The authorities and functions are confined to the scope of the 8 Acts including Food Acts. Its main roles are implementation enforcement, surveillance and public relation. Food control programs are under the responsibility of the following divisions:

1. Technical Division formulates and coordinates the implementation of the annual FDA work plan, follows up and evaluate the projects under FDA plan.
2. Food Control Division is responsible for pre-marketing control through establishing rules and guidelines for food safety and quality, registration and liscensing as well as upgrading the standard of local food processing plants.
3. Public Relation and Advertisement Control Division is responsible for campagning for public awareness of food safety, building up public proper understanding about food particularly at "grass root level" and not influenced by deceptive advertising of unscrupulous food producers or venders.
4. Inspection Division is in charge of post marketing control to ensure that the population of the whole country will be provided with wholesome and nutritious food.

1-2 Number, level, sex and age of personnel allocated to the
divisions (DHSc, FDA, PHO's and 9 RMSC)

1-2-1 DHSc

	Age	level	Number	
			male/female	(total)
<u>Division of Food Analysis</u>				
-Director				1
-Administrative staff	20-30	-	0/4	4
	31-40	-	0/2	2
	41-50	-	0/1	1
-Workers and employees	20-30	-	0/1	1
	31-40	-	5/3	8
	41-60	-	1/5	6
-Scientists:	20-30	junior	1/9	9
	31-40	junior	3/8	11
		senior	2/12	14
	41-50	senior	1/7	8
	51-60	senior	1/3	4
Total			14/55	70

	Age	level	Number	
			male/female	(total)
<u>Division of Food-for-Export Analysis</u>				
-Director				
-Administrative staff	20-30	-	0/5	5
	31-40	-	0/5	5
-Workers and employees	20-30	-	17/22	39
	31-40	-	3/2	5
-Scientists:	20-30	junior	3/22	25
	31-40	senior	2/7	9
	41-50	senior	0/3	3
Total			25/67	92

1-2-2 FDA

<u>Division</u>	<u>Total</u>
- Technical Division	58
- Food Control Division	61
- Public Relation and Advertisement Control Division	44
- Inspection Division	135

3. Statistics

3-1 Infectious diseases and food poisoning

Food poisoning in Thailand

Food poisoning in Thailand

1987-1991

Year	No. of case		Death		No. of outbreak
	Total no.	Rate per Pop. (100,000)	No. of death	% of death	
1987	52,060	97.10	34	0.10	15
1988	55,452	101.70	33	0.06	11
1989	54,893	98.83	30	0.05	11
1990	55,662	98.87	25	0.04	14
1991	59,708	105.38	16	0.03	12

source: Annual Epidemiological Surveillance Report, 1988-1991

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3-2 Food-for-import/export

Food-for-export

Food-for-Export (1992-1993)

Product	Amount (metric ton)	
	1992	1993
1. Agricultural products	3,966,800	5,137,000
2. Fishery and cattle products	459,900	518,300
3. Industrial agriculture products	482,000	445,100
4. Canned and process fruits	472,000	544,000
5. Canned and process vegetables	53,000	111,000
6. Rice products	113,800	124,000
7. Wheat products and other instant foods	44,000	45,000
8. Animal food	140,000	154,000
9. Fish sauce and other condiments	28,000	30,000
Total	5,739,500	7,108,400

source: Department of Business Economic, Ministry of Commerce

4. Annual budget of implementation agencies

The budget in the year 1993 in Baht

Allocation of budget (1993)	<u>DHSc</u>		<u>FDA</u>
	DFA	DFEA	
1. Salary and wage	9,801,000	5,011,000	76,700,000
2. Administrative and scientific equipment	2,033,800	3,728,000	79,095,100
3. Maintenance and other expense	2,080,000	2,425,500	49,871,400
Total	13,914,800	11,164,500	199,666,500

5. Existing buildings and facilities

The building in which the Division of Food Analysis and Division of Food-for-Export Analysis located is a ten-floor building. It was constructed in 1982 and it is still in good condition. Since the main purpose of construction was for laboratory work, the facilities and power supply were provided to facilitate the full scale operation.

6. Existing equipment

Please see Attachment 3

V RELATED INFORMATION

1. Food inspection system

Organization

8 sub-divisions as follows

- Central Inspection
- Import and Export Control
- Investigation and Compilation the Evidence
- Inspection Standard and Evaluation
- Supporting and Promotion the Provincial Control in the North
- Supporting and Promotion the Provincial Control in the North - East
- Supporting and Promotion the Provincial Control in the Central Part
- Supporting and Promotion the Provincial Control in the South

Number of personnel involved

77

Main duties and present activities

- carry out the postmarketing surveillance of the controlled products
- Inspection of all the premises

2. Protocols for chemical analysis of food components and food contaminants:

(Please see Attachment 4)

3. Number and scale of testing institutions, numbers of handling cases and violation cases per annum, items of violation

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4. Procedures of technical and administrative guidance by the Ministry (national level) to provincial and private food testing institutions:
 1. Visit to such laboratories by team of administrative personnel to review the policy and evaluate the progress of the activities.
 2. Provide technical training for food personnel from such laboratories.
5. Food testing institutions under the jurisdiction of the Ministries other than the Ministry of Public Health
 - Ministry of Science, Technology and Energy
 - Ministry of Industry
 - Ministry of Agriculture and Co-operative
 - Ministry of Commerce
 - Ministry of Finance
6. Administrative measures taken in case of oral-infectious diseases and food poisoning (including cases found in testing procedures)

Preventive measures:

The preventive measures recommended are the promotion of food supplement to correct disease-associated malnutrition, improvement of personnel and domestic hygiene and sanitation, provision of safe water supply and health education.

Control measures :

The main control measures include

1. Dehydration therapy.
2. Drug therapy.

7. Division responsible for food analysis relating:

7-1 In case of incidence:

Division of Food Analysis

Regional Centers Medical Sciences

7-2 Quarantine of food-for-export/import:

Food-for-import; Division of Food Analysis, Regional
Centers Medical Sciences and other
institutes

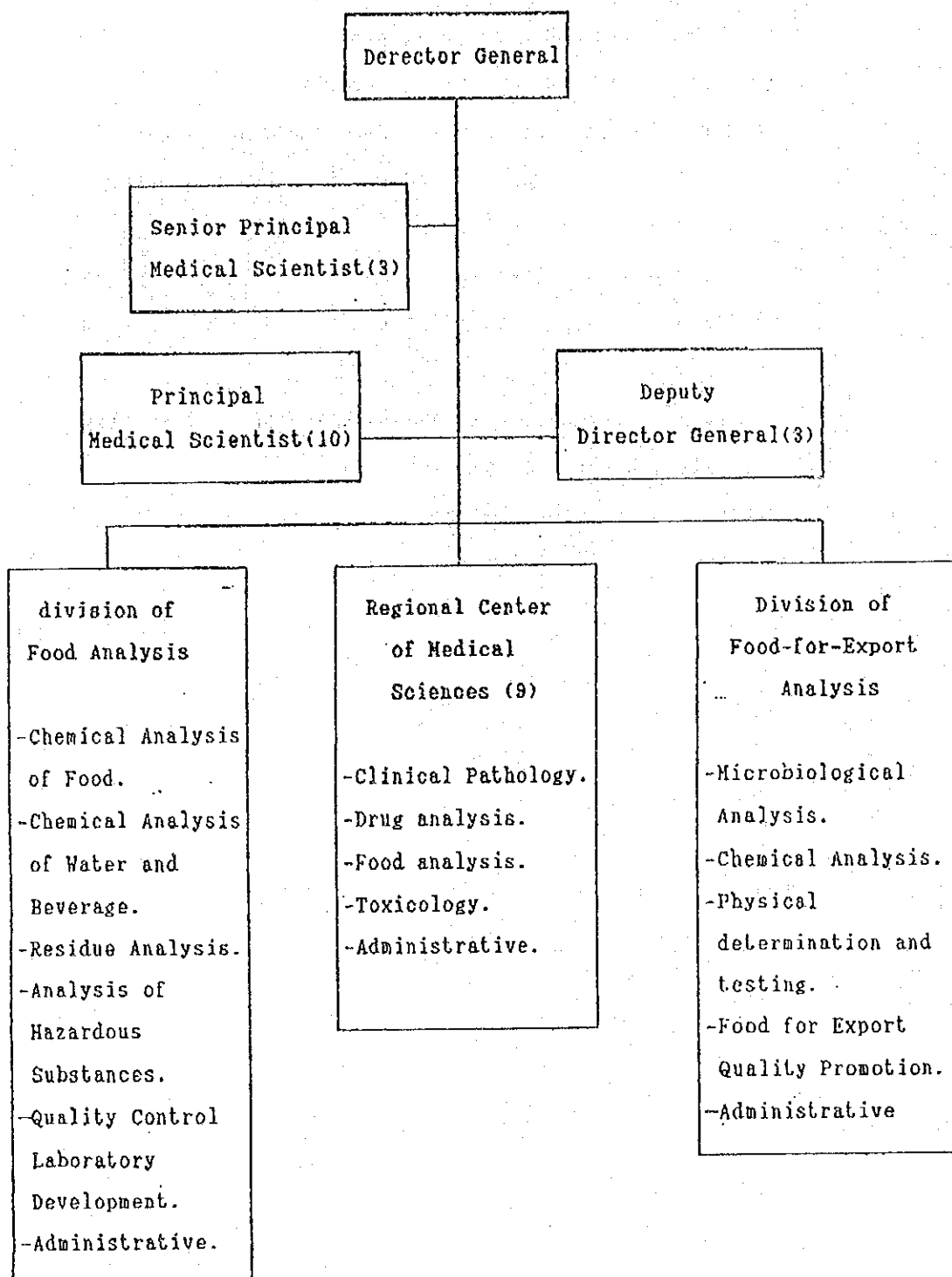
Food-for-export; Division of Food-for-Export Analysis

7-3 Guidance and inspection to maintain food safety for the
public:

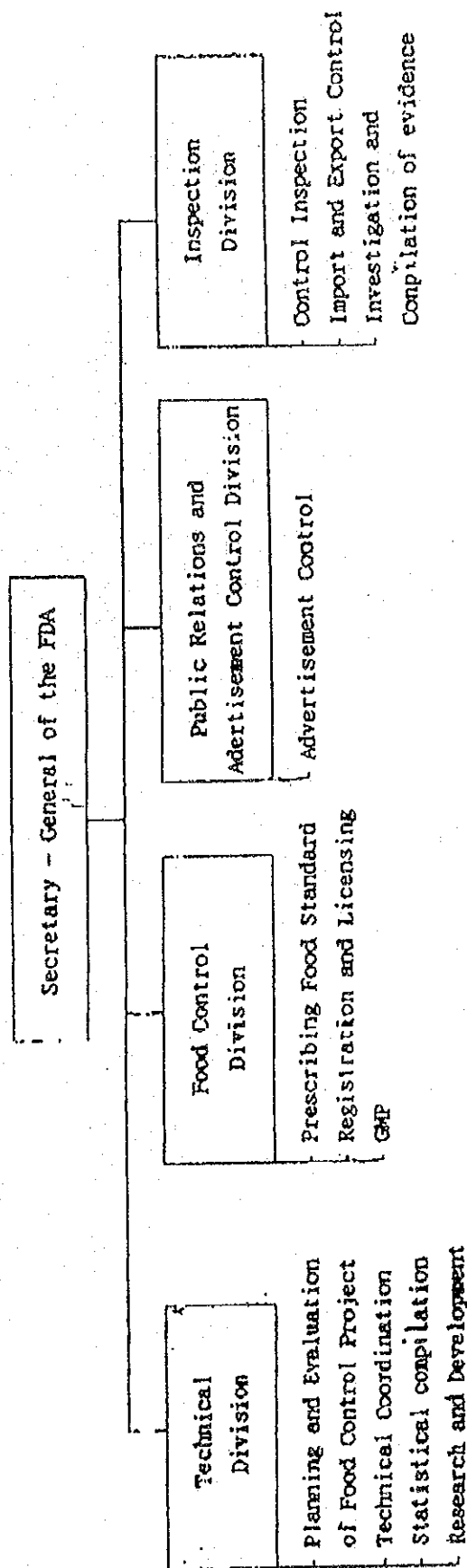
Division of Food Analysis and Division of Food-for-Export
Analysis (in cooperation with FDA)

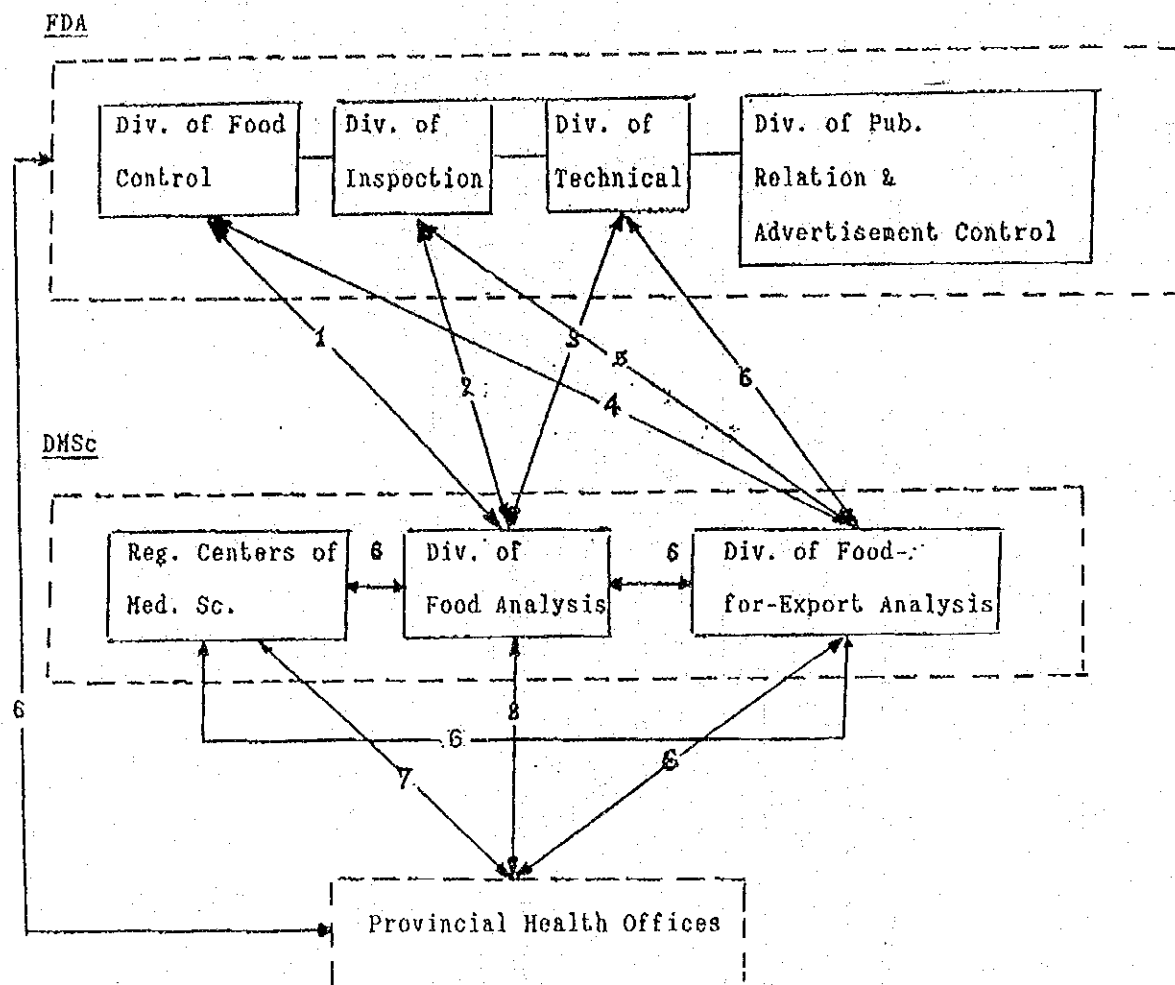
Regional Centers of Medical Sciences (in cooperation with
Provincial Health Offices)

Department of Medical Sciences.



Organization and Executing Committees of Food and Drug Administration





- | | |
|--|--------------------------------------|
| 1: Premarketing food & research | 6: Technical cooperation |
| 2: Postmarketing food & research | 7: Pre/postmarketing food |
| 3: Research | 8: Pre/postmarketing food & research |
| 4: Cooperation on food-for-export | |
| 5: Inspection of rejection's consignment | |

Equipments in the Division of Food Analysis

Equipment	Total number	Manufacturer	Year of purchased
<u>Lab, equipment:</u>			
1. AAS	2	Perkin Elmer	1975
		Varian	1991
2. Centrifuge, high speed			
refrigerted,	1	Tomy Seiko	1979
3. Deep freezer	2	Tomy	1990, 92
4. Fume hood	29	Labconco(29)	1982
5. GC	8	Yanaco (2)	1978, 81
		Hewlet Packard(4)	1980, 83
			1988, 89
		Shimadzu(1)	1983
		chrompack	1992
6. HPLC (fluorescence	1	Minton Roy Lab	1990
detector)			
HPLC (reflective	1	Waters	1987
index detector)			
7. Incubator	3	Hirayama	1982
		Precision	1982
		Coolei	1991
8. Larmina flow carbinet	1	Labgard	1982
9. Lyophylizer	1	Labconco	1990

Equipment	Total number	Manufacturer	Year of purchased
10. Muffle furnace	7	Lindberg (4)	-, 1985, 1981, 90
		Fisher Scientific (1)	1986
		Thermolyne (1)	-
		Ney, USA (1)	1990
11. pH meter	8	Coleman (1)	1972
		Orion (3)	1979, 83, 88
		Beckman (2)	1983, 83
		Radiometer (1)	1982
		Janco (1)	1981
		Hanna 1)	1991
12. Rotary evaporator	7	Rotary Vacuum (2)	1980, 82
		Buchi (5)	-, -, 84, 1982, 85
13. Shaker	7	Yamoto (2)	1980, 89
		Saker (5)	1979, 83 1985, 89 1991
		Ogawa (1)	1986
		A.H. Thomas (1)	
14. Spaeetrophotometer			
-double beam	2	Shimadzu	1990
		GBC	1992
-single beam	2	Spectronic20	-, 1979
-fluorescence	2	Colman	-
		Jusco	1987

Equipment	Total number	Manufacturer	Year of purchased
15. Stomacher	1	Stomacher	1979
16. Tecator Kjeldahl	2	Kjeltec system	1983, 89
17. Top loading balance	8	Mettler(1)	1979
		Sartorius (4)	-, 80, 1982, 92
		Ohaus (2)	-, -
		Shimadzu (1)	1980
18. Water bath, low constant temperature	2	-	-
19. Water bath	10	Gallen Xamp (4)	-, -, -, 1982
		Precision (2)	1980, 83
		Memmert (1)	1984
		Yanaco (1)	1974
		Robert Shaw (1)	1979
		Fisher (1)	1990

Office automation
and communication
facilities:

1. Microbus	2	Toyota	1980
2. Photocopy machine	1	Sharp	1991
3. Type writer	3	-	-
4. Facimile	1	Mita	1991
5. Personal computer	2	ACT	1992
		Wearns	1990

The existing equipments of DFEA

Item	No. of unit	Model/date of purchase
Scientific instrument and apparatus		
1. HPLC with UV & Fluorescence detector	1	Waters/1991
2. Atomic Absorption Spectrophotometer & Fume Hood	1	Perkin-Elmer 3030B/ 1988
3. Gas Chromatography with		
- Flame Ionization Detector	1	Chrompack packard/1987
- Electron Capture Detector	1	Chrompack packard/1993
3. Spectrophotometer (Double Beam)	2	Shimadzu UV-160/1991
5. High Speed Homogenizer	2	Nihonseiki/1989, 1992
6. Muffle Furnace	1	Lingerg/1988
7. Rotary Evaporator	2	Buchi RE-111/A /1987, 1989
8. Freezer	6	(4) Freezer made in Thailand/1987, 1991 (1) Frigidaire/1973 (1) Whirlpool/1984
9. Autoclave	2	Amsco 2022/1970 Amsco LB 20 AS/1987
10. Clean Room, Large Clean Bench	4
11. Incubator		
- Low temperature	1	352601 Hot pack/1985
- 55°C 750 lt.	1	Memmert 800/1992
12. Laminar Flow Cabinet	1	NIH-03-112C/1982
13. Stomacher	2	Seward BA 7021/1990, 1992
14. Analytical Balance	1	Sartorius R 300S/1987

Item	No. of unit	Model/date of purchase
15. Top Loading Balance	4	(2) Sartorius E550S/1987 (2) Sartorius U6100S/1992
16. Fume Hoods	2	
17. Shaker	1	Ogawa seiki OSK 9618/1989
18. Atomic Absorption Spectrophotometer, Flameless for Hg	1	Hiranuma HG-1/1988
19. Centrifuge	1	Kubota KS-5000P/1986
20. Colony counter	3	Quebec 3328/1984, 1985, 1986
21. HPLC with UV Detector	2	Waters/1991
22. Oven (Hot air)	1	Memmert U-40/1987
23. pH meter	3	(2) HI8417/1989 (1) Corning 120/1985
24. Spectrometer, Fluorescence	1	Jasco/1991
25. Stereo Microscope	2	Nikon 216853/1983 Olympus 302982/1983
26. Water Bath	4	(2) Memmert/1986 (2) Memmert/1990
27. Microbus	2	Isuzu/1990
28. Electronic Type Writer	3	Olympia/1991 Cannon/1992
29. Facimile	1	Mita TC 250/1991
30. Personal computer	4	(1) NEC APC/1984 (3) NEC APC III/1987

Division of Food-for-Export Analysis
Department of Medical Sciences, Yod-Se

Division of Food Analysis
Department of Medical Science

Protocols for chemical analysis of food components and food
contaminants:

1. Sample collection

A sample of food can be collected by food inspector, food analyst, manufacturer, or food importer. The collection must be done according to the food sampling plan. In some cases, samples are collected and sent by other authorities or by the consumers themselves. The purpose of analysis and other details must be filled up in the request form. More details are sometimes needed such as type of sample, code number and so on.

2. Sample receipt and assignment

The sample and the request form are received by the assigned personnel who will then check the correctness of the sample and the form. After the receipt is registered, the sample as well as the form is sent to the related laboratory. Before any further action is done, the sample is checked again and the details are recorded by the assigned analyst.

3. Sample storage and disposal

Sample storage is one of the critical points of food analysis. A sample is stored in the manner and condition which prevent the change that may occur during the elapse time before analysis. The storage condition depends on such factors as kind of food (fresh or frozen), condition of food (easy to spoil etc.) and item of analysis (easy to decompose etc). The normal storage condition is dry at room

temperature, cool in refrigerator or frozen in freezer.

Regarding the disposal of sample, it is not a complicated matter since food sample is normally not hazardous.

4. Sample analysis and report

The sample is analysed replicately, according to the standard method. If the result is not complied with the regulation, confirmation will be done.

When the analysis is finished, the result is checked by the chief. The complete report is signed by the analyst, the chief and the Director respectively.

Item	Food Sample	Method of Analysis	Instrument	No. of sample/ year
<u>Food Components</u>				
<u>Beneficial components:-</u>				
- Moisture	<p>The samples analyzed mostly were raw materials, health foods, ready-to-eat foods, canned food and food additives. They were submitted by manufacturers, importers and exporters. The samples analysed were about 80 in the year 1992.</p>	- Drying at 100±2°C	- Hot air oven	
- Fat		- Acid digestion follow by extraction with ether and petroleum ether.	- Analytical balance - Water bath - Shaker	
- Protein		- Kjeldahl modified method	- Hot air oven - Analytical balance - Tecator Kjeltac system	
- Ash		- Dry ashing	- Analytical balance - Muffle	
- Crude fibre		- Acid-base digestion	- Analytical balance - Heating mantle, - Analytical balance	
- Sugar		- HPLC-Method	- Hot air oven - HPLC	
- Amino acid		- HPLC-Method	- HPLC	
- Minerals		- Dry ashing follow by Atomic absorption	- AAS, Muffle	

Item	Food Sample	Method of Analysis	Instrument	No. of sample/ year
Industrial chemical: - PCBs (Poly chlorinated biphenyls)	- fat & oil, meat, aquatic animal	- as organochlorine cpds.	- Gas chromatograph - ECD	- approximately 200-300
<u>Mycotoxin</u> - <u>Aflatoxin</u>	- Peanut and peanut product cereal product, Milk and milk product, Seasoning. Vegetable oil. etc.	- AOAC official methods of analysis 15 th edition chapter 49 "Natural Poison" CB method (968.22 and EF method (970.45)	- HPLC and/or Spectrofluorodensitometer	280 90
<u>Heavy Metals</u> Pb, Cd, Hg, Sn, As, Fe, Zn, Cu, Mn, Na, K etc.	- raw materials - canned food - ready to eat food - seasoning etc.	- Flameless AAS for Hg. - Flame AAS for other heavy metals - Hydride generation system AAS - Graphite Furnace AAS Ref. AOAC 25.005	- AAS flame and Flameless	4000-5000

Item	Food Sample	Method of Analysis	Instrument	No. of sample/ year
<u>Food Additives</u>				
<u>Preservatives</u>	- General foods and Bakery	- Journal Food Protection Vol.44(5), Vol.46(4) - AOAC 1992	- Spectrophotometer and/ or HPLC	400-500
Benzoic acid, Sorbic acid Propionic acid Sulfurdioxide			- GC	
<u>Sweetener</u>	- Preserved fruits	- the same as 2-6-1	- Modified Rankine Apparatus - Spectrophotometer	50-80
Cyclamate, Sacharin	- General foods	- J. Food Protection Vol.48(8)	- HPLC and/or TLC - Spectrophotometer	50
<u>Seasoning agent</u> such as Monosodium Glutamate				
<u>Synthetic food colours</u>	- Foods not allowed to add color. [Thailand Food Regulation No. 66 (2525)] - General Foods - Labelling Foods etc.	1. Identification:- Chromatography (wool dying method and paper chromatography) 2. Quantitation:- - Purification by wool dying or column chromatography by using Polyamide - HPLC	Chromatography - Glass column - HPLC	950
Tartarazine, Sunset yellow FCF, Paucau 4R, etc.				

Item	Food Sample	Method of Analysis	Instrument	No. of sample/ year
<u>Containers-packages</u> <u>Plastics:-</u> PVC, PP, PE, PC, PET, ABS, Melamine, PS, etc. <u>Rubber:-</u> Rubber teat for baby etc. <u>Paper</u> <u>Wood</u> etc.	- Bottles - Dishes - Bowls - Plates - Cups - Mugs - Folk and spoon - Bags etc.	- Identification - Migration Test - Material Test Reference:- Specification and standard for foods, their containers, and packages etc. Ministry of Health and Welfare JAPAN	- Analytical balance - Oven - Water bath controlled Temperature - IR - AAS - GC FID, NPD - Spectrophotometer	250-300

Division of Food Analysis
Department of Medical Sciences

Protocols for chemical analysis of food components and food contaminants:

1. Sample collection

Food samples are collected according to the internationally acceptable sampling plan by technical teams of food-for-export division or by exporters or food manufacturers. The samples are sent for analysis, with full details of the purpose of requirement analysis and other relevant data such as type of samples, lot number, size of consignment and so on.

2. Sample receipt and Lab Assignment

The sample and the request form are received by the assigned personnel who will then checks the correctness of the sample and the form. After the receipt is registered, the sample as well as the form is sent to the related laboratory. Before any further action is done, the sample is checked again and the details are recorded by the assigned analyst.

3. Sample storage and Disposal

Sample storage, both initial and reserve is critical to a sample analysis. The sample is to be stored in a manner to prevent a change in the attribute being examined, from the time of sampling through analysis. The usual storage areas are dry at room temperature except for the fresh and frozen food which must be stored in refrigeraters and freezers to prevent decomposition. Sample disposal is a relatively simple matter. The only problems are when there is a hazard involved in the destruction, or where the sample remains must have special treatment.

4. Sample analysis and report

The sample is analysed, replicately, according to the standard method. If the result is not complied with the regulation, confirmation is done. When the analysis is finished, the results is checked by the chief of the laboratory section. The complete report is signed by the analyst, Director and Director General or Representative respectively.

Items	Food commodities	Method of analysis	instrument	No. of samples/year
Food components				
Harmful components				
- cyanide	tapioca flour	AOAC 1975		5-10
Beneficial components				
- Fat	fishery products, dry fruit, coconut milk	AOAC 1992	Muffle furnace	100
- Ash		AOAC 1992	Hot air oven	
- moisture		AOAC 1992	Kjeltec	
- Protein		AOAC 1992		
Degeneration				
- Histamine	Tuna, Sardine, Mackerel	AOAC 1992	Spectrophotometer	780
- TVB	fish & fishery products			
Food contaminants				
Agricultural chemicals				
- Organochlorine compound	fish & fishery products, cereals	Gas Chromatograph	- 222
PCB's				- 167

Items	Food commodities	Method of analysis	instrument	No. of samples/yr
Antimicrobial synthetic compound				
- antibiotic	shrimp	J. Chromatograph	HPLC	- 430
- antibacterial	shrimp	J. Chromatograph	HPLC	- 430
Heavy metals	- fish & fishery product, fruit juice, canned fruit cereal & product	AOAC 1984 AOAC 1990	AAS Mercury Analyzer 630	370 (Sn) (Cu) 130 (As) 3,700 (Hg) 1,740 (Cd) 400 (Pb)
Food Additives	fish & fishery product, Dehydrated fruit, cereal & product			
- Sulphur dioxide	"	Modified Rankine method	Modified - Rankine apparatus	- 2,300
- Benzoic acid	"	J. AOAC	HPLC	- 250
- Sorbic acid	"	J. AOAC	HPLC	- 250
- Synthetic colour	"	Food Additives Analytical		- 515
- EDTA	fishery products	- FDA manual of Food Additives Analytical 1987	HPLC	- 1,200
- Phosphate	fish & fishery products	- ISO meat & meat products - J. Japanese Society Food Sciences & Technology	TLC Spectrophotometer	- 1,000 - 80
etc.				

- ④ Public Health Food Control and Food Export Services
- Department of Medical Sciences, Ministry of Public Health

**PUBLIC HEALTH FOOD CONTROL
AND
FOOD EXPORT SERVICES**



March
1993

Legal Food Control in Thailand

Current Laws and Regulations

Food Control System in Thailand is exercised in accordance with The Food Act B.E. 2522 under the administration of the Ministry of Public Health. The Act composes of 8 chapters describing administrative procedures for legal food control operations. They are the establishing of Food Commission, applications of licences and issuance of licences, duties of licensees with regard to food; control of food; licensing and advertising of foods; competent officers, suspension or revocation of licences and penalties. The Ministry of Public Health Notifications have been issued in the pursuance of the Food Act B.E. 2522 describing quality standards and relevant information on foods, labelling including labelling for exported foods, processing procedures and food packaging materials.

Prepackaged processed foods including canned foods, dairy products and some traditional foods have been declared to be specific controlled foods. Their quality standards and labellings have been described in the Ministry of Public Health Notifications.

The Food Act B.E. 2522 , there are a number of significant points to be noted as the followings :-

(1) Under the provision of this law, the Food Control Committee shall be appointed to advise the Minister of Public Health both on regulatory and technical aspects concerning food control.

(2) The Minister is empowered to issue any notification to regulate food quality standards.

(3) Those who determine to import food products into the kingdom must apply for import licence and those who determine to manufacture food must apply for manufacturing licence. The requirements are strictly applied to manufacturers and importers of specific-controlled food. However, in to

case of food manufacturing, there will be limited manufacturing firms classified as factory in accordance with the Industrial Factory Act B.E. 2512 (1969). According to this act, only premises that operate with the use of machines which have a total power not less than two horsepowers or have workers employed not less than seven are classified as "factories" and must apply for a licence.

(4) The Minister, by virtue of the power vested under section 6 (1) of the law, may notify certain groups of food as specific-controlled food.

(5) The specific-controlled food specified by ministerial notification is required to be registered and given a registration number.

(6) Specific-controlled food intended for export may be exempted from labelling requirement in Thai version if requested by exporters for the purpose sale promotion in international markets.

(7) The Minister, by virtue of the power vested under section 6 (3) of the law, may also prescribe quality or standard of any food products other than specific-controlled food.

(8) The Minister is authorized to announce the prohibition of importation and use of any substances, which may render harmful to health, such as food ingredients or additives.

(9) Advertising of food can be done only under the FDA approval. False or deceptive advertisement of the qualities or benefits of food is prohibited.

According to the Food Act B.E. 2522 (1979), foods may be classified into three main categories:-

(1) Specific-controlled food: This is the category in which the registration is required. Legal provisions are established regarding qualities, specifications, labelling requirement, as well as other aspects of good manufacturing practices. Manufacturers and importers have to apply for respective licenses. Individual food commodity will be notified as a specific-controlled food by the Minister of Public Health as recommended by the Food Committee.

(2) Standardized food : This is the certain types of food mainly produced locally as a small-scale industry or household industry. The main objective is to facilitate and encourage producers to upgrade or at least to maintain quality of their products and at the same taken to safeguard consumers. Standardized food does not need registration but its quality and labelling have to meet the standards or requirement as notified by the Minister of Public Health.

(3) General Food : Food either raw or cooked, preserved or non-preserved, processed or non-processed, if they have not been listed under category (1) or (2) will be taken into consideration as general food. There are several provisions in the Food Act 2522 which can be used in dealing with the noncompliances. The provisions regard adulteration, misbranding of foods, including their forfeiting. In accordance with the Ministerial Notification, general food can be categorized into :-

(a) Food notified to be labelled.

(b) Other general food

Food and Drug Administration of the Ministry of Public Health and the Provincial offices of Public Health are responsible for legal food control operations with the support of food analytical services of the Department of Medical Sciences.

Regulatory Measures

Legal mandates consist of direct and indirect measures as follows: Premarketing clearance, monitoring and compliance, surveillance. These are sequence of operations including licensing of manufacturing and importation; registration of specific controlled foods; control of labelling, use of food additives, packaging materials etc.; giving technical advisory for food product development; inspection of food establishments; sampling and quality assessment of food products; taking legal actions e.g. seizure, product recalls etc.; conducting epidemiological study; and promotion of consumer awareness and

voluntary compliance of food manufacturers to ensure that foods whether imported to or manufactured in the kingdom of Thailand are in compliance with good manufacturing practice and regulation criteria set forth for consumer protection.

Food-for-Export Quality-Safety Assessment and Certification Services of The Department of Medical Sciences, Ministry of Public Health.

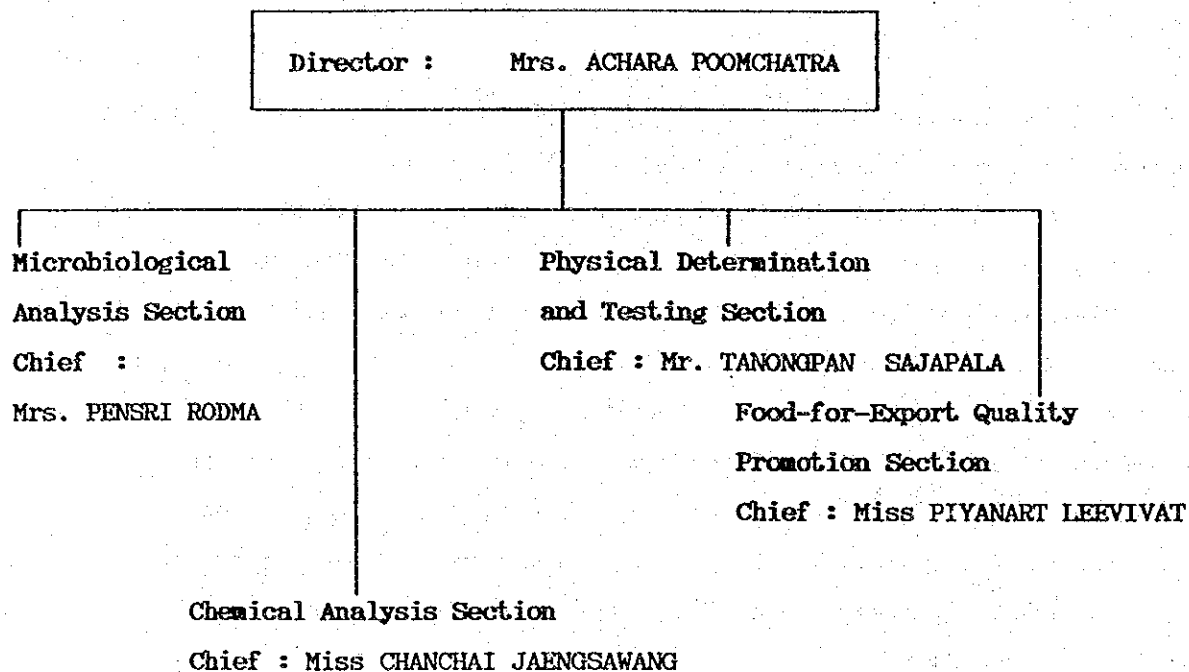
The Department of Medical Sciences (DMSc) , one of the agencies of the Ministry of Public Health, was established in 1942. Now, it composes of 14 Divisions located in Bangkok and Nonthaburi Province and 9 Regional Centers of Medical Sciences. Its major responsibilities are research, services training and others in the fields of medical and health sciences. One important responsibility of the Department is to provide services in the fields of food safety and quality standards assessment and certification of food for export according to the requirements of importing countries and/or importers are performed to facilitate international trade of food at the Division of Food-for-Export Analysis in Bangkok and the Regional Center of Medical Sciences in Songkhla Province.

Division of Food-for-Export Analysis (DFEA)

The Division of Food-for-Export Analysis (DFEA) ,one of the Divisions in the Department of Medical Sciences, Ministry of Public Health, Thailand was formed in 1990 after 28 years of services in the Division of Food Analysis. It has the responsibility in providing laboratory services for exporters and food producers; and certification of food for export in the fields of food safety and health standards according to the requirements of importing countries and / or importers.

ORGANIZATION AND MANAGEMENT

DFEA consists of 4 technical sections. The management team is as follows:



STAFFING

The DFEA's personnel composes of university graduated and well trained people with experiences in food inspection, food quality control and laboratory analyses. It comprises of 35 permanent technical people and 8 administrative clerical staffs with 48 temporary personnels.

ACTIVITIES:

1. Laboratory services. DFEA provides food laboratory services for the assessment of microbiological quality, physical quality, food additives, contaminants including heavy metals, pesticide residues, veterinary drug residues etc. Exported semi-processed and processed foods of Thailand origin fall into 4 main categories. They are frozen foods, canned foods, dried foodstuffs and other types of processed foods. The

average of 1,100 samples per month are submitted for laboratory analysis and assessments to be in compliance with the health requirements of importing countries.

2. Pre-export inspection of processing and food-for-export consignments are conducted by assigned investigation teams upon requests of the exporters/producers. It is responsible for helping of manufacturing to maintain good quality food products for export. Ensuring of food for export by way of regular inspection, sampling and sending to laboratory of DFEA to be analysed. The procedure for Quality-Safety Assessment and Certifying Exported Consignments by DMSc. (Attachment 1)

3. Certification for food safety and quality. Certificates for exported food consignments of the Department of Medical Sciences, Ministry of Public Health are issued in various forms to more than 70 countries of destination. The average number of certificates issued from both Bangkok and Songkhla Regional Center per month is 2500.

4. Food quality promotion and technical assistant services.

4.1 Several projects relating to food quality promotion including a project on computerized data bank for food quality and safety of food-for-export, a project on Sanitary Improvement of Frozen Seafood Plants are in progress.

4.2 Training courses in food analysis and food quality control are hygienic problem for food manufacturer are provided for food industrial personnel periodically in order to help them maintaining good quality food products for export.

4.3 Technical cooperations relating to all aspects of food quality and safety are provided for both governmental and private sectors whenever the problems concerning food-for-export arise. Researches are being done each year in order to find proper solution for existing food control problems.

5. International Activities. Senior Medical Scientists are assigned to participate in the meetings of relevant Codex Committees and to join Thai missions for technical problem solving in importing countries.

6. Technical Information Service. A computerized Data Bank on Food Safety and Quality Requirement of importing country is now in operation. Information services are available free of charge for exporters and food producer upon request.

DMSc. Export Food Consignment Certification Procedure

Survey & sampling by Technical inspectors of DMSc./or

Request form submitted to the Department.

by Exporters/food manufacturers

Food samples collected according to
the internationally acceptable sampling plan
are submitted to the Division

The samples are then sent to laboratories for
microbiological examinations/chemical analysis/
physical determinations.

Quality and/safety assessment are determined
from the results of analyses in accordance
with the regulations/requirements of importing countries
or foreign buyers/international standards.

Results of analysis are
found in compliance.

Exporters submit request
for certification of
The exporting consignment.

Certificates are issued
by the Department of Medical
Sciences.

Results of analysis are found
not in compliance.

The Department issue notice
of refusal of certifying
The consignment.

Division of Food Analysis, Department of Medical Sciences

The Division of Food Analysis has been established in the Department of Medical Sciences, Ministry of Public Health in order to support public Health and industrial food control activities and to promote high quality food for both domestic consumption and for exportation.

It's functions and responsibilities are as follows:

- 1) Analysis of food, beverage, water, food containers. food additives and contaminants to ensure the consumer safety.
- 2) Study and research on food composition, adulteration, natural toxin, food processing and effect from pollution in order to amend and update food standard and support food processing improvement. Included is the study on the cause and epidemiology surveillance of food borne disease.
- 3) Assessment of the quality assurance of analysis of food products for both private and governmental laboratories. The division also serves as reference laboratory for food analysis. Development of analysis methods for better performing efficiency is included.
- 4) Coordination and cooperation with national and international organization with regards to all aspects of food.
- 5) Training to educate and create well-trained personnels in the field of food analysis. Participants are those from private sectors, government sections and from abroad as well as university students.

The division is organized into 7 sections. Their responsibilities are as follows:

1. Chemical analysis of food

It is responsible for Chemical analysis of all domestic and imported foods as well as food additives in accordance with the notifications issued by the Ministry of Public Health under the Food Act (1979)

2. Chemical analysis of water and beverage

This section is responsible for chemical analysis of water and beverage according to the notifications of the ministry. These include drinking water, bottled drinking water, mineral water, ice, waste water, concentrated flavor syrup, carbonated drinks, beverages in dried powder, fruit juice, beverage flavor, minerals beverages, soya milk, caffeine containing drink, tea and coffee.

3. Residue analysis of food

It is responsible for chemical analysis of pesticides such as organochlorine, organophosphate, carbamate and synthetic pyrethroid, herbicides, industrial waste residue (PCBs and TOCP), antibiotic residues, growth enhancers and hormones in all kinds of foods for monitoring and enforcement.

4. Analysis of food for hazardous substance

The responsibility of this section is analysis of food for toxic substance such as mycotoxin (aflatoxin), biotoxin (marine toxin), metabolic poison (heavy metals), carcinogenic substances, radionuclides and other contaminants. Included is analysis of plastic food container and food packaging.

5. Microbiological analysis of food

It is responsible for microbiological analysis of food, water and beverage according to the concerning notifications. This section also carries out the research and monitoring on food hygiene and sporadic investigation of food poisoning bacteria in case of outbreak.

6. Food laboratory development

This section is responsible for assessment of food laboratory quality assurance standards, food analysis handbooks and literatures.

7. Administrative

In addition to general administrative work, the function of this section is to receive samples submitted for analysis and to distribute them to the involving laboratories.

⑤ Specific Areas Required for Strengthening, Department of Medical Sciences

Specific areas required for strengthening

Expert programme

Areas/fields of assistance required

Methods in use

Reasons supporting the request

1. Food additives

- Analytical technique for detection of sweeteners(saccharin, cyclamate, stevioside) in fatty foods such as ice cream.

- HPLC technique for heat labile food color

- Technique to determine Inosinate, Guanylate and Monosodium glutamate by HPLC method in one test

- Methyl-, ethyl-, propyl-paraben in food

- Polyphosphates in sea food by HPLC.

Spectrophotometry/
thin layer chromatography

Paper chromatography

Spectrophotometry/
enzyme method for MSG

not available

TLC

The existing technology has some difficulties in practice with fatty food samples.

The method involves heat treatment which causes losses of heat labile coloring agents.

It will be more convenient and more economic to initiate a new method with less time-consuming.

This group of preservative is widely used in several food products, it is necessary for DMSc to seek for effective methods of detection for safety control purpose.

DMSc is now looking for identification types of phosphate.

<u>Areas/ Fields of assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
- Hydrogen peroxide determination using Oritector	not available	Hydrogen peroxide is illegally used in foods. Introducing of a quantitative determination method will assist in mandatory control of prohibited substance in food.
- Residual chlorine in food	not available	DMSc finds that it is necessary to expand its capability in determination of residual chlorine in food since chlorine solution has been intensively used in the processing of frozen foods.
- Anti-oxidants in food (BHT, BHA and TBHQ)	technique for quantitation is not available.	To increase capability in quantitative analysis to comply with the law.
- Artificial flavoring agents	not available.	It is essential for government food control lab to keep pace with newly introducing food processing technology of which several artificial substances are being added to food products
- Formaldehyde in food by GC	Distillation and color formation	The method in use seems not quite appropriate since false positives are found due to interfering substances in some kinds of food

<u>Areas/ Fields of assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
2. <u>Contaminants</u>		
- Methyl mercury	not available	Codex is now formulating acceptable level of methyl mercury
- Cadmium	AAS	To solve technical problems in determination/ digesting procedures.
- Humic acid in drinking water	not available	To expand lab capability.
- selenium	not available	To expand lab capability.
- uretan and ethylcarbonate in alcoholic beverage	not available	To expand lab capability which will lead to reducing risk of carcinogenic
3. <u>Agricultural chemical residues</u>		
<u>Pesticide residues</u>		
- Herbicide residues (19) : Inabenfide, Esprocarb, Etrinfos, Quinalphos, Glycosinate, Sethoxydin, Coper telephthalate, Tralomethrin, Trichloamide, Triflumijol, Bitertanol, Flutolanil, Pretileachlor, Pendimetharin, Metribusin, Mephenacet , Mepyonil and pesticide residues including organochlorine and phosphorus compounds in food.	not available	To expand lab capability to support monitoring programme since herbicides are widely used. Data regarding the levels in vegetables and fruits are needed for setting up and/or amendment of standard.

<u>Areas/ Fields of assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
<u>Antibiotics residues</u>		
- Analytical technique for sulfa group in animal products by chemical method	No technique is available	To expand lab capability to cover safety control of meat products
- HPLC technique for anti-bacterial agent (oxolinic acid)	HPLC	To improve sensitivity of quantitation
<u>Growth stimulating hormone residues in food</u>		
- Technique for steroid hormones determination	TLC	To improve analytical technique since hormone residues in food can become public health problems.
- Diethyl stilbestol, estrogen and estradiol etc.		
<u>4 . Microbiology</u>		
- Determinations of newly emerged pathogens in food and drinking water.		
<u>Listeria monocytogenes, Campylobacter</u>	US. FDA method	To transfer specific expertise and modern technique to the analysts of DMSc.
<u>Yersinia enterocolitica</u>		
<u>Vibrios, E.coli</u> etc.	AOAC methods	

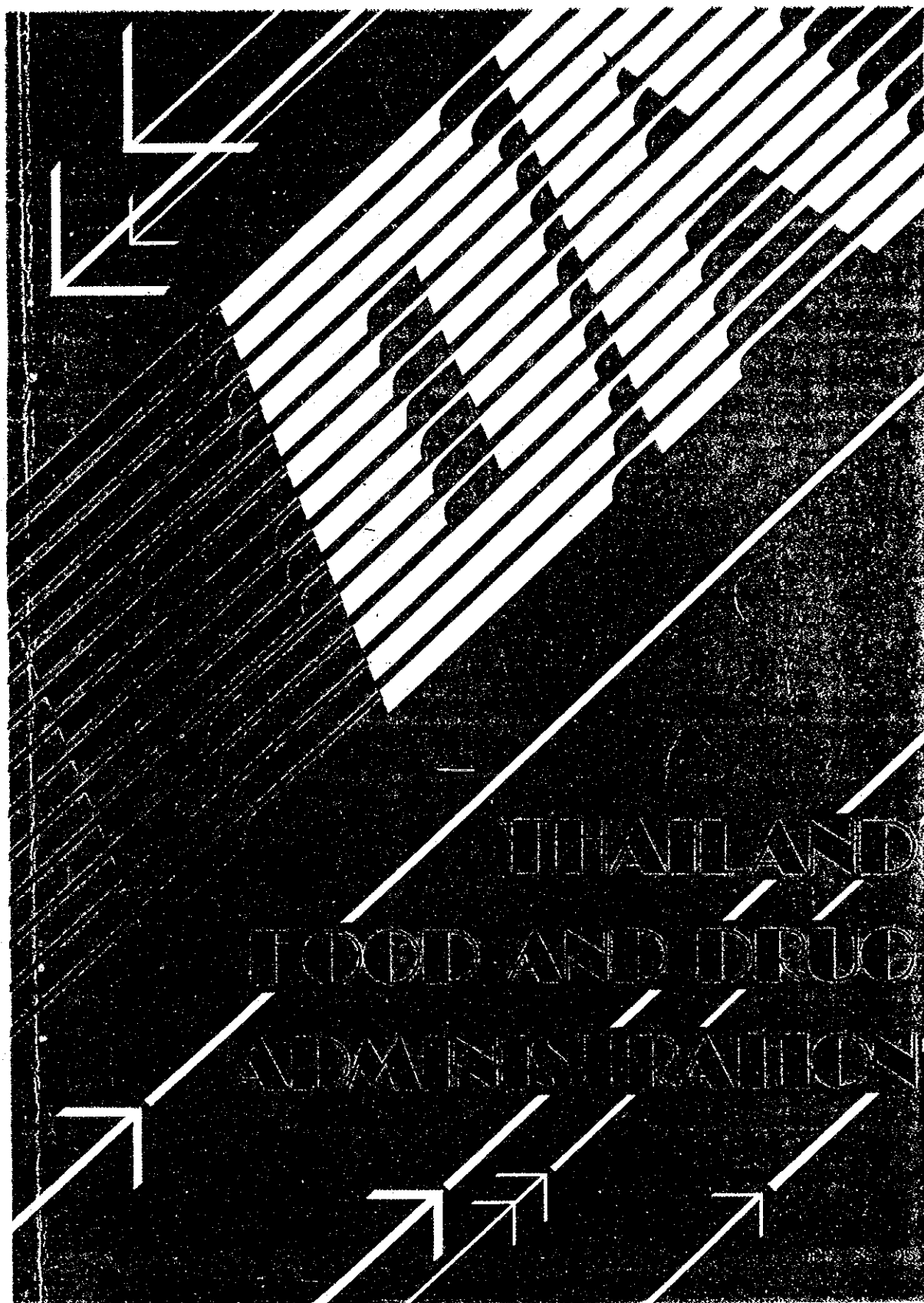
<u>Areas/ Fields of assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
<ul style="list-style-type: none"> - Bioassay techniques for detection of <u>Campylobacter</u> antimicrobial substances : <ul style="list-style-type: none"> - antibiotics : Oxytetracycline - oxolinic acid by bioassay 	<p>Bioassay</p> <p>not existing</p>	<p>To transfer specific expertise to the analysts of DMSc.</p> <p>To transfer specific expertise and modern technique to the analysts of DMSc.</p> <p>To develop new technique.</p>
<u>Immunoassay technique</u> <p>Rapid and modern immunoassay technique for identification of food poisoning bacteria. and pathogenic bacteria :</p> <p><u>S. aureus, C. perfringens</u></p>	<p>not available</p>	<p>To transfer specific expertise and modern technique to the analysts of DMSc.</p>
<u>Modern technology for food analysis</u> <ul style="list-style-type: none"> - DNA hybridization technique for identification of salmonellae in food - DNA probe preparation 	<p>not available</p>	<p>To transfer specific expertise and modern technique to the analysts of DMSc.</p>

<u>Areas/ fields of Assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
<u>5. Water analysis</u> - Chemical analysis	Spectrophotometry/ Titration	Needed to be improved
<u>6. Food containers and packaging materials</u> - Migration test and material test for container made from Acrylonitrile butadiene, Styrene copolymer, Polymethyl methacrylate, Nylon, Polymethyl pentene, Rubber equipment or packaging metal can.	Japanese official method	To keep pace with method development Analytical results are used in amending regulation for consumer protection.
<u>7. Food composition, nutrition and vitamin</u> - Advance and reliable methods for fat soluble and water soluble vitamins, Folic acid in food - Iodine in food by GC-technique - Techniques for dietary fibre, cholesterol, purine, oxalic acid and uric acid.	not available/ old methods Spectrophotometric method Titration method not available	To keep pace with modern nutrition analysis of food. To improve method of analysis. To expand lab capability

<u>Areas/ Fields of assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
- Technique of electrophoresis for meat and fish species identification	not available	To expand lab capability to support control of food adulteration.
- Determination of Trimethylamine oxide, di-methylamine oxide in fish and sea food	not available	To expand lab capability
- Volatile amine and K-value in sea food	not available	To expand lab capability
<u>8. Toxic substance</u>		
<u>Mycotoxins</u>		
- immunoassay technique for ochratoxin, fumonisin, tricothecene etc.	TLC, HPLC	To increase lab efficiency .
- Technique for multi-mycotoxins in food		
<u>Marine toxin</u>		
- New chemical identification technique for marine biotoxins	Bioassay for PSP	To expand lab capability to ensure safety of consumers.

<u>Areas/fields of assistance required</u>	<u>Methods in use</u>	<u>Reasons supporting the request</u>
<u>Phytotoxin</u> - Detection of natural toxic substances in food of plant origin.	not available	To expand lab capability to identify causes of food poisoning cases.
<u>Chemi-luminescence</u> - Technique for detection naturally occurring chemi-luminescence in trace amount.	not available	To expand lab capability in detecting wider range of carcinogens in foods
<u>10. Physical Determination</u> - Foreign substance: Light filth, soil, sand - Seam determination in can - Organoleptic test for freshness	AOAC technique	To transfer specific expertise and modern technique to the analysts of DMSc.

Dept. of Med. Sciences
October 27, 1993.



INTRODUCTION

This document is prepared to be used as a source of information on the responsibilities and activities of the Food and Drug Administration, Ministry of Public Health of the Kingdom of Thailand.

Since food and drug are two of the most essential elements of life, hence acceptable degree of safety and quality of the products to be consumed or utilized by the public have to be tested or assured by means of adequate measures. It is also necessary to implement a proper system of control in order to safeguard the public. In this respect, therefore, Food and Drug Administration has been established with the main roles and responsibilities of administering the laws and regulations concerned. In addition, FDA also controls narcotic, psychotropic substance, cosmetic, toxic substance and medical device.

The jurisdiction of FDA is stipulated in the following legislative measures:-

1. Food Act B.E. 2522 (1979)
2. Drug Act B.E. 2510 (1967), Drug Act (2 nd Revision) B.E. 2518 (1975), Drug Act (3 rd Revision) B.E. 2522 (1979), Drug Act (4 th Revision) B.E. 2527 (1984) and Drug Act (5 th Revision) B.E. 2530 (1987)
3. Cosmetic Act B.E. 2517 (1974)
4. Narcotic Act B.E. 2522 (1979)
5. Psychotropic Substance Act B.E. 2518 (1975)
6. Toxic Substance Act B.E. 2510 (1967) and Toxic Substance Act (2 nd Revision) B.E. 2516 (1973)
7. Medical Device Act B.E. 2531 (1988)

Historical Background

Food and drug control activities were first started in 1922 and the first legislation promulgated in this field was the Narcotic Act B.E. 2465 which had been enforced. The Narcotic Division of the Ministry of Interior was responsible for the implementation of the law and regulations and later transferred to the Ministry of Public Health under the name of the Food and Drug Division.

During the period of 1953-1972, this organization was named the Food and Drug Control Division and functioned as a separate unit under the Office of the Permanent Secretary for Public Health. The office was promoted as the Food and Drug Administration in 1974.

Important Milestones

1922 Firstly, established as Division of Narcotics,

- Ministry of Interior and engaged in the works under the Narcotic Act B.E. 2465.
- 1927 The Skimmed Milk Act was promulgated.
 - 1934 The Cannabis Act was promulgated.
 - 1937 The division was reorganized as Food and Drug Section, Ministry of Interior.
 - 1938 It was promoted by combining with the Division of Consumer Welfare to be the Division of Food and Drug, Ministry of Public Health. The division was divided into 3 sections : Food, Drug, and Registration and Statistics.
 - 1939 The Kratom Act was promulgated.
 - 1941 The Food Quality Control Act was promulgated.
 - 1950 The Sale of Drug Act was promulgated.
 - 1959 The Amendment of the Food Quality Control Act was promulgated.
 - 1964 The new Food Quality Control Act was promulgated.
 - 1965 The division was remodified its internal organization to be five sections as Narcotics, Registration, Technical, Advertisement Control, and Inspection.
 - 1967 The Toxic Substance Act and the Drug Act were promulgated.
 - 1972 The division was transferred from the Office of the Permanent-Secretary for Public Health to be under the Department of Health Promotion and the organization was divided into 6 sections, i.e:- Technical, Rural Inspection, Narcotics and Toxic Substances, Food and Drug Registration, Central Inspection, and Advertising and Information Center.
 - 1974 The office was promoted to be the Food and Drug Administration consists of 8 divisions.
 - 1974 The Cosmetic Control Act was promulgated.
 - 1975 The Psychotropic Substance Act and the Drug Act (Revision) were promulgated.
 - 1979 The Narcotic Act B.E. 2522, the Food Act B.E. 2522 and the Drug Act, B.E. 2522 (3 rd Revision) were promulgated.
 - 1984 The Drug Act B.E. 2527 (4 th Revision) was promulgated.
 - 1985 FDA (by Technical Division) was appointed by the Ministry of Public Health to be the National Focal Point for the International Programme on Chemical Safety (IPCS).
 - 1987 The Drug Act B.E. 2530 (5 th Revision) was promulgated. The National Focal Point for the International Programme on Chemical Safety (IPCS) was promoted to be sub-division.
 - 1988 The Medical Device Act B.E. 2531 was promulgated.

Organization and Functions of the Food and Drug Administration

The Food and Drug Administration (FDA) is one of the departments of the Ministry of Public Health as shown in chart 1. FDA's authorities and functions are confined to the scope of seven acts as described earlier and its main roles are implementation, and enforcement of those laws. With regard to the organization of FDA, it is divided into eight divisional units and two independent units as shown in chart 2. The duties and responsibilities of each division are already verified by their names.

From the latest figures appeared in the FDA annual report 1988, there were totally 443 personnel in this office. Of this number, more than 60% are pharmacists and about 20% are either food technologists or nutritionists. The others are lawyers and clerks. The administration is headed by a Secretary-General with a background of medicine and public health administration, he is assisted by two Deputy Secretary-General who have pharmaceutical and administrative background, and one Assistant Secretary-General.

FDA PERSONNEL AND OPERATING BUDGET

Administrator	14
Food and Drug Specialist	156
Food and Drug Inspector	104
Lawyer	6
Administrative Staff	11
General Clerk	99
Others	34
Total	<u>424</u>

year	government budget (baht)	% increased (+) or decreased (-) or
1985	36,698,000	0
1986	38,270,100	+4.28
1987	39,011,100	+1.93
1988	41,947,000	+7.52
1989	47,147,700	+12.39

The descriptions of various divisions of the FDA are as the followings :-

(1) Office of the Secretary

At present this unit is headed by a senior administrative officer. The responsibilities of the office are in the administrative line, financial administration, personnel administration, and supplies and maintenance management. The unit is divided into three sub-divisions which are :-

- Finance
- Personnel
- General Administration

(2) Legal Affairs Task Group

Formerly, this unit was undertaken by the Office of the Secretary, until 1987 it was promoted to be an independent group of legal counselor. It is responsible for comment and suggestion, particularly legal decision on the relevant laws and regulations.

(3) Technical Division

It is responsible for coordination and formulating the implementation plan of FDA, follow up and evaluation all projects under the FDA's plan and National Drug Policy Programme. Statistical compilation of FDA activities are carried out in various fields and generate data base filings. It also undertakes task of programme implementation as the National Adverse Drug Reaction Monitoring Center by collecting, compiling of adverse drug reaction which are spontaneously reported by medical and pharmaceutical professions from all the health service institutions throughout the kingdom. Numerous applied researches are being done each year where practical and necessary in order to find proper solutions for existing food and drug control problems. In addition, toxic substances and hazardous substances regulatory control is currently implemented by this division and also responsible for the International Programme on Chemical Safety (IPCS) as the national focal point. There are five sub-divisions, namely :-

- Planning and Evaluation
- Information
- Research and Case Study
- Toxic Substance Control
- IPCS

(4) Food Control Division

It is responsible for controlling of manufacturing and importation of all food commodities including registration of specific-controlled food. Ensuring of the wholesomeness of food is being monitored by way of regular inspection, sampling and sending to be analysed. Standard of specific-controlled food commodities and code of hygienic practices as a guideline for the manufacturers are elaborated and issued periodically under the Ministerial Notification. The division is divided into three sub-divisions:

- Registration and Licensing
- Control of Manufacturing and Importation
Premises
- Quality Assurance

(5) Drug Control Division

It is responsible for controlling of manufacturing, importation, and sale of drugs. All pharmaceutical firms or premises must be licensed and product registration is required by law. Surveillance programme has been monitored by this division for the drugs distributed throughout the country for

safety, efficacy and quality assurance purposes. There are three sub-divisions in this division, namely :-

- Registration and Licensing
- Control of Manufacturing, Sale and Import Premises
- Quality Assurance

(6) Cosmetic Control Division

It is responsible for the licensing of manufacturing and importation premises and registering of controlled products. It is also carrying out a surveillance programme in order to ensure safety and quality of the cosmetics distributed in the market. The division is divided into three sub-divisions :-

- Registration and Licensing
- Control of Manufacturing and Import Premises
- Quality Assurance

(7) Narcotic Control Division

Its function is to regulate and control the manufacturing, importation, transfer and possession of narcotic and psychotropic substance by working in closed co-operation and collaboration with the Office of Narcotic Control Board. The division prepares regular statistical report concerning the circulation and consumption of narcotic in the kingdom for submission to the INCB (International Narcotic Control Board). There are four sub-divisions, namely :-

- Registration and Licensing
- Control of Utilization of Narcotic and Psychotropic Substance
- Control and Investigation
- Standard Control

(8) Public Relations and Advertisement Control Division

It is responsible for carrying out proper guidance and control over the advertisement of food, drug and other controlled substances in accordance with the provisions in respective acts. It also serves as an information center and disseminating relevant publications to various sectors. Conduction of health educational programme about the proper way to consume food or drug is done periodically mostly in schools. The division is divided into two sub-divisions:-

- Public Relations
- Advertisement Control

(9) Inspection Division

It is responsible for carrying out the postmarketing surveillance of the controlled products by supervision and monitoring the law enforcement. Inspection of all the premises concerned throughout the kingdom is being done regularly accompanying by intensive inspection where necessary. The division is also responsible for direct sampling of such products for testing and assay according to the surveillance programme implemented. Besides law enforcement function, the inspectors

also supervise food and pharmaceutical manufacturers to upgrade their production standard to be in line with the respective codes of good manufacturing practice of the FDA. The division consists of eight sub-divisions :-

- Central Inspection
- Import and Export Control
- Investigation and Compilation the Evidence
- Inspection Standard and Evaluation
- Supporting and Promotion the Provincial Control in the North
- Supporting and Promotion the Provincial Control in the North-East
- Supporting and Promotion the Provincial Control in the Central Part
- Supporting and Promotion the Provincial Control in the South

(10) Medical Device Control Division

This division has not officially been established since the Medical Device Act was promulgated in March, 1988. The current regulatory control for this Act is implemented by special task group which would be reorganized as division in the near future.

Chart 1 : Organization of the Ministry of Public Health

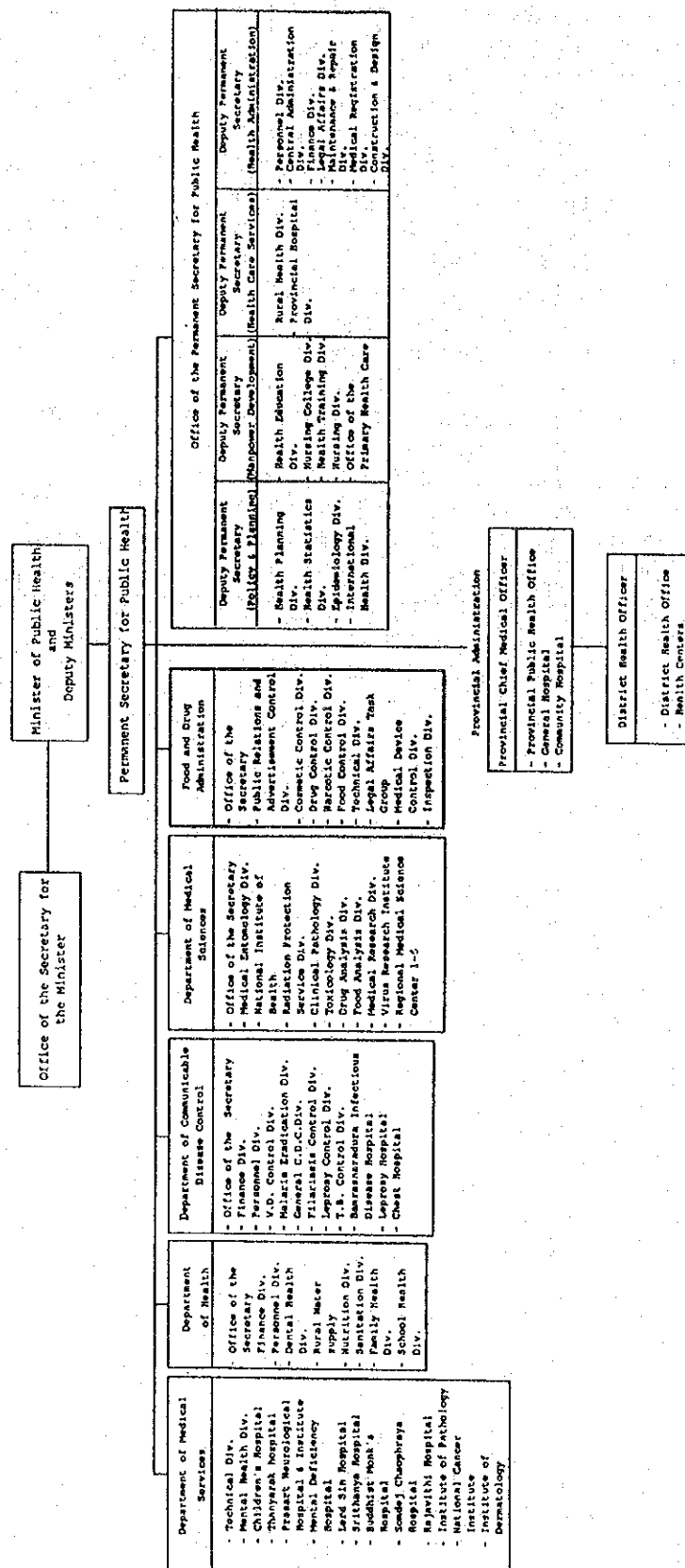
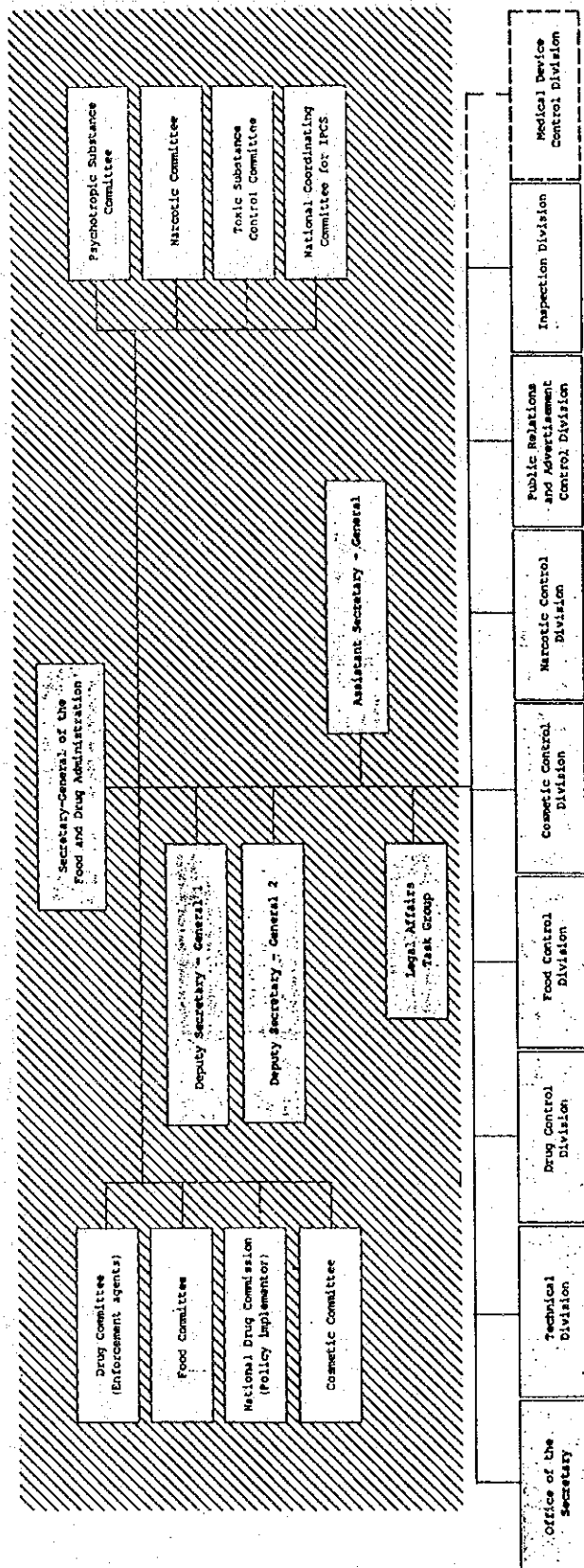


Chart 2 : Organization and Executing Committees of Food and Drug Administration



HEALTH CONSUMER PROTECTION PLAN

Background

The First Five-Year National Health Development Plan came into operation in 1961 with emphasis on the construction and expansion of health facilities. The second and third plan period shifted emphasis towards improving of coordination between planning of the national, regional and provincial levels to increase the resources available for public health facilities. There was also a strengthening of new programmes which were in line with national socio-economic development goals such as family planning, nutrition, development and environmental health as well as communicable disease control. Another major facet of these plans, especially towards the end of the Third Five-Year Plan, was the increasing emphasis on both the supply and training of qualified personnel.

The Fourth Plan (1977-1981) was the first time that was given to the formulation of the National Health Consumer Protection Plan because of the rapid changes in science and technology that caused much problem such as modern drugs, food additives, cosmetics, narcotics, etc. During the Fifth Plan (1982-1986), the development of planning on consumer protection were undertaken to assure that the people will get the safe use of food, drug, cosmetic and toxic substance.

The Sixth National Health Development Plan (1987-1991) on Health Consumer Protection

1. Problem Situation

During the Fifth Plan, important problem which increased considerably was health hazard from the use of chemical substances, insecticides and other poisonous substances found in food. The legal development and enforcement in reference to public health and consumer protection were still limited in its scope and lack of cooperation among responsible parties. Enforcement of regulation requiring pharmacists for drug dispensing in pharmacies in Bangkok might ensure safety of drug use but there was very little effect on proper utilization of medicine. Moreover, little had been done on the pricing policy of drugs and standardized cost of medical care provided to the private sector.

2. Policy

The health consumer protection policy for the Sixth National Health Development Plan (1987-1991) has been formulated with the aim to ensure the quality of life of the people

particularly more emphasizing on consumption of food, drug, cosmetic and chemical substance. The consumer protection system will be carried out through all the levels especially in the provinces, districts and villages dealing with revision of existing laws and regulations to be conformed with current situation and problems in public health. Consumer protection will also be done in the areas of food, drug and cosmetic through appropriate measures to upgrade collaborative mechanism, law enforcement, public information and communication, provision of outlet for complaints and to strengthen the process of data collection and analysis in an effort to develop appropriate strategies for prevention and suppression.

3. Health Consumer Protection Programme

Objectives :-

To safeguard health and well-being of the consumers through consumer education/information, quality control of drug, food, cosmetic and other chemical substance by :-

- (1) Develop infrastructure of health consumer protection control.
- (2) Increase efficiency of implementation and cooperation among agencies responsible for quality control, standardization and advertisement control.
- (3) Develop information system and carry out consumer education concerning proper consumption or use of food, drug and other substances.
- (4) Promote and standardize local pharmaceutical manufactory by promoting "Good Manufacturing Practice".
- (5) Extend consumer protection activities to cover the provincial level.

This programme consists of 3 sub-programmes:-

- (1) Food Control
- (2) Drug Control
- (3) Chemical and Radioactive Substance Control

Estimated budget for implementation of activities under
Health Consumer Protection Plan

Categories	Budget (Million Baht)					Total
	1987	1988	1989	1990	1991	
1. Food Control						
1.1 Development and Quality Control of Food	5.462	6.080	6.852	7.770	8.917	35.081
2. Drug Control						
2.1 Development and Quality Control of Drugs	8.173	10.271	12.858	15.321	17.875	64.498
2.2 Habit-Forming Substance and Psychotropic Substance Control	1.071	1.209	1.385	1.591	1.815	7.071
3. Chemical and Radioactive Substance Control						
3.1 Cosmetic Control	0.994	1.103	1.252	1.439	1.646	6.434
3.2 Toxic Substance Control	0.974	1.054	1.201	1.399	1.599	6.227
3.3 Radioactive Substance Control	0.693	0.762	0.838	0.922	1.014	4.229

FOOD CONTROL

Historical Background

Food is generally recognized as one of the four necessities of life. In some cases, however, people pay less attention for the most necessity, like food, for example. Getting used to consuming food in our day-life style causes us neglect its actual value and its importance especially the standard, hygiene and sanitation.

Food control started in 1927 with the promulgation of the Skimmed Milk Act, when the skimmed milk was widely consumed at that time. This law, prohibited the importation and sale of skimmed milk, was worthless from practical point of view. In fact only very few people had the knowledge about the existence of this act. A new turn in food control began just a few years before World War II. Rapid development in food industries necessitated the government to arrogate the Skimmed Milk Act and proclaimed the Food Quality Control Act in 1941. According to this act, the Minister of Public Health was empowered to issue ministerial regulations or notifications specifying food standards and certain requirements as necessary. Eventually, four regulations were passed which governed milk, color additives, non-alcoholic beverages, food preservatives and labelling requirement for canned foods. The Committee on Food Quality Control was appointed to advise the Minister to perform various functions.

Notwithstanding the existence of the 1941 law, adulteration of foods and beverages became more and more vigorous and widespread at the time. Very high prices of certain food products had encouraged some unscrupulous manufacturers and packers to adulterate their products or substituted inferior products for standard grades. This led to the promulgation of an amendment to the Act in 1959, setting up more intensive penalties to the offenders.

In 1964, having accepted the concepts proposed by WHO, the Ministry of Public Health took further steps to modernize food control legislation and food standards. The new law, so called the Food Quality Control Act of 1964, was promulgated. This act was amended in few sections by the notification of the National Executive Council No.49 dated January 18, 1972. The Food Quality Control Act of 1964 and its amendment brought in substantial improvement in the field of food control. However, in order to cope with the fast growing industries and the everchanging global situation, another law has been promulgated and totally abolished the older ones. The Food Act B.E. 2522 (1979) contains provisions mostly similar to the previous law and there are only few major changes regarding the scope and requirements of food control.

Current Laws and Regulations

According to the Food Act B.E. 2522 (1979) , there are a number of significant points to be noted as the followings:-

(1) Under the provision of this law, the Food Control Committee shall be appointed to advise the Minister of Public Health both on regulatory and technical aspects concerning food control.

(2) The Minister is empowered to issue any notification to regulate food quality standards.

(3) Those who determine to import food products into the kingdom must apply for import licence and those who determine to manufacture food must apply for manufacturing licence. Those requirements are strictly applied to manufacturers and importers of specific-controlled food. However, in the case of food manufacturing, there will be limited manufacturing firms classified as factory in accordance with the Industrial Factory Act B.E. 2512 (1969). According to this act, only premises that operate with the use of machines which have a total power not less than two horsepowers or have workers employed not less than seven are classified as "factories" and must apply for a licence.

(4) The Minister, by virtue of the power vested under section 6 (1) of the law, may notify certain groups of food as specific-controlled food.

(5) The specific-controlled food specified by ministerial notification is required to be registered and given a registration number.

(6) Specific-controlled food for export may be exempted from labelling requirement in Thai version if requested by exporters for the purpose of sale promotion in international markets.

(7) The Minister, by virtue of the power vested under section 6 (3) of the law, may also prescribe quality or standard of any food products other than specific-controlled food.

(8) The Minister is authorized to announce the prohibition of importation and use of any substances, which may render harmful to health, such as food ingredients or additives.

(9) Advertising of food can be done only under the FDA approval. False or deceptive advertisement of the qualities or benefits of food is prohibited.

Food Committee

Food Committee has been appointed by the Minister of Public Health as stated in the Food Act B.E. 2522 (1979). It is functioning as an advisory body to the Minister of Public Health on all the matters concerning food control administration. The committee composes of 23 members of which are the experts in the field concerned and four representatives from industrial sector. The committee has a power to form subcommittees to assist it in performing certain functions which are included as its responsibilities. Subcommittees which have been formed are such as :-

- (1) Subcommittee on Licensing Approval
- (2) Subcommittee on Food Registration Approval
- (3) Subcommittee on Food Standard and Specification
- (4) Subcommittee on Food Research and Study
- (5) Subcommittee on Medical Food

Regulatory Procedures

Food control Division of the FDA is responsible for regulating food control mechanism by the following activities:-

(1) To assure that every firms and products comply with the law and regulations. This is done by regular inspection of the facilities and sampling products for analysis from various sources.

(2) To approve applications and issue licences for manufacturing or importation of food, and to issue the registration number for specific-controlled food.

(3) To establish food standards, specifications, hygienic and labelling requirements.

Food inspectors are authorized to inspect food factories, import firms or catering food including vehicles carrying food and to seize or confiscate foods or food containers suspected of being impure, adulterated, unsanitary or hazardous to health.



For the newly establishing firm, the plant survey is done by the food specialist accompanying with the inspector to determine the conditions and facilities for the safety aspect of the plant, workers and environment.

Subcommittee on Advertisement Approval formed by the Minister of Public Health has authority on advertisement control. According to the Food Act B.E. 2522 (1979), false or deceptive advertising of benefits or quality is prohibited. Ones who wanted to advertise benefit or quality of foods through the mass media such as newspaper, magazine or other types of publications, must get approval before distributed.

According to the Food Act B.E. 2522 (1979), foods may be classified into three main categories :-

(1) Specific-controlled food: This is the category in which the registration is required. Legal provisions are established regarding qualities, specifications, labelling requirement, as well as other aspects of good manufacturing practices. Manufacturers and importers have to apply for respective licenses. Individual food commodity will be notified as a specific-controlled food by the Minister of Public Health as recommended by the Food Committee.

(2) Standardized food : This is the certain types of food mainly produced locally as a small-scale industry or household industry. The main objective is to facilitate and encourage producers to upgrade or at least to maintain quality of their products and at the same taken to safeguard consumers. Standardized food does not need registration but its quality and labelling have to meet the standards or requirement as notified by the Minister of Public Health.

(3) General Food : Food either raw or cooked, preserved or non-preserved, processed or non-processed, if they have not been listed under category (1) or (2) will be taken into FDA's consideration as general food. There are several provisions in the Food Act (1979) which can be used in dealing with the noncompliances. The provisions regard adulteration, misbranding of foods, including their forfeiting. In accordance with the Ministerial Notification, general food can be categorized into :-

- a) Food notified to be labelled.
- b) Other general food

List of Food in the Ministerial Notifications

No	Type of food	Remarks
I.	Specific-controlled Food	
1.	Tea	
2.	Coffee	
3.	Mineral Water	
4.	Vinegar	
5.	Ice	
6.	Drinking Water in Sealed Container	
7.	Beverages in Sealed Container	Only non-alcoholic beverages
8.	Food Colours	<p>a) Organic colour:-</p> <p><u>Red</u> : Ponceau 4R, Carmoisine or Azorubine, Erythrosine</p> <p><u>Yellow</u> : Tartrazine, Sunset Yellow FCF, Riboflavin</p> <p><u>Green</u> : Fast Green FCF</p> <p><u>Blue</u> : Indigo carmine or Indigotine, Brilliant Blue FCF</p> <p>b) Inorganic colour :- Vegetable charcoal, Titanium dioxide.</p> <p>c) Natural Food Colour :- e.g., Cochineal, Carotenoids, Chlorophyll, Chlorophyll Copper Complex.</p>
9.	Fat and Oil	Excluding peanut oil
10.	Peanut Oil	
11.	Food in Sealed Containers	
12.	Milk	
13.	Cultured Milk	
14.	Cream	
15.	Butter Oil	
16.	Butter	
17.	Cheese	

No.	Type of food	Remarks
18.	Ghee	Chilly sauce, Tomato sauce, Papaya sauce, etc.
19.	Ice-cream	
20.	Modified Milk for Infant	
21.	Flavoured Milk	
22.	Other Milk Products	
23.	Margarine	
24.	Flavouring Agent	
25.	Semi-processed Food	
26.	Infant Food	
27.	Supplementary Food for Infant and Children	
28.	Particular Sauces	
29.	Palm Oil	
30.	Coconut Oil	
31.	Mineral Drinks	
32.	Soybean Milk in Sealed Containers	
33.	Fish Sauce	
34.	Food Additives	
35.	Jam, Jelly and Marmalade in Sealed Containers	
36.	Sodium Cyclamate and Food Containing Sodium Cyclamate	
II	Standardized Food	
1.	Meiki or B-x	
2.	Pesticide Residues	
3.	Food with Contaminants	
4.	Quicklime Soaked Egg	
5.	Chocolate	
6.	Food Contaminated by Radioactive Substances	
III	Substances Prohibited from Incorporate into Food	
1.	Food prohibited to be manufactured, imported or	Dulcin, Cyclamic acid and its salts (except Sodium

No.	Type of food	Remarks
	sold or being used as ingredients in food	
2.	Substances prohibited to be used in food	cyclamate); AF (Furyl-framide); Ingredients in food and food containing substances as mentioned Brominated vegetable oil, Salicylic acid, Boric acid, Borax, Calcium iodate and Potassium iodate, Nitrofurazone, Potassium chlorate, Formaldehyde
IV.	Food Notified to Bear Standard Labels	
1.	Flour of Husked Rice	
2.	Cooking Salted Water	
3.	Sauce in Sealed Containers	
4.	Bread	
5.	Food with Special Purpose	
6.	Chewing Gum and Candy	
7.	Processed Agar and Jelly	
8.	Irradiated Food	
9.	Food with Anti-moisture substances in Container	
10.	Garlic Product	
11.	Meat Product	
12.	Processed Food Ready for consumption	

List of Ministerial Notifications Concerning Food Control

No.	Type of Control	Remarks
1.	Quality or Standard of Containers Using as Food Containers.	
2.	Label Requirement	<p>Food which must have the label in the compliance with the Notification on labelling requirement are :</p> <ol style="list-style-type: none">1) Specific-controlled food2) Standardized food3) Imported food4) Food notified to be labelled <p>The food should have the label setting out the following information:</p> <ol style="list-style-type: none">a) Kind and type of foodb) Trade namec) Registration number (if any)d) Name and address of the manufacturers or producerse) Net contents in metric unitf) Main ingredients in approximate percentage of weightg) Date Markingh) Keeping instructioni) Preparation instructionj) Use of preservatives, colouring agent, food flavouring agent, MSGk) Instruction of food intended to be used in infant and specific group

PUBLIC RELATIONS AND ADVERTISEMENT CONTROL

Keeping pace with the rapid progress of science and technology in recent period, food and pharmaceutical manufacturing technology has made a remarkable advancement on the basis of the new findings in the related fields. Importing of new technologies enable Thailand to shift from a totally agricultural community to an industrialized community although name an agro-industry based one. On the other hand, it is a general tendency that social structures have been quickly changed, in which the people or the consumers require more and more improved products.

The various activities are carried out by FDA to safeguard consumer health and well-being not only by regulation but also education and information services. The following activities are conducted principally by the Division of Public Relations and Advertisement control.

Education and Information Services

This is the most significant activity of the division in carrying out consumer educational programme. Main objectives are to inform, advise and educate public, especially students, about the matters involved in the proper consumption or use of food, drug and problems concerned. The activities of the information, producing and disseminating of printed materials and documents are in various forms, e.g., holding a special exhibition, giving a special group lecture, etc. These operations are based on the strategies of approaching target population groups, namely:- Individual approach, Group approach and Mass media approach.

On the individual approach basis, the information is given or disseminated as a printed matter or materials, regularly or upon request. The copies of newly issued notifications in accordance with the relevant laws and regulations will also be made available for public interest from time to time.

The group educational programs are mostly operated by means of giving a lecture, organizing a seminar or holding an exhibition in the field of food, drug, cosmetic, etc. An effort, however, has been stressed upon particular group of consumers, i.e., students and housewives.



The exhibition to inform and educate the public on food, drug toxic substance etc.



Publication and poster for dissemination to the public on awareness of food and drug consumption in daily life.

News and articles are released regularly through press, journals and magazines. Certain information, consumer protection campaign, highly interesting discussion and recent development in research are, sometimes, broadcasted through the radio and television program.

The achievement of the educational conduction will not be only the success in distribution of useful information to public but also the impact on health knowledge, attitude or habits and practices. The operation is expected to help relief the legislations and regulations ignorance and products abused by the public.

Consumer Complaints

The practice-oriented food and drug problems confronted by the public are a serious concern of FDA. The complaints may be received directly and individually or through the mass-media, newspaper, magazines and other types of publications widely in circulation are regularly screened and reviewed in the case. In any event, the matter will be considered and decided whether or not an investigation is required. This aspect of FDA's activities is aimed to serve current public interest and prevent future problems.

Advertisement Control

This is an activity undertaken by the FDA in accordance with the provision of the laws. According to the Drug Act B.E. 2510 (1967), no advertisement is permitted for dangerous drugs and specially-controlled drugs. The revision of the law in 1979 includes additional requirement for drug advertisement to be approved by FDA. Furthermore, the revision in 1987 permits drug advertisement directly to medical practitioners. This is to avoid incorrect and misleading claims or informations made by drug manufacturers or distributors. Food advertisement is also subjected to be approved by the FDA prior to its execution.

For the other controlled products such as cosmetics and toxic substances, the FDA is implementing a surveillance program which involves regular inspection of all advertisements made in various media. Exaggeration claims, misleading or misbranded advertisement will be filed and reviewed by the agencies concerned and legal action may be taken on serious cases by the FDA of the first encounter.

ENFORCEMENT AND COMPLIANCES

The Food and Drug Administration (FDA) is acting in various fields of regulatory administration dealing with food, drug, cosmetic, etc., as mentioned. Implementation of regulations which are under its responsibilities include certain measures of law enforcement by way of inspection, sampling, analysis and prosecution of offenders.

Inspection is aiming to assure of the conformity of laws and regulations concerned with respective fields and to assure that the products distributed in the market comply with official standards and/or requirements.

In general, there are two types of inspections as the followings :

- (1) Regular Inspection. This is a planned inspection to ensure that the FDA annual plan on consumer protection has been done successfully.
 - Plant Set Up Inspection. This is a comprehensive check of newly established firms or the remodified one prior to comply with laws or regulations to an issuing of respective licence.
 - Routine Inspection. This is a periodic inspection particularly to the premise receiving licence.
 - Follow-up Inspection. This is to confirm the certain correction of the licence holders or firms after the former inspection indicated.
- (2) Suspected or Petitioned Inspection. This is a particular type of inspection with specific aim to investigate and gather necessary evidence for prosecution.

Scope and Responsibility of Inspectors

Inspectors are authorized by virtue of the acts under the responsibility of the FDA. They are empowered to visit any firms or suspected places (as necessary), take samples, detain or seize the products, containers, and other relevant substances or documents which are suspected to be violated the laws or regulations pertained. In addition, primary screening test and product sampling for assay are the activities of inspector to monitor and assure the product available in the market.

Inspection Procedures

The followings are the inspection procedures in order to ensure that the inspection is carried out thoroughly and the information necessary to identify the legal violation is obtained.

1. Preparation

Prior to any inspection, it is needed for an inspector to study the background of firm or visiting place and prepare inspection report form, apparatus or equipments.

2. Reporting

The report of inspection need to be recorded with truely, completely and adequately in order to facilitate further proceeding and also in case of prosecution, it may utilize as evidence.

3. Follow-up and Evaluation

This is deemed necessary procedure of inspection in order to pursue the implementation of inspector when the result of the inspection indicated that the licence holder or the firm's owner is recommended to make any certain correction. It is also needed where there is an outbreak of food and drug problem that might be tackled only by an intensive monitoring. In any case, the former inspection will be reviewed by obtaining the information of the report and proper follow up action will then be decided.

Apart from this, the documents on inspection will be collected as the database and statistical information in order to compile and evaluate for follow up actions and future annual planning.

Compliance

The objective of compliance is to compile evidences and analyze the problems regarding violations of laws and regulations concerned for further actions. Moreover, its objective is also searching of which the method and solution can improve the existing control system to retain justice and protect consumer benefits.

This is done by the Compliance Committee which was appointed by the FDA. They are authorized to work with its own method, make consideration and recommendation to the FDA in various legal violation cases. The committee also collaborates with the Inspection Division in an effort to find a possible way to reduce the violation cases.



The enforcement by inspection of controlled products available in the market.

Supervision

Senior inspector from FDA will supervise the personnel in provincial level to clarify the new or amended law and regulation, close collaboration and also discuss on various problems.

Co-operation with other agencies

Due to the broaden scope and responsibilities of inspector, some activity could not be done by itself, cooperation with other agencies concerned is required. Such agencies are the Department of Medical Sciences, the Custom-House, the Office of Consumer Protection, etc.

Document proposed to
the Preliminary Survey Team
on
the Project for Strengthening
of Food Sanitation Activities

FDA

October 28, 1978

1. FOOD CONTROL SYSTEM IN THAILAND

In Thailand , various food control activities are undertaken by several organizations. However the Minister of Public Health is designated by law to be in charge of the execution of the Food Act. B.E. 2522, and is empowered to appoint competent officers, promulgate regulations and set other activities in order to carry out the provisions of this act . The Food and Drug Administration of the Ministry of Public Health and the Provincial Offices of Public Health are responsible for legal food control operations with the support of food analytical services of the Department of Medical Sciences.

1. Food and Drug Administration of the Ministry of Public Health (TFDA) is an agency which primary duty by virtue of Food Act B.E.2522 (1979). Its main roles are implementation and enforcement of this law, and are to guarantee the quality and safety of food, by means of :

- 1.1 setting up food standard and specification as well as hygienic and labelling requirements.
- 1.2 controlling of the production and importation of food products.
- 1.3 approval for registration of specific-controlled food.
- 1.4 approval of packaging materials.
- 1.5 giving technical advisory for food product development
- 1.6 inspection of food establishment
- 1.7 sampling and quality assessment of food products
- 1.8 taking legal action eg. seizure, product recalls, prosecution

1.9 conducting epidemiological study

1.10 promotion of consumer awareness and voluntary compliance of food manufacturers

1.11 up grade and developing food plants to meet national and international standard by using GMP and HACCP programmes.

According to the Food Act. B.E. 2522 (1979), food can be classified into three main categories :

(1) Specific-Controlled Food : This is the category in which the registration for manufacturing and products is required. Legal provisions are other aspects of good manufacturing practices. Individual food commodity is classified as a specification controlled food by the Minister of Public Health as recommended by the Food Committee. eg. canned food . At present, there are 39 types of food in the Specific-controlled food category.

(2) Standardized Food : This includes certain types of food mainly produced locally as a small-scale industry of household industry. The main objective is to facilitate and encourage producers to upgrade or at least to maintain quality of their products. Standardized food required labelling registration and quality have to meet the standards and requirement as specified in the Notification of the Ministry of Public Health. There are 7 types of food in the Standardized food category.

(3) General Food : Food is either raw or cooked, preserved or non-preserved, processed or non-processed, eg. frozen foods. If they have not been listed under category (1) or (2) taken into FDA's consideration as general food. General food can be categorized into :-