タイ国
食品衛生強化プロジェクト
長期調査報告書

平成6年2月

国際協力事業団
医療協力部

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1. 長期調査員の派遣

1－1 派遣の経緯と目的

食品衛生強化プロジェクトに係るタイ政府からの技術協力要請を受けて、タイ側の要請の背景、枠組み及び内容等を調査・協議することを目的とする事前調査団を平成５年10月24日から同年11月２日の日程で派遣した。調査団は、保健省医科学局、食品医薬局をはじめとするタイ側関係機関との一連の協議と現地調査を行った。

今回の長期調査員チームは、先の事前調査の結果を踏まえプロジェクト全体及び分野別暫定協力計画（案）を策定すること、実施協議討議議事録（R／D）締結後すみやかにプロジェクトが実施できるよう、関連手続きと準備事項につきタイ側に説明することを主な目的として派遣された。

1－2 調査員の構成

石綿　肇	食品分析検査	国立衛生試験所食品添加物部第一室長
南　俊作	食品衛生行政	横浜検疫所川崎支所検疫衛生・食品監視課長
富田　明子	協力計画	国際協力事業団医療協力部医療協力第一課職員

1－3 調査日程

日順	月日	曜日	調査日程
第１日	１月10日	月	移動　成田 → バンコク
2	11日	火	ＪＩＣＡタイ事務所、日本大使館表敬
			保健省次官補 Dr Jamroon 表敬
3	12日	水	医科学局・食品医薬品局調査（指導課題の選定）
4	13日	木	〃
5	14日	金	〃　（専門家派遣、研修員受入の検討）
6	15日	土	専門家生活環境調査と資料整理
7	16日	日	収集資料整理
8	17日	月	医科学局・食品医薬局調査（供与機材の検討）
9	18日	火	〃
10	19日	水	〃　（タイ側人配置の検討）
11	20日	木	〃
12	21日	金	長期調査の総括
			ＪＩＣＡタイ事務所、日本大使館報告
			移動　バンコク発
13	22日	土	成田発

1－4　主要面談者

保健省 (Ministry of Public Health)

Jumroon Mikhanorn	Deputy Permanent Secretary

保健省国際課 (International Health Division, Ministry of Public Health)

Nantika Sungoonshorn	Foreign Relations Officer

保健省医科学局 (Department of Medical Sciences, Ministry of Public Health)

Panya Sonkom	Director General
Pranee Srisomboon	Deputy Director General
Srisit Karunyavanij	Principal Medical Scientist
Sangthong Sawasdiphab	Principal Medical Scientist
Napaporn Panja	Director, Division of Food Analysis
Rachanee Sawangkapta	Section Chief, Chemical Analysis of Food
Garnchana Wonkchavanich	Section Chief, Chemical Analysis of Water and Beverage
Churairat Rongrodejanarak	Section Chief, Microbiological Analysis of Food
Gobthong Thoophom	Section Chief, Residues Analysis of Food
Prakai Boriboon	Section Chief, Analysis of Food for Hazardous Substance
Amorn Wongrukpanich	Section Chief, Laboratory Q.A. and Development
Achara Poomchatra	Director, Division of Food-for-Export Analysis
Chanchai Jaengsawang	Section Chief, Chemical Analysis
Pensri Rodama	Section Chief, Microbiological Analysis
Tanongpan Satjapala	Section Chief, Physical Determination and Testing
Piyanart Leevivat	Section Chief, Food-for-Export Quality Promotion

保健省食品薬品局 (Food and Drug Administration, Ministry of Public Health)

Morakot Kornkasame	Secretary General
Chantana Jutiteparak	Deputy Secretary General
Pornpimol Kattinanont	Director, Inspection Division
Suwit Wibulpolprasert	Director, Technical Division
Narumol Gomolsevin	Director, Food Control Division
Visit Praveenvongvuthi	Director, Public Relation and Advertisement Control Division
Prasert Charoonpon	Director, Rural Health Consummer Protection Office

在タイ日本大使館

熊本　宣晴　　一等書記官

ＪＩＣＡタイ事務所

表　伸一郎　　所長

浅野　壽夫　　次長

中島　靖久　　所員

青年海外協力隊員

平島　　茂　　保健省衛生局（Department of Health）派遣（分野：衛生教育）

2. 要　約

食品衛生強化プロジェクトに係るタイ政府からの技術協力要請を受け、平成５年10月、国際協力事業団小早川隆敏医療協力部長を団長とする事前調査団が派遣された。同調査団は、①要請の背景及び内容の把握、②タイ国内の食品の安全性・品質向上がプロジェクトの目的であり、輸出促進のための食品衛生向上ではないことをタイ側に得心させる、③保健省医科学局における食品分析業務及び食品医薬品局における食品衛生行政の現状と問題点の把握、④タイ側の技術協力基本計画の聴取、⑤タイ側のプロジェクト実施体制の確認を主要テーマとする現地調査を実施した。

事前調査団の調査結果を踏まえ、国立公衆衛生院、国立・地方衛生試験所、大学等に対し本プロジェクトに対する専門家派遣、研修員受入への協力を依頼し、国内支援体制を確立した。

こうした国内支援体制の整備状況を踏まえ、平成６年１月10日から22日の日程で、専門家候補者、国内支援機関の専門技術者で構成される長期調査員チームが派遣され、タイ側の協力を得て、暫定実施計画策定に必要な協力の詳細、分野別目標、年度別目標（案）を明確にするための技術的補完調査を実施した。

全体協議、分野別協議を経てタイ側と調整がついた項目は次のとおりである。なお、暫定計画の詳細については、次章以下で述べることとする。

(1) 専門家派遣

長期派遣、短期派遣ともに、５年間に派遣する専門家の指導課題と派遣時期、期間、人数につき、計画案を策定した。

(2) 研修員受入

研修員受入人数は我が方により各年決定され、タイ側からの要望通りに実現するとは限らないことを説明した上で、５年間に受入れる研修員の研修課題と時期、期間、人数につき、計画案を策定した。

(3) 機材供与

医科学局に関しては、要請機材の内容確認、更に必要と思われる機器の提案、機種選定を行い、専門家派遣、研修員受入時期を踏まえ、機材導入時期の調整を行った。

食品医薬品局に関しては、要請機材の確認に終始した。機種の選定、導入時期の検討等については、実施協議調査に持ち越されることとなった。

(4) 技術指導形態

専門家派遣に関して、カウンターパートへの技術指導のみならず、関係職員を集めてセミナーを開催することも検討されたが、現地セミナー開催費いは或いは中堅技術者養成対策事業費の支給については計画の具体化が必要であり、長期専門家着任後に協議していくこととした。

暫定実施計画案

(DRAFT)
TENTATIVE SCHEDULE OF IMPLEMENTATION
PROJECT FOR STRENGTHENING OF FOOD SANITATION ACTIVITIES

Japanese Fiscal Year (April-March)	1994/95 4 5 6 7 8 9 10 11 12 1 2 3	1995/96 4 5 6 7 8 9 10 11 12 1 2 3	1996/97 4 5 6 7 8 9 10 11 12 1 2 3	1997/98 4 5 6 7 8 9 10 11 12 1 2 3	1998/99 4 5 6 7 8 9 10 11 12 1 2 3
1. Dispatch of Japanese Experts to Thailand (long-term)	Project Leader Food Analysys on Microbiology Food Sanitation Administration Coodinator				
2. Dispatch of Japanese Experts to Thailand (short-term)	①Food addidives ②Food contaminants	①Agricultural residues ②Water:chemical analysis	①Containers/packages ②Composition	①Toxic substances ②Physical determinations	①Food additives ②Food contaminants
	①Food inspection ②QA/QC system ③IEC	①Food inspection ②QA/QC system ③QC in industry ④IEC	①QC in industry ②IEC	①Food inspection ②QC in industry ③IEC	①QC in industry ②Food inspection
3. Training of Thai Personnel in Japan (request by the Thai side; number of personnel will be finalized year by year through further discussion.)	①Food additives ②Antibacterial agents ③Pesticide residues ④Packaging	①Food additives ②Marine toxin/contaminant ③Mycotoxin ④laboratory management systems	①Pesticide residues ②Microbiology ③Training centre operation ④Radionuclei contaminant	①Animal drug residues ②Water:chemical analysis ③Packaging ④Beverage Analysis	①Food poisonong bacteria ②Food components ③Modern technology for food analysis ④Foreign substances and freshness test
	①Administration ②QA/QC system ③QA/QC system ④IEC	①Administration ②Food inspection ③QA/QC system ④Food safety assessment	①Administration ②QA/QC system ③Food inspection ④Food inspection	①Administration ②QA/QC system ③Food inspection ④Food inspection	①Administration ②QA/QC system ③Food inspection ④Food safety assessment
4. Provision of Machinery and Equipment					
5. Dispatch of Japanese Mission to Thailand		Planning and consultation	Advisory		Evaluation

3. プロジェクト実施体制

本プロジェクトは、タイ保健省において食品分析を所掌する医科学局及び、食品衛生行政を所掌する食品医薬品局の二局を協力機関として擁する体制であるため、プロジェクト活動の円滑な遂行には、日本側からの各局への緊密な連絡にもまして、タイ側内部での二局間の連携が必須であると考えられる。二局の沿革は次のとおりである。

医科学局は、1942年の保健省の創設と同時に設置され、数回の組織改変を経て、1990年に現行組織となった。英語名称は Department of Medical Sciences 、局長は Director General である。

一方、食品医薬品の管理は、戦前は内務省管轄であったが、戦後に保健省大臣官房食品医薬品管理課に移管された。1974年の組織改変により現在の食品医薬品局となり、組織英語名称はFood and Drug Administration、局長名はSecretary Generalである。

日本側は、事前調査においても上述の二局の連携について懸念を表明し、タイ側からはその対策として、①合同調整委員会（年１回開催予定）、及び②運営委員会（３ケ月に１回開催予定）の設置が提案されていた。

今回の調査で、医科学局を指導とした各委員会の構成が明らかにされた。また、実質的作業部会の担当者も二局それぞれに指名され、プロジェクト実施体制は確立したと考えられる。合同調整委員会及び運営委員会の構成及び機能は附属資料のとおりである。

"Strengthening of Food Sanitation Activities"

Coordinating Committee

1.	Permanent Secretary for Public Healhth	Chairman
2.	Director-Genereal, Department of Medical Sciences	member
3.	Secretary-General, The Food and Drug Administration	member
4.	Senior Principal in Medical Sciences	member
5.	Deputy Director General, DMSc	member
6.	Deputy Secretary General, FDA	member
7.	Senior expert on food, FAD	member
8.	Representative of Department of Technical and Economic Coorperation	member
9.	Representative of International Health Division, Office of the Permanent Secretary	member
10.	Director of Food-For-Export Analysisi Division, DMSc	member
11.	Director of Food Control Division, FDA	member
12.	Director of Technical Division, FDA	member
13.	Director of Division of Food Analysis, DMSc	member & secretary
14.	Mrs. Amorn Wongrukpanic, Medical Scientist, P.C.8	member & assist secretary
15.	Miss. Chanchai Jaengsawang, Medical Scientist P.C.7	member & assist secretary
16.	Mrs. Pranee Kiatsurayanont, Policy and Plan Analysts 7	member & assist secretary
17.	Mr. Somchai Komolyincha yoen, Food & Drug officer 5	member & assist secretary

Strengthening of Food Sanitation Activities (JICA)

Steering Committee (DMSc)

1.	Director - General Department of Medical Sciences	Chairman
2.	Deputy Director - General	member
3.	Principal Scientist (Food)	member
4.	Director of Division of Food Analysis	member
5.	Director of Division of Food-For Export Analysis	member
6.	Director, Technical Coordinating Center	member
7.	Mrs. Amorn Wongrukpanich Medical Scientist, P.C.8	secretary
8.	Miss. Chanchai Jaengsawang Medical Scientist, P.C.7	assist secretary
9.	Miss. Piyanart Leevivat Medical Scientist, P.C.7	assist secretary
10.	Miss. Tipawan Ningnoi Medical Scientist, P.C.6	assist secretary

Strengthening of Food Sanitation Acitvities (JICA)

Steering Committee (FDA)

1.	Secretary General	Chairman
2.	Deputy Secretary General	member
3.	Senior Expert on Food	member
4.	Director of Food Control Division	member
5.	Director of Inspection Division	member
6.	Director of Rural Health Consumer Protection Office	member
7.	Director of Public Relation and Advertisement Control Division	member
8.	Director of Technical Division	member
9.	Mr. Sophon Huabcharoen	member
10.	Mr. Saner Ruamjit	member
11.	Miss. Daranee Mookajornphan	member
12.	Mrs. Pranee Kiatsurayanont	secretary
13.	Mr. Somchai Komolyingcharoem	assistant secretary
14.	Mr. Yuthana Norapoompipat	assistant secretary

FUNCTIONS OF THE COMMITTEES

1. Joint Coordinating Committee

The Joint Coordinating Committee woii 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 and objectives 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 recrutment of Thai counterpart personnel
   d. other matters mutually agreed upon as necessary
4) To establish subcommittees, when necessary, for the execution of specific activities

2. Steering Commttee

The Steering Committee 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 Joint Coordinating Committee of the Project
2) To review the measures taken by the Government of Japan such as follows;
   a. Dispatch of Japanese experts
   b. Acceptance of Thai Counterpart personnel in Japan for training
   c. Provision of machinery and equipment
3) To review the measures taken by the Government of Thailand such as follows;
   a. Allocation of necessary budgets (including local cost expenditure)
   b. Allocation of necessary counterpart personnel
   c. Utilization of machinery and 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 Government, particularly on:
   a. Appointment of the Thai counterpart personnel
   b. Effective utilization of machinery and equipment
   c. Dispatch of Japanese experts
   d. Acceptence of Thai counterpart personnel for training in Japan
   e. Other matters mutually agreed upon as necessary

4. 食品分析に係る協力計画

4－1 協力内容

医科学局の食品分析に関しては、事前調査団により次のとおり協力を実施することでタイ側と合意している。

(1) 協力目的

検査室の技術向上により食品の品質保証を強化する

(2) 協力内容

以下の検査技術の向上

1) 食品添加物
2) メチル水銀及びカドミウム等の食品の汚染物質
3) 農薬、動物医薬品等の残留物質
4) 微生物
5) 水の検査法
6) 食品の容器・包装
7) 食品成分
8) 有毒物質
9) 異物、缶の破損及び官能検査等の物理的検査

今回の調査では、上記の他「検査室管理及び人材開発」項目が協力内容として追加要請された。

4－2 専門家派遣

事前調査団によりタイ側の専門家派遣計画案は明確になっていたが、この要請に対し、日本側は、専門家として対応できる人材の有無等、対応可能性につき国内で分析作業を行い、別表のとおり日本側計画案を作成し長期調査に臨んだ。

タイ側案と日本側案との大きな相違点は、日本側が微生物検査の項目に対しては、タイ国の食品衛生の現状を考慮して、短期専門家ではなく長期専門家の派遣をもって対応しようとした点である。その他の検査項目に対しては、各項目ごとに2乃至3ヶ月間の短期専門家派遣の後、約2ヶ月後に再度1ヶ月間専門家を派遣しフォローアップを兼ねて更に高度な技術指導ができるよう計画されている。また、短期専門家の派遣人数が5年間のうち特定の年度に集中することのないように、各年度ごとに指導科目とする検査項目をおよそ3項目に絞った。

協議において、タイ側は上述の意図を了解し日本側計画案に合意した。

ただし、新規追加要請があった「検査室管理及び人材開発」については、要請が提出されたのが

1年目

タイ食品衛生強化プロジェクト専門家派遣計画案（DMS）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
微生物 （ｲﾑﾉｱｯｾｲ 、ﾊﾞｲｵｱｯｾｲ を含む）		プロジェクト開始時期より		←	―	―	―	―	―	―	―	→
食品添加物 （甘味料、調味料、パラベン類等）						←	―	―	→		↔	
汚染物質 （ﾒﾁﾙ 水銀、ｶﾄﾞﾐｳﾑ 、ﾌﾐﾝ 酸等）									←	―	→	↔

2年目

タイ食品衛生強化プロジェクト専門家派遣計画案（DMS）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
微生物 （ｲﾑﾉｱｯｾｲ､ﾊﾞｲｵｱｯｾｲ を含む）	←	―	―	―	―	―	―	―	―	―	―	→
残留物質 （農薬、抗菌性物質、ホルモン等）	←	―	→			↔						
水 （化学分析）							←	―	→		↔	

3年目

タイ食品衛生強化プロジェクト専門家派遣計画案（DMS）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
微生物 （ｲﾑﾉｱｯｾｲ､ﾊﾞｲｵｱｯｾｲ を含む）	←	―	―	―	―	―	―	―	―	―	―	→
容器包装 （材質試験等）	←	→			↔							
食品成分 （ビタミン、葉酸、ヨウ素等）							←	→			↔	

4年目

タイ食品衛生強化プロジェクト専門家派遣計画案（DMS）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
微生物（ｲﾑﾉｱｯｾｲ、ﾊﾞｲｵｱｯｾｲ を含む）	←											→
有毒物質（ﾏｲｺﾄｷｼﾝ 、ﾏﾘﾝﾄｷｼﾝ 、植物毒素等）	←	→			←	→						
物理的検査（鮮度、異物等）							←	→			←	→

5年目

タイ食品衛生強化プロジェクト専門家派遣計画案（DMS）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
微生物（ｲﾑﾉｱｯｾｲ、ﾊﾞｲｵｱｯｾｲ を含む）	←											→
食品添加物（ﾎﾟﾘﾘﾝ酸、過酸化水素、残留塩素等）	←		→			←	→					
汚染物質（セレン、ウレタン等）							←	→			←	→

長期調査最終日に近かったこと、専門家対応可能性を日本に持ち帰り検討する必要があったことから、今回は協議を行わず実施協議調査団での協議に委ねることとした。

4－3　研修員受入

タイ側から提示されていた研修員受入計画に基づき、受入れ先の確保を念頭においた日本側計画案をもって協議を行った。

その結果、タイ側は日本側計画案に研修項目の優先順位の変更を行い、研修員受入は各年度ごとに人数枠が決定されることを了承の上で、別表のとおり各年度4名までの要望を提出した。

	1　年　目	2　年　目	3　年　目	4　年　目	5　年　目
指導課題	1. 食品添加物（含GCMS）(1/6) 2. 残留抗菌性物質 (1/3) 3. 残留農薬（含GCMS）(1/6) 4. 容器包装 (1/3)	1. 食品添加物（含GCMS）(1/12) 2. マリントキシン (1/6) 3. マイコトキシン (1/6) 4. 検査室管理システム (1/3)	1. 残留農薬（含GCMS）(1/12) 2. 微生物 (1/3) 3. 訓練センター運営 (1/3) 4. 放射能物質汚染 (1/3)	1. 残留動物医薬品 (1/12) 2. 水の化学分析 (1/6) 3. 容器包装 (1/6) 4. 飲料分析 (1/3)	1. 食中毒細菌 (1/12) 2. 食品成分 (1/6) 3. 食品分析の最新技術 (1/3) 4. 鮮度・異物検査 (1/3)

4－4　供与機材

要請機材については、既に事前調査団により報告されており、これに沿って機材と機種の選定調査を行った。選定の基準として、用途と必要度、供与後のメンテナンスとアフターサービスに重点を置いた。また、研修員の我が国での研修の効果と帰国後の供与機材の扱い易さ、医科学局における専門家の指導効果の向上を考え、国内の検査機関で汎用されている機種も念頭において調査を行った。

事前に可能な限り英文のカタログや価格表を送付しておいたため、着任時点でかなりの部分で既にリストアップされていた。従って、今回の調査は主としてコンサルテーションにあり、上記観点に沿っての機材・機種の選定と使用目的にあったアクセサリーの選定、専門家派遣時期に合わせた供与時期の調整などであった。機材、機種、付属部品、価格、供与時期、供与先は別添資料の通りである。

事前にタイ側からの要請が無く、かつ、本プロジェクトに必要と思われる高額機器として、1)ガスクロマトグラフ・質量分析計（ＧＣ／ＭＳ）、2)フォトダイオードアレー付き高速液体クロマトグラフ（ＨＰＬＣ－ＰＤＡ）及び3)嫌気培養装置について助言を行った。

1)　ＧＣ／ＭＳは、分析した物質が間違いなくその物質である事を最終的に確認する装置である。既に、食品分析部にHewlett-Packard Model 5988-Aが1台設置されているが、イオンソースの

汚染によりクリンアップと感度調整が困難であり、また、ライブラリーが、不十分で残留農薬の検出など現在必要とされている実用分析レベルに達していない。食品分析部と輸出食品分析部両部に1台づつ新型モデルを設置することを助言した。

2) ＨＰＬＣ－ＰＤＡは、医科学局には未だ導入されていない。現在は、抗菌性物質や食品添加物の確認は保持時間のみで決定されている。ＰＤＡの導入により、出現ピークのスペクトル解析が可能となり、物質の同定が可能となる。食品分析部と輸出食品分析部両部に1台づつ設置することを助言した。

上記2種の機器導入により、分析結果の信頼度が飛躍的に高くなり、医科学局の国家検査研究機関としての科学技術の向上に大きく寄与するものと考えられる。

3) 現在、両部ともに嫌気性菌の扱いは非常に少ない。その原因は主として培養装置の不足にある。一方、食品衛生の向上には細菌検査、特に嫌気性菌の検査は非常に重要である。嫌気培養装置の設置は必須であり、かつ、検査能力の大幅な向上が期待される事を説明し、食品分析部と輸出食品分析部両部に1台づつ設置することを助言した。

嫌気培養装置の導入により、食品衛生の根幹である微生物検査の質と量の大幅な向上が期待される。

4－5　その他の助言、相談等

1) 容器包装の溶出試験法について

容器包装は製品毎に形状や大きさが異なり、試験法を一律に規定できないため、内表面積1㎠当たり2㎖の抽出溶媒を使用したときの濃度に換算すること、また実際には、ドブ漬法、充塡法、片面溶出法などで溶出試験を行うことを説明。

2) グリチルリチンについて

我が国では2Na塩が許可されており、使用基準があり、しょう油とみそに使用が許可されている事、使用濃度の制度が無い事、また、その他にカンゾウ抽出物とカンゾウ末とが指定されている事を説明。

3) 違反輸入食品事例集の英訳

ＤＦＥＡで持っていた日本語の輸入食品違反事例集（タイからの輸入品のみ）の英訳。

4) ＧＣ－ＦＩＤのクリンアップ方法

水素炎イオン化検出器のクリンアップ法を説明、安定性と感度の維持の為に時々行うように助言。

5) 合成添加物と天然添加物の相違

我が国の合成添加物と天然添加物の基本的相違、使用基準等の扱いの相違について説明。

6) ホルムアルデヒドの定量法について

ホルムアルデヒドの定量に標準物質として、ホルムアルデヒドを使用する場合とヘキサミン

を使用する場合とについて原理と結果の相違を説明。

7) フェノールの測定について

4-アミノアンチピリン法とブロム法とについて反応原理と測定結果の相違、食品衛生法における使い分けを説明、また、ホルムアルデヒド樹脂製品として一括規格であるために、尿素樹脂製品とメラミン樹脂製品に対してもフェノールの測定の必要性があることを説明。

8) 我が国における輸入食品の安全性確保について

ゼミナール形式で"Safety Assurance of Imported Foods in Japan"と題して、質疑応答を含め、約2時間講演、聴講者はＤＦＡとＤＦＥＡを中心として約30名。

平成6年度機材供与実施計画書（DMS）

主要機材名	数量	機能概要	使用目的
1．ガスクロマトグラフ・質量分析計	1	科学物質の最終確認	分子量測定による分析結果の信頼度の決定的な向上
2．液体クロマトグラフ	2	不揮発性物質の定性定量	不揮発性物質、特に添加物、抗菌剤等の新規測定項目の追加と検査件数の増加
3．ガスクロマトグラフ	2	揮発性物質の定性定量	揮発性物質、特に添加物、農薬等の新規測定項目の追加と検査件数の増加
4．可視・紫外分光光度計	1	吸収スペクトルと吸光度の測定	食用色素、汚染物、食品成分等の分析に使用
5．ホモジナイザー	1	試料のかくはんと磨砕	各種物質の測定のため、試料を均一にし、かつ、抽出効率の向上の為に使用
6．ディープフリーザー	2	試料の凍結保存	採取した食品や不安定な試料を分析まで超低音下での保存に使用
7．高圧滅菌器	2	器具、培地等の高温滅菌	微生物試験を行うに先立ち、使用する器具、試薬、培地等を滅菌する為に使用
8．クリンベンチ	1	無菌操作を行う為の装置	試料や滅菌した器具などへの雑菌の汚染を防ぎ、無菌操作を行うために使用
9．培養器	2	一定温度での微生物の培養装置	試料から分離したカビや細菌の培養を行う
10．ストマッカー	1	試料からの細菌の抽出	試料から微生物を分離、抽出するために使用
11．自動バーナー	2	操作中に足で点火、消火する装置	両手で実験操作を行いながら、バーナーの点火消火を操作する。

Department of Medical Sciences (DMSc)

Equipment

1st Year

Total : ~ 66,000,000 Yen

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year DFA 1	DFA 2	DFA 3	DFA 4	DFA 5	DFEA 1	DFEA 2	DFEA 3	DFEA 4	DFEA 5
1. GC-MS	20,000	Hewlett Packard	HP5989B*	1									
2. HPLC with Fluores--- cence + Diode Array Det. + Autosampler	6,000	Shimadzu	LC-10A	1					1				
3. GC with FID & ECD + Head space + Capil. column + Autosampler	6,000	Hewlett Packard	HP 5890	1					1				
4. Spectrophotometer (Double beam) -Computer system + Software	1,200	Jasco	7800	1									
5. Homogenizer (High speed)	520	Nessei	AM-11						1				
6. Deep Freezer, 20cu.ft. (-40°C)	760	Sanyo	MDFU441						2				
7. Autoclave 230 lt	8,000	Amsco		1					1				

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
8. clean Bench	1,230	Yamato	ADS130(M)						1				
9. Incubator,													
Low Temp.25°C	874	Sanyo	IS92						1				
55°c 750 lt.	240	Sanyo	IS62										
10. Stomacher	400	Lab Blender							1				
11. Automatic Burner	125			1					1				
12. Micro bus	3,500			1					1				
13.Photocopy Machine	1,400			1					1				
14. Facimile	160			1					2				
15.Personal Computer complete system	400			1					1				

Total amount for the first year : 65,984,000 Yen

Department of Medical Sciences (DMSc)

Equipment

5 years

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
1. GC-MS	22639.6	Hewlett Packard	HP5989B*	1									1
2. HPLC with Fluorescence + Diode array Det + Autosampler	6,000	Shimadzu	LC-10A	1					1				
2. HPLC with UV & Electrochemical Det. and + Autosampler	5,500	Shimadzu	LC-10A		1					1			
3. HPLC with Elec.$ Refract. Index Det. + Autosampler	5,500	Shimadzu	LC-10A								1		
4. HPLC with RI & Diodearray UV-Vis Det. + Autosampler	6,000	Shimadzu	LC-10A			1							
5. AAS & Fume Hood & Hydride system & Autosmpler	11,796	Hitachi	Z-8200			1							1
6. GC with FID & ECD + Head space + Capil. column + Autosampler	6,000	Hewlett Packard	HP 5890	1					1				

To be continued

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
7.GC with FID & NPD + Head space + Capil. column + Autosample	6,000	Hewlett Packard	HP 5890			1						1	
8.GC with FID & FPD + Capil. Col. + Autosample	6,000	Hewlett Packard	HP 5890							1			
9. GC with FID & ECD + Capil. column + Autosample	6,000	Hewlett Packard	HP 5890		1								
10. Electropholytic Apparatus	7,000	Hewlett Packard	3^{D} Capillary			1							
11. Spectrophotometer (Double beam)+computer system+software	1,200	Jasco	7,800	1			1					1	
12. Centrifuge Refrig. (High speed)	1,980	Hitachi	CR20			1					1		
13. Homogenizer (High speed)	3,000	Nessei	AM-11		1				1	2		1	
14. Muffle Furnace	472	Yamato	FM 48		1					1			1
15. Lyophylizer (Freeze Drier)	750	Yamato	DC 56A		1					1			

To be continued

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
16. Rotary Evaporator	320	Yamato	RE50C								1		
	200	Yamato	RE50							1		1	
17. Rotary Evap. with	590.3	Eyela				1				1	1		
-Cooling syst.			CCU										
-Condenser			CA-1100										
-Aspirator			A-35										
18. Deep Freezer, 20cu.ft.													
(-40°C)	760	Sanyo	MDFU441						2		2		1
(-80°C)	1,780	Sanyo	MDF382AT			1							1
19. Autoclave 230 lt	8,000	Amsco		1					1				
20. Water Activity apparatus					2					1			1
21. Clean Room, Large					1								
22. clean Bench	1,230	Yamato	ADS130(M)				1		1	1			
23. Incubator,													
Low Temp.25°C	874	Sanyo	IS92						1				
55°c 750 lt.	240	Sanyo	IS62									2	
Room, 35°C, 15 m²		Sanyo							1				1
24. Larmina Flow Carbinet										1			
25. Stomacher	400	Lab Blender				2			1	2		3	2
26 Anaerobic Culture set	4,500				1					1			
27. Automatic Burner				1	1				1	4			

To be continued

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
28. Microcspe for seam Section examination												1	
29. Oritector					1					1			
30. Analytical Balance	315	Metler	AE-240			1				1			1
	390	Yamato	HA-200A								1		
	230	Yamato	PM-4000			1				2		2	
31. Water Still	1,380	Yamato	WG-75				1			1			
32. Ultrasonic Pipet Washer	338	Yamato	AW31								1		
			STA-097					1					
33. Incubator Shaking Water Bath	289	Yamato	BT23					1		1			
34. Water Bath, Low Temp.												1	
35. Fume Hoods	1,147	Yamato	FHK-1505B					1				2	
36. Shaker	290	Yamato	KS 501 D					1		1			
	180	Yamato	SA 31							1			

To be continued..

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
1. Micro bus	3,500			1					1				
2.Photocopy Machine	1,400			1					1				
3. Facimile	160			1					1				
4.Personal Computer complete system	400			1					1				
Training Tools													
1. Video Canera wt Accessories					1					1			
2. Canera wt Accessories					1					1			
3. Tape Recorder, Portable					1					1			
4. Slide Projctor wt Controller					1					1			
5. Overhead Projector					1					1			
6. Transparency Maker					1					1			
7. Audiovisual Aids wt Installation of Studio													
8. Screen					1					1			
9. Television								1		1			
10. Video set								1		1			
11. Tape Synchronizer								1		1			

To be continued

Equipment	cost in Yen/unit x 1000	Name of Manufacturer	Model	Year									
				DFA					DFEA				
				1	2	3	4	5	1	2	3	4	5
12. Integrated Anplifier					2					2			
13. Microphone wt Accessories Microphone Mixer					2					2			
14. Loud Speaker wt Accessories					2					2			
15. Cassette Deck					2					2			
16. Tuner					2					2			

End.

4－6　所感（石綿調査員）

以下、2週間の派遣の間の個人的所感について述べる。

1)　バンコク市内に限定すれば、訪タイの度にその発展ぶりに目をみはらされる。一見して、高層ビル群や高速道路網、デパートや新車などが目につく。また、消費生活や工業製品の向上、食品の品質やスーパーの衛生性なども以前とは比較にならない。しかしその一方で、市内に散在するスラムや街中にあふれる屋台のバーミー屋、タラートでの食品の取り扱いや初歩的違反など、全く変わっていない面も目についた。

2)　ＤＭＳｃに関しては、ＮＩＨは別格としても、以前との比較の上ではかなりのレベルにあるように思われた（ＪＩＣＡ、タイ地域保健活動向上計画の専門家として、1978年に1年間、1983年に2ヶ月間駐在）。以前は、導入技術も初歩的ないしは中程度な面も多かったように思うが、これからは高度な技術の移転が必要となる。これは、日・タイ間の格差が少なくなった事を示している。現在の保健省医科学局は、農業省農業局農芸化学部と比較しても決して見劣りはしないが、ＯＭＩＣとの比較ではどうしても一歩譲るように思える。ＯＭＩＣの機能性と機器の充実は日本国内の検査機関と全く同様に思われた。今回のプロジェクトの終了時には最低限現在のＯＭＩＣレベルには持って行く必要がある。

3)　供与機材に関して、現在では食品の一般分析に近赤外分析計がかなり実用化されている。食品の一般成分分析は、従来手作業で、長時間を要し、しかも結果のばらつきが大きいものであったが、近赤外分析計の導入により瞬時に結果がえられる。しかしながら、今回のプロジェクトの予算枠では供与はとても無理である。それ以前に必要なＧＣ／ＭＳ、ＨＰＬＣ－ＰＤＡ、嫌気培養装置などの導入に重点を置いた。将来、予算が計上できれば、ぜひ導入したい機器である。

4)　医科学局技官は中堅域は Section.Chief以上は日本をはじめ、豪、欧、米諸国での留学、研修経験も豊富であり、実験も10年以上継続している人が多い。派遣専門家は発展途上国という先入観を捨てて、国内と同等の心づもりが必要とおもわれる。特に、語学に関しては上手な人が多い。国内委員会は（難しい面も有ると思うが）、早めに派遣専門家を決めて、事前に会話の練習を充分に積む時間を持てるよう配慮してほしい。

5．食品衛生行政にかかる協力計画

5－1　協力内容

事前調査団で合意した協力分野について、具体的内容を明確にすべく協議を重ね、次のとおり改正した。

(1) 協力目的

1) 食品医薬品局及び県衛生局職員の人材養成強化

2) 中小規模食品産業に携わる従業員に対する食品の品質管理、安全性確保のための知識及び技術の移転

3) 関係職員及び大衆への食品衛生に関する有益な情報の提供

(2) 協力内容

1) 以下の項目の人材養成

① 食品衛生行政一般

② 食品の監視・評価

③ 品質保証システム及び品質管理システム

④ 食品の安全性評価

2) 教育課程、教材の作成及び教育コースの開催、並びに食品業界団体による自主管理の推進

3) 公衆教育活動の指導及び広報ビデオ作成技術の指導

協力要請の背景及び協議の詳細は、次のとおりである。

1) 食品医薬品局及び県衛生局職員の人材養成強化

背景

ＦＤＡによる食品衛生行政の柱は、

① 食品製造施設に対する許可・登録。

② 製品についての原材料の配合割合、製造方法、表示等についての許可・登録。

③ 許可対象の施設及び食品に対する販売前、販売後の検査。

④ 広告内容の認可。

⑤ 公衆への食品衛生思想の普及。

である。ＦＤＡは、これらの活動の手足として内局に 170名余の監視員（バンコク地区の食品製造施設等の監視担当を含む）を持つほか、地方における手足となるＰＨＯの監視員 200名余に対する予算措置を行っている。

ＦＤＡは、近く食品衛生行政の大幅な改正を予定しているが、この改正には、上記②の製品登録制度の原則廃止が含まれている。ＦＤＡは製品登録制度の廃止に対応して、より詳細な食

品別規格基準の整備、食品製造施設に対する通常監視の強化及び新たなモニタリング検査を行うこととしている。また、これにともない、食品専門の監視員が配置されることとなる。

合意点

① 食品衛生行政一般（ＦＤＡ関係４課）

- 日本における食品衛生行政の紹介
- ＦＤＡ幹部（関係４課の課長クラス）の日本視察

本課題では、長期派遣専門家は、講習会等において、日本における食品衛生行政システムを紹介するほか、ＦＤＡの食品衛生行政全般について必要に応じ助言することが求められる。

② 食品の監視・評価（監視課、官房の地方保健・消費者保護課、ＰＨＯ）

- 実地訓練
- 講習会の開催
- 監視に必要な器具の供与
- 技術職員の日本研修

実地訓練を行う場所及び講習会の内容については、短期派遣専門家も加えてＦＤＡと協議することとなる。

③ 品質保証システム及び品質管理システム（食品管理課）

- 日本の食品製造施設におけるＴＱＣの紹介
- 技術職員の日本研修

対象食品は、乳製品、缶詰、冷凍食品、発酵食品、飲料、ベーカリー及び容器材料。

本課題では、短期派遣専門家は、品質保証システム（製造者による自主的なもの－製造業別ＧＭＰ）の作成について、また長期派遣専門家は、品質管理システム（行政庁による監視基準－ＨＡＣＣＰの考え方を導入したもの）の作成について、それぞれ指導することとなる。

④　食品の安全性評価（技術課、食品管理課）

・　技術職員の日本研修

本課題での協力内容は、上記ａと同一。こちらは担当レベルが対象となる。タイ側の強い要望で１課題として残した。

なお、事前調査団で合意した課題のうち、「動物医薬品、農薬、抗生物質及び環境汚染物質の残留リスク評価」及び「食品の安全性管理システム」については、上記「④　食品の安全確保」で対応できるとした。

また、「食品衛生関連機関への連絡方法、情報提供及び教育に対する研修モジュールの調整」については、ＦＤＡが取り下げた。

2)　中小規模食品産業に携わる職員に対する食品の品質管理、安全性確保技術の移転

（ＦＤＡの関係４課）

背景

ＦＤＡは、行政庁による監視指導の強化とともに営業者自らが行い、いわゆる自主管理の実施を指導している。しかしながら、タイ国の中小規模食品産業においては、主に人材不足が原因で未だ自主管理を行える企業は極めて少なく、またそれを推進するための業界団体の存在も少ない現状にある。

合意点

・　教育課程、材料の作成
・　製造施設の規模及び食品ごとに分かれたコースの開催
・　業界団体による自主管理の推進

本課題では、短期派遣専門家は、自主管理技術の移転とともに、業界団体の設立・運営に関するノウハウの移転が求められることになる。

3)　関係職員及び公衆への食品衛生に関する有益な情報の提供

（広報・宣伝管理課、官房の地方保健・消費者保護課、ＰＨＯ）

背景

タイ国においては、様々な方面での公衆啓発活動にテレビによる政府広報が重要な役割をもっている。ＦＤＡは、現在３つのチャンネルを使って広報している。しかしながら、こと食品衛生関係の広報となると、地域により生活様式の違い、経済格差等大きい同国では、広報内

容もその地域の事情に合ったものでなければならない。このため、各地域に則した広報手段及び公衆教育が求められている。

また、ＦＤＡは、広報予算の効率的な執行のため広報ビデオの作成を、現在の委託から自前で行うことを検討している。

合意点

- 公衆教育活動の指導
- 広報ビデオ作成技術の指導

本課題は、ＦＤＡ及びＰＨＯ職員へのビデオ作成技術の指導が要請内容であることが判明した。しかしながら、現在ビデオ制作は完全に外部発注されＦＤＡには制作担当職員が配置されておらず、また機材も皆無に等しいこと、及び英語にて意思疎通の可能な職員が少ないことから、協力実施には更なる調査検討が必要である。

4) 新規要求課題－モデル地域におけるＦＤＡとの共同作業による食品衛生行政システム開発－

背景

タイ国では、今後食品衛生行政の地方への委譲が進められることになっており、ＦＤＡは、円滑な委譲のため、モデル地域における試行を計画している。

ＦＤＡは、本計画を成功させるため（地方行政庁に本計画の重要性を認識させることが重要）そこで行われるモデル開発に本プロジェクトを絡ませたいと考えている。

対応

本件については、これに係る具体的な協力内容（専門家、供与機材、活動予算等も含めて）が明らかでない状況での回答は困難と判断し、回答を保留するとともに、関係資料の提出をＦＤＡに要請した。

５－２　専門家派遣

今回の調査では、事前調査団の調査結果に基づき、日本側の専門家派遣計画案を提示したところ、タイ側からは特に意見はなく、長期及び短期専門家の派遣、派遣専門家のための執務場所の確保等について了解が得られた。調査結果を別表に示す。

1年目

タイ食品衛生強化プロジェクト専門家派遣計画案（ＦＤＡ）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
食品衛生行政一般		プロジェクト開始時期より		←								→
食品監視及び評価							←		→			
品質保証及び品質管理のシステム										←		→
ＩＥＣ									←		→	

2年目

タイ食品衛生強化プロジェクト専門家派遣計画案（ＦＤＡ）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
食品衛生行政一般	←											→
食品監視及び評価	←		→				←		→			
品質保証及び品質管理のシステム				←		→						
食品産業従事者への知識・技術の移転							←		→			
ＩＥＣ										←		→

3年目

タイ食品衛生強化プロジェクト専門家派遣計画案（ＦＤＡ）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
食品衛生行政一般	←											→
食品産業従事者への知識・技術の移転	←		→				←		→			
ＩＥＣ				←		→						

4年目

タイ食品衛生強化プロジェクト専門家派遣計画案（ＦＤＡ）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
食品衛生行政一般	←											→
食品監視及び評価	←		→				←		→			
食品産業従事者への知識・技術の移転				←		→				←		→
ＩＥＣ						←		→				

5年目

タイ食品衛生強化プロジェクト専門家派遣計画案（ＦＤＡ）

指導課題	4月	5月	6月	7月	8月	9月	10月	11月	12月	1月	2月	3月
食品衛生行政一般	←											→
食品産業従事者への知識・技術の移転	←		→				←		→			
食品監視及び評価	←		→									

5－3　研修員受入

事前調査団により報告されているとおり、タイ側の要望は食品医薬品局のみで毎年研修員５名、協力期間の５年間で合計25名である。

これに対し我が方では、現時点で可能性のある数字として毎年１～２名を提示した。これとは別に、厚生省予算により発展途上国食品衛生行政専門家研修に毎年１名を受入れることを提示し、日本側の受入れ枠からこれ以上の数字を見込むのは極めて困難である旨を説明したところ、それ以上の議論には至らなかった。ただし、食品医薬品局が医科学局に倣い、各年度４名までの要望を提出することは受入れた。別表は、上述厚生省予算による研修員１名を除いたものである。

	１　年　目	２　年　目	３　年　目	４　年　目	５　年　目
指導課題	1. 品質保証・品質管理 2. 品質保証・品質管理 3. ＩＥＣ	1. 食品監視 2. 品質保証・品質管理 3. 食品安全性評価	1. 品質保証・品質管理 2. 食品監視 3. 食品監視	1. 品質保証・品質管理 2. 食品監視 3. 食品監視	1. 品質保証・品質管理 2. 食品監視 3. 食品安全性管理

5－4　機材供与

ＦＤＡから出された要求をもとに意見を交換し、若干の修正を行うとともにＦＤＡにおいても機材に係るカタログ、購入先等の情報を収集するよう依頼した。

5－5　周辺情報の調査－食品衛生関連官庁・部局及び関連業務

(1) Ministry of Public Health（保健省）

① Food and Drug Administration（食品医薬品局）

ＦＤＡは、食品法を所管しているにもかかわらず、前述のようにその権限の範囲及び活動能力は日本の厚生省のそれに比較してかなり限定されている。すなわち、食品衛生を所管する最も重要な行政機関との位置付けである。ライバルはＤＭＳの他多数。本プロジェクトを機会に、食品製造業者に対する影響力の強化、食中毒調査の実施、自前検査施設の整備等による活動範囲の拡大などをねらう。

Technical Div.

企画・調整。

Food Control Div.

規格基準の設定、ガイドラインの設定等。

食品（原料、配合割合、製造工程等）の登録。

食品製造施設の登録。

Public Relation and Advertisement Control Div.

主にテレビを使った広報。食品表示・広告の認可。

Inspection Div.

ＦＤＡの現場部門で、監視員を持つ。

バンコク市内の市場、製造場、小売店における監視・指導。

② Office of the Permanent Secretary for Public Health（保健省大臣官房）

Rural Health Consumer Protection Div.

ＰＨＯの食品衛生活動の指揮監督。

Epidemiology Div.

食中毒の調査等

Provincial Health Office（73ヶ所）

各県の市場、製造場、小売店における監視・指導。

③ Department of Medical Sciences（医科学局）

食品等の検査機関である他、輸出食品に添付する輸出証明書の発行、食品製造業者に対する検査技術の指導等も行う。

なお、食品検査業務に占めるＦＤＡとＰＨＯからの依頼分（いわゆる行政検査分）は、ＤＭＳの業務全体の約33％。残りのほとんどが他省庁及び食品製造業者からの依頼検査。

Food Analysis Div.

Food-for-Export Analysis Div.

Regional Medical Science Center (9)

④ Department of Health（保健局）

食品衛生の他、歯科衛生、地方上水、栄養、家庭衛生及び学校衛生を担当。

Food Sanitation Div.

Regional Environmental Health Center (9)

レストラン、集団給食施設等の衛生指導基準の設定。

その他、抗菌性物質の登録は、ＦＤＡの Drag Control Divisionが、寄生虫対策は Department of Communicable disease Controlがそれぞれ担当する。

(2) Bangkok Metropolitan Administration（バンコク首都府）

バンコク市内のレストラン等の監視・指導。

(3) Ministry of Interior（内務省）

と畜場の衛生管理、食肉検査員の配置。

各県のレストラン等の監視・指導。

(4) Ministry of Agriculture and Co-operative（農業・協同組合省）

農家に対する農薬使用に関する指導。

牧場、養殖業者に対する動物医薬品使用に関する指導。

食肉検査員に対する食肉検査の技術指導。

(5) Ministry of Industry（工業省）

農薬の登録。

附 属 資 料

① 食品の現行検査法、使用機器、検査件数調査表（食品分析部、輸出用食品分析部）

QUESTIONAIRE FOR DIVISION OF FOOD ANALYSIS

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
1. Food Additives						
▵ Preservatives	Stean distillation, Spectrophotometric Method HPLC		UV-VIS Spectrophotometer	826	HPLC	> 800
Benzoic acid				826		> 800
Sorbic acid						
Boric acid						
Propionic acid	Gas Chromatographic Method	25 ppm.	Gas Chromatograph	30	Gas Chromatography	>30
Methyl paraben	Tbin-Layer chromatography Method		Densitometer			10
Ethyl paraben				-		10
Propyl paraben				5		10
Others:-Butyl paraben				5		10
▵ Bleaching agent						
Sulfur dioxide	Modified Rankine Method		-	170		> 170
Hydrogen peroxide						
Residual chlorine						
Others						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
▵ Sweetener						
Cyclamate	Spectrophotometry	30 ppm.	Spectrophotometer	40		>65
Sacharin	HPLC		HPLC	20		
Stevioside	TLC		TLC	5		
Others:- Aspartame	-		-			
▵ Seasoning agent						
Monosodium glutamate	Enzymetric method		Spectrophotometer	200	Spectrophotometer	>210
inosinate	Spectrophotometry		"	5		
Guanylate	"		"	5		
Others	-		-			
▵ Food colours	Paper Chromatography,		UV-VIS Spectrophotometer	450	HPLC	>400
Tartrazine	HPLC		HPLC			
Suncet yellow FCF						
Pauceau 4R						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
Others:- Azoruline - Brillian blue FCF - Allura red						
▵ Antioxidant BHT . BHA TBHQ	Spectrophotometry		Spectrophotometer	70		> 70
EDTA Others	HPLC method		HPLC-UVdetector	50		> 50
▵ Artificial flavoring agent						

Iten	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
∆ Others						
Polyphosphates						
Formaldehyde	Spectrophotometry		Spectrophotometer	30	Spectrophotometer	> 50
Phosphate .	"		"	20		
2. Food contaminants						
∆ Heavy metals						
Pb	Dry Ashing & Extraction,	0.01 ppm	Atomic Absorption, Muffle	850	AA	1,200
Cd	AA. method					
Hg						
Sn						
As						
Fe						
Zn						
Cu						
Mn						
Na						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
K Se Others						
△ PCB	Gas chromatographic method	0.5 ppm	GC (ECD)	212	GC(ECD), GC-MS	> 200
△ Methyl mercury						
△ Humic acid						
△ Uretane						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
▵ Ethylcarbonate						
▵ Others						
3. Agricultural Residues						
▵ Pesticide Residues						
Organochlorine cpde.	Gas chromatographic method	0.01-0.05ppm	GC (ECD)	660	GC(ECD),GC-MS	700
Organophosphate cpds.	"	0.01-0.05ppm	GC (FPD)	392	GC(FPD)	400
Pyrethroid cpds.	"	0.01-0.05ppm	GC (ECD)	660	GC(ECD)	400
Carbamate cpde.	HPLC method	0.01-0.05ppm	HPLC-Post column	372	HPLC	
Others			Derivatijation		(Fluorescence detector)	400

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
▵ Antibacterial agent						
Sulfa group	HPLC method		HPLC (UV detector)		HPLC,TLC, GC(ECD),LC-MS	100
Oxolinic acid						
Antibiotic (chloramphenical)	HPLC method	0.025ppm	HPLC (UV detector)		HPLC(UV-detector)	100
Others						
▵ Hormone (DES)	Thin Layer chromatographic method	-	TLC	4	TLC,HPLC(UV-detertor, Electrochem detector),LC-MS	100
▵ Other (Clenbuterol)	HPLC method	0.4 ppm	HPLC-UV detecter	108	HPLC (UV-detector, photodiode array detector), LC-MS	150

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
4. Microbiology						
- Listeria monocytogenes	- Bacteriological Analytical Manual 6th ed 1984 29.01 - 29.11		- Stomacher - Stearomicroscope	100	- Bauschc & Lamb Nicholas Illaminator Lamb	200
- Campylobacter						
- Yersinia enterocolitica						
- Vibrio cholerae	- Microorganism in Food, ICMSF 2nd ed. 1988		- Stomacher - Mixer	350	Similar Instrument in used	350
- Vibrio parahaemolyticus	"		"	300	"	300
- E.coli	"		"	2095	"	2100
	- AOAC, 15th ed, 1990, - Standard Methods of Dairy Products, APHA 14th ed, 1978.					
- Salmonallea	- Microorganism in food ICMSF 2nd ed, 1988 - Manual for the Laboratory Diagnosis of Bacterial Food Poisoning and the Assessment		- Stomacher - Mixer	2320	-Water activity	2350

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
	of the Sanitary quality of food, SEAMIC 1978					
- Shigellae	- Microorganism in food, ICMSF 2nd ed, 1988		"	220	-Water activity	220
- S.aureus	- Similar Salmonellae		- Mixer	2320		2350
- C.perfringens	"		- Stomacher - Mixer - Anaerobic Incubator	2320	-Anaerobic Incubator	2350
- C.botulinum	- Microorganisms in food, ICMSF 2nd ed, 1988		- Stomacher - Mixer - Phase-contrast Microscope - Refrigerated, high speed centrifuge - Anaerobic Inonbators	5	-Refrigerated, high speed centrifuge -Anaerobic Inonbator	10
- B.cereus	- Microorganisms in foods, ICMSF 2nd ed, 1988 - Compendium of Methods for the Microbiological Examination of Foods, APHA, 2nd ed, 1984		- Stomacher	400	-Similar instrument in use	500

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
- Parasites (Anisakire larva, Trichinella larva, Taenia larva, Conathostona larva, and Liver Fluke in Fish and Meat)	- AOAC, 15th ed, 1990 - Compendium of Methods for the Microbiological Examination foods, APHA 2nd, 1984		- Microscope - Stearo Microscope - Centrifuge	25	-Similar Instrument in use	50
A Bioassay						
- Oxtetracycline - Tetracycline - Chlortetracycline	- HPLC (& AOAC) - AOAC, 15th ed, 1990 - FDA	0.25 mcg/ml.	- Homogeniger - pH-meter - Centrifuge	25	Similar Instrument in use	50
- Penicillin	(Antibiotic Residues in milk Dairy Products and Animal Tissues Methods Reports and Protocols, 1974	0.025 unit/ml.	- Zone Reader - HPLC for confirm Tetracycline Oxytetracycline and Chlortetracycline			
- Oxolinic acid						
- Others						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
∆ Immunoassay						
S.aureus						
C.perfringens						
Others						
5. Water analysis						
Chemical analysis						
Total hardness	EDTA Titrimetric Method	1 ppm.	-	500	-	550
Chloride	Argentometric Method	1 ppm.	-	500	-	550
Nitrate	Nitrate Electrode Method	0.01 ppm.	Ion Analyzer	500	Double Beem Spectrometer	600
Fluoride	Fluoride Electrode Method	0.01 ppm.	"	100	"	150
Lead	AAS	0.05 ppm.	AAS - Flame	500	Graphite AAS	600
Iron	AAS	0.02 ppm.	"	500	"	600
6. Food containers and packaging materials						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
▲ Plastics				203 (Total)		> 200
- Material Test						
1) Pb in PVC,PE,PP,PVDC,PET	Atomic Absorption Spectrophotometry method	0.01 ppm	Atomic Absorption Spectrophotometer (AAS)	PE 35 PP 15 PET 18	AAS	
in PC for milk bottle			"			
2) Cd in PC for milk bottle	"	0.01 ppm	"	PVC 40 PS 47	AAS	
3) Heavy metal (as lead)	Sodium Sulfide solution test	1.0 ppm	-	PC 25		
4) Ba in PVDC	Atomic Absorption Spectrophotometry method	0.01 ppm	AAS	Melamine 23	AAS	
5) Dibutyl tin compounds in PVC	Paper Chromatography method	50 ppm	-	Total 203		
6) Cresol phosphoric acid ester in PVC	Gas Chromatography method	-	GC (FID)		GC(FID),GC-MS	
7) Vinyl chloride monomer in PVC	"	0.39 ppm	"		"	

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
8) Volatile Substances in PS (Toluene, Ethyl Benzene, iso-propyl benzene, n-propyl benzene, Styrene)	"	-	"		"	
9) Vinylidene chloride in PVDC	"	-	"		"	
10) Arsenic in PE, PS for milk container	Atomic Absorption Spectrophotometry method	0.01 ppm	AAS		AAS	
11) Extracts by n-Hexane in PE for milk container	Reflux, evaporate, weight	1.0 ppm	Rotary evaporator Analytical balance			
12) Soluble substances in Xylene in PE for milk container	"	1.0 ppm	"			
- Migration Test						
1) Phenol in Melamine	Spectrophotometry method	0.1 ppm	UV-VIS Spectrophotometer		-	
2) Formaldehyde in Melamine	"	0.1 ppm	"		-	
3) Sb in PET	"	0.05 ppm	"		-	
4) Ge in PET	"	0.1 ppm	"		-	
5) Heavy metal (as lead)	Sodium Sulfide solution test	1.0 ppm	-		-	

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
6) $KmnO_4$ consumption	Titration method	0.2 ppm	-			
7) Residue on evaporation	evaporation and weight		Water bath, Analytical balance			
- Distilled water		1.0 ppm				
- 4% Acetic acid		1.0 ppm				
- 20% Ethanol		1.0 ppm				
- n-Heptane		1.0 ppm				
- Identification	Infrared Spectrophotometry method		Infrared Spectrophotometer			
A Rubber						
- Material Test				14 (Total)		> 15
1) Pb	Atomic absorption Spectrophotometer method	0.01 ppm	AAS		AAS	
2) Cd	"	0.01 ppm	AAS	-	AAS	
- Migration Test						
1) Phenol	Spectrophotometer method	0.1 ppm	UV-VIS Spectrophotometer	-		
2) Formaldehyde	"	0.1 ppm	"	-		
3) Zinc	Atomic Absorption Spectrophotometer method	0.01 ppm	AAS		AAS	

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
4) Heavy metal (as lead)	Sodium sulfide solution test	1.0 ppm				
5) Residue on evaporation - Distilled water	Evaporation, weight	1.0 ppm	Water bath Analytical balance			
∆ Ceramic and Enamal				Ceramic, 3 (Total)		> 10
- Migration Test						
1) Pb	Atomic Absorption Spectrophotometer method	0.01 ppm	AAS		AAS	
2) Cd	Atomic Absorption Spectrophotometer method	0.01 ppm	AAS		AAS	
∆ Paper	-	-	-	0	-	> 5
∆ Wood	-	-	-	0	-	> 5
∆ Glass	-	-	-	0	-	> 5
∆ Others	-	-	-	0	-	> 5

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
7. Composition moisture						
Moisture	Hot Air Oven Method		Hot Air Oven	200		> 200
Fat	Acid digestion, Solvent Extraction		Shaker, Heating Mantle Hot Air Oven	200		> 200
Protein	Kjeldahl Method		Kjeltec System	300		> 300
Ash	Dry Ashing		Muffle	90		100
Crude fiber	Acid-tase digestion		Heating Mantle, Hot Air Oven	90		100
Sugar	HPLC method		HPLC (RI detector)	150	HPLC	> 150
Cyanide						
Histamine						
Indole						
Vitamin						
Iodine	Spectrophotometry Titration	2.6 ppb.	Spectrophotometry	30		50
Dietary fiber						
Cholesterol	GC Method		GC	-	GC-FID	> 20
Purine	-					
Oxalic acid	-					
Uric acid	-					
Amino acid	HPLC method		HPLC, UV detector	30	HPLC	> 30

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
Minerals	Dry Ashing AA,Spectrophotometry		AA, Spectrophotometry, Muffle	10	AAS	20
Meat and fish species identification	Electropharesis Method		Electrophoresis		Electrophoresis	>10
Trimethylamine oxide						
Dimethylamine oxide						
Volatile amine						
K-value						
Others						
Chloride	Titration method		-	5	-	>20
8. Toxic substances						
△ Mycotoxin	TLC-Densitometer	1 ppb.	Densitometer	200	HPLC-" / HPLC-GC (ECD) — MS-MS	300
Aflatoxin	HPLC/Fluorescence	0.1 ppb.	HPLC			
Ochratoxin						
Fumonisin						
Tricothecene						
Others						

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
∆ Marine toxin PSP Others	-	-	-	-	-	> 50
∆ Phytotoxin	-	-	-	-	-	> 50
∆ Cheni-luminescence	-	-	-	-	-	> 50
9. Physical determination ∆ Foreign substance Light filth Soil Sand Others :- Metal	AOAC 15th ed, 1990		Stearomicroscope	10	Similar Instrument in use	> 20
∆ Seam determination in can	Bacteriological Analytical Manual 6th ed, 1984, 24.05-24.06		- Vaccuum leak test Apparatus	5 (Small can)	Similar Instrument in use	> 5

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/last year	Necessary Instrument	Number of Sample/year after Cooperation
▲ Organoleptic test for freshness	-	-	-	-	-	> 50
Remark : All of items need basic instruments instance as Autoclave, Oven and Incubator						
▲ Others						
Fatty acid composition	GC method	-	GC-FID	100	GC-FID	> 150
Vitamin A	HPLC method	2 ppm.	HPLC	12		
β-carotene	Spectrophotometric method		Spectrometer	4	HPLC-UV,Fluorescence	
Vitamin E	"		"	2	Spectrometer	
Vitamin B_1	Fluorometric method		Fluorometer	11	Fluorometer	
Vitamin B_2	"		"	10	-	
Niacin	Microbiological Method	10 ng/g.	Spectrometer	11	Spectrometer	
Panththenic acid	"	"	"	1	"	
Vitamin C	HPLC method		HPLC	2	HPLC-fluorescence	

QUESTIONAIRE FOR DIVISION OF FOOD-FOR-EXPORT ANALYSIS NO.1

Item	Method of Analysis	Limited of Detection	Instrument in Use	Number of Sample/ last year	Necessary Instrument	Number of Sample/ year after Cooperation
1.Food Additives						
• Preservatives						
Benzoic acid	Liquid chromatography	5 ppm	HPLC	250	HPLC	
Sorbic acid	"	5 ppm	HPLC	250	HPLC	
Boric acid	Colorimetry	10 ppm	Spectrophotometer	50	Spectrophotometer	
Propionic acid	-	-	-	-	Rotary Evaporator GC (FID)	
Methyl paraben	-	-	-	-	HPLC/GC (FID)	
Ethyl paraben	-	-	-	-	HPLC/GC (FID)	
Propyl paraben	-	-	-	-	HPLC/GC (FID)	
Others						
• Bleaching agent						
Sulfur dioxide	Modified Rankine method	5 ppm	Modified Rankine apparatus	2300	-	
Hydrogen peroxide	Qualitative method	> 100 ppm	-	10	Oritector/HPLC	
Residual chlorine	Trimetric method	> 10 ppm	-	-	HPLC	
Others						

• Sweetener						
Cyclamate	Qualitative method		-	20	HPLC (UV)	
Sacharin	Qualitative method		-	50	HPLC (UV)	
Stevioside	-	-	-	-	-	
Others	-	-	-	-		
Aspatame	-	-	-	-	HPLC (UV) GC (FID)	
• Seasoning agent						
Monosodium glutamate	Enzymatic method		UV-VIS Spectrophotometer	20	Spectrophotometer	
Inosinate	-		-			
Guanylate	-		-			
Others	-		-			
• Food colours						
Tartrazine	Food Additives Analytical Procedure		Paper Chromatograph	500	HPLC (UV)	
Suncet yellow FCF						
Pauceau 4R						
Others						

• Antioxidant						
BHT	Qualitative method		-	100	HPLC	
BHA				100	HPLC	
TBHQ	-	-	-	-	HPLC/GC	
EDTA	FDA manual of Food Additives Analytical 1987	5 ppm	HPLC	1200	HPLC/autosampler	
Others						
• Artificial flavoring agent						
• Others						
Polyphosphates	- Thin layer chromatography		TLC	1000	HPLC	
Formaldehyde	- Colorimetry		Spectrophotometer	70	GC	
Phosphate	- Thin layer chromatography - Spectrophotometry		TLC Spectrophotometer	80	HPLC	

2.Food contaminants • Heavy metals Pb Cd Hg Sn As Fe Zn Cu Mn Na K Se Others	Flame AAS method Flameless AAS method Hydride generation method	0.01 0.001 0.01	AAS Mercury analyzer	400 1740 3700 370 130 100 100 630 - - - - -	- AAS/auto sampler - Muffle furnauce - Analytical balance - Lyophylizer - Deep Freezer	
• PCB	Gas chromatography		Gas chromatography	167	GC (ECD)	
• Methyl mercury	-	-	-	-	GC (ECD)	
• Humic acid	-	-	-	-		
• Uretan	-	-	-	-	GC (FID)	
• Ethylcarbonate	-	-	-	-	GC (FID)	
• Others						

3. Agricultural Residues • Pesticide Residues Organochlorine cpde.	Gas chromatography	0.01	Gas chromatograph	222	GC (ECD)	
Organophosphate cpds.	-				GC (FPD)	
Pyrethroid cpds.	-				GC	
Carbamate cpde.	-				HPLC	
Others	-					
• Antibacterial agent Sulfa group	-	-	-	-	HPLC (UV)	
Oxolinic acid	Liquid chromatography	0.10	HPLC	430	HPLC/auto sampler	
Antibiotic						
Others Oxytetracycline Chlor tetracycline Tetracycline	Liquid chromatography " "	0.10 0.10 0.10	HPLC HPLC HPLC	430 50 50	HPLC (UV)/auto sampler	
• Hormone	TLC method (Qualitative method)	> 20 ppb	- UV carbinet - Shaker	200	HPLC (UV)	
• Others Chloramphenicol	Liquid chromatography	0.05	HPLC	20	HPLC (UV)	

4.Microbiology Listeria monocytogenes B. cereus Campylobacter Strep. fecalis Yersinia enterocolitica Vibrio . cholerae V. parahaemolyticus E. coli Coliform Salmonella Shigella Others S. aureus C. perfringen Enterobacteriaceae	- AOAC (Association of Officials Analytical Chemists) - ISO (International Standard Organization) - ICMSF (Microorganisms in Food) - BAM (Bacteriological analytical mannal US.FDA)		- Incubator 35°C - Low temperature incubator - Refrigerator - Freezer - Larmina flow - Automatic burner - Top loading balance - Water deionizer - Water bath - Stomacher - Colony counter - Oven (Hot-Air) - Autoclave - pH Meter - Centrifuge - Automatic pipette	12,410	- Deep freezer - Autoclave 230 lt. - Clean bench - Low temperature incubator - High temperature incubator - Incubater room 35°C - Larmina Flow Cabinet - Stomacher - Automatic burner - Top load balance	
• Bioassay Oxytetracycline Oxolinic acid Others	AOAC - -					
Canned Examination:- - Sterility test - Incubation test.	AOAC ISO ICMSF BAM		Incubator 35°C Incubator 55°C Biosafety carbinet Larmina flow	3,821		
• Immunoassay S.aureus C.perfringens Others						

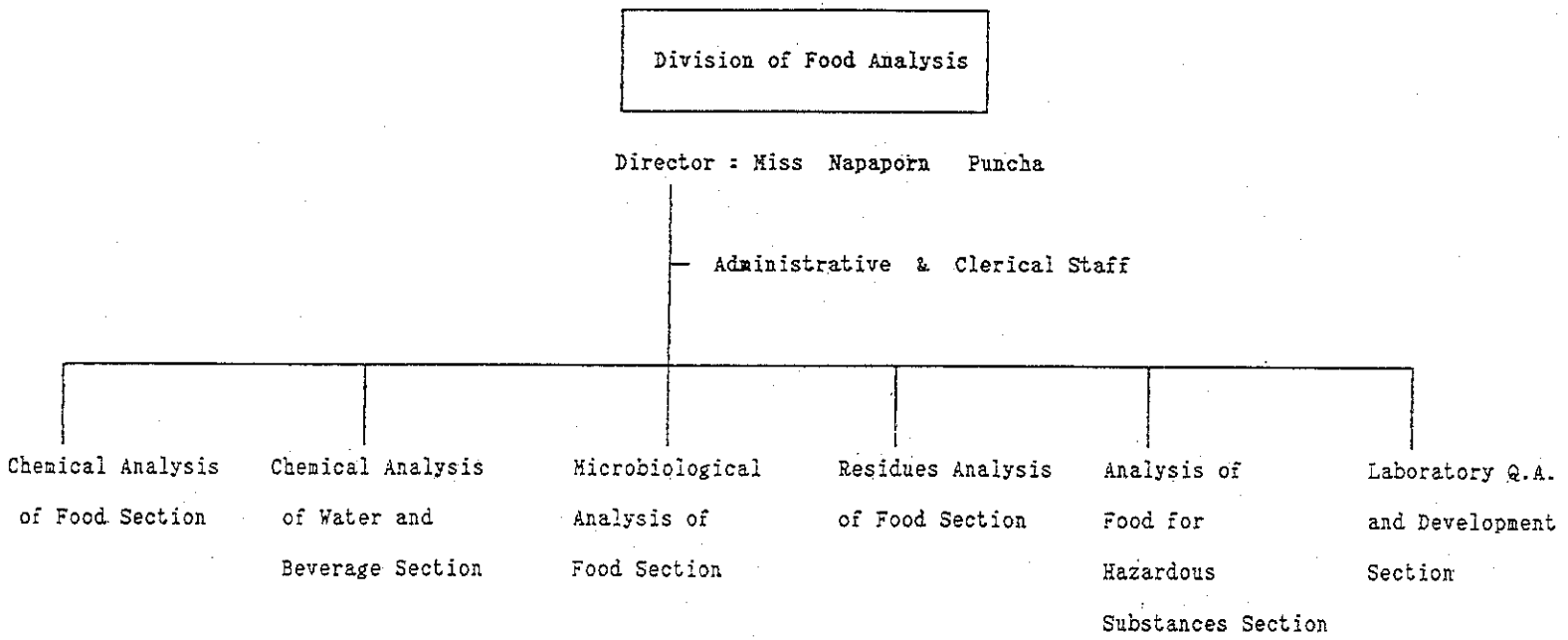
5.Water analysis Chemical analysis						
6.Food containers and packaging materials • Plastics • Rubber • Paper • Wood • Glass • Ceramic • Enamel • Others						

7.Composition Moisture						
Fat	AOAC 1992		Muffle Furnace	100	muffle furnace	
Protein			Hot air oven		Hot air oven	
Ash			Kjeltec, Fibertec		Analytical balance	
Crude fiber						
Sugar	Titration method		-	50	HPLC (RI)	
Cyanide	AOAC 1975					
Histamine	AOAC 1992		Spectrofluorometer	780	HPLC	
Indole	AOAC		HPLC	200	HPLC (UV)	
Vitamin	Liquid chromatography		HPLC	-	HPLC	
Iodine	-	-	-	-	-	
Dietary fiber	-	-	-	-	Dietary fibe apparatus	
Cholesterol	Gas chromatography	-	GC (FID)	-	GC (FID)	
Purine	-	-	-	-	-	
Oxalic acid	-	-	-	-	-	
Uric acid	-	-	-	-	-	
Amino acid	-	-	-	-	-	
Minerals	Spectrophotometry	-	Spectrophotometer	50	Spectrophotometer	
Meat and fish species identification	Eletropholytic method	- -	Electropholytic apparatus	-	Electropholytic apparatus	
Trimethylamine oxide	Gas chromatography	-	GC (FID)	-	GC (FID)	

Dimethylamine oxide	-	-	-	-		
Volatile amine	Titration method	-	-	600		
K-value	-		-			
Others						
8.Toxic substances						
• Mycotoxin						
Aflatoxin	TLC method		Densetometer	20	HPLC	
Ochratoxin	-	-	-			
Fumonisin	-	-	-			
Tricothecene	-	-	-			
Others	-	-	-			
• Marine toxin						
PSP	Bioassay method	-	-	30	HPLC	
Others						
Tetrodotoxin	Bioassay method	-	-	30	HPLC	
• Phytotoxin	-	-	-	-	-	
• Chemi-luminescence	-	-	-	-	-	

9.Physical determination • Foreign substance Light filth	AOAC (1990) 970.66		stereo-zoom microscope vacuum pump	724	stereo-zoom microscope	
Soil	-					
Sand	-					
Others	-					
Water Activity (aw)			Water activity apparatus	-	Water activity apparatus	
• Seam determination in can			seam saw seam projector seam micrometer	-	microscope for seam section examination	
• Organoleptic test for freshness (decomposition test)	US.FDA 1980			687		
• Others canned food - can integrity - texture - odour - flavour	sensory evaluation		-	3,821		
canned food - drained weight	SLS 591 (Sri Langa Standard)		electronic top loading balance	50	electronic top loading balance	
- pH			pH meter		pH meter	

② 食品分析部、輸出用食品分析部の組織と所属職員氏名一覧



List of Analysts of Division of Food Analysis

Chemical Analysis of Food Section

Chief of the section : Mrs. Rachanee Sawangkapat

Analyst

1. Miss. Tasanee Chulamorakot
2. Miss. Thewee Kanchanasumon
3. Miss. Yindee Luvira
4. Mrs. Phen Thongnoi
5. Mrs. Jeerayu Ngamkhanong
6. Mrs. Wanthanee Kamlert
7. Mr. Sompoche Pojjanapimol
8. Mrs. Niphaporn Lakshanasomya
9. Mrs. Vichittra Dangprok
10. Miss. Kasemsri Chuensupong
11. Miss. Yuparaid Uetrongchit
12. Miss. Weena Nithipadungwong

Chemical Analysis of Water and Beverage Section

Chief of the section : Mrs. Garnchana Wonkchavanich

Analyst

1. Mr. Glar Issarapirom
2. Mrs. Yupa Chantapanyarat
3. Miss. Suvannee Teerapapthamkul
4. Miss. Kvanta Kwangvanshiratada
5. Miss. Sataporn Oupamon
6. Mr. Veeraporn Jamsri

Microbiological Analysis of Food Section

Chief of the section : Miss churairat rongrodejanarak

Analyst

1. Mrs. Naruemon Prapasuwannakul
2. Mr. Preecha Chungsamanukool
3. Miss. Duangdao Wongsommart
4. Miss. Muntana Phunbualuang
5. Miss. Sinee Juntarapootirat
6. Mrs. Ladapan Sangklai
7. Mr. Adisorn Swetwiwathana
8. Mr. Sompob Vattanamanee

Residues Analysis of Food Section

Chief of the section : Mrs. Gobthong Thoophom

Analyst

1. Mrs. Boonpai Sungwaranond
2. Mrs. Kanokporn Atisook
3. Mrs. Pacharawan Jongmeevasna
4. Miss. Jitpaka Suntudrob
5. Miss. Jarunee Loksuwan
6. Miss. Rampai Bunthai
7. Mrs. Ladda Kaewklapanyacharoen
8. Miss. Yuwadee Lertruangdej

Analysis of Food for Hazardous Substances Section

Chief of the Section : Mr. Prakai Boriboon

Analyst

1. Mrs. Laddawan Rojanapantip
2. Miss. Kanjana Vivatcharoen
3. Miss. Mayuree Uraroongroj
4. Mr. Suwat Pasayawatanakul
5. Mrs. Uma Boriboon
6. Mr. Somporn Thuncheewa

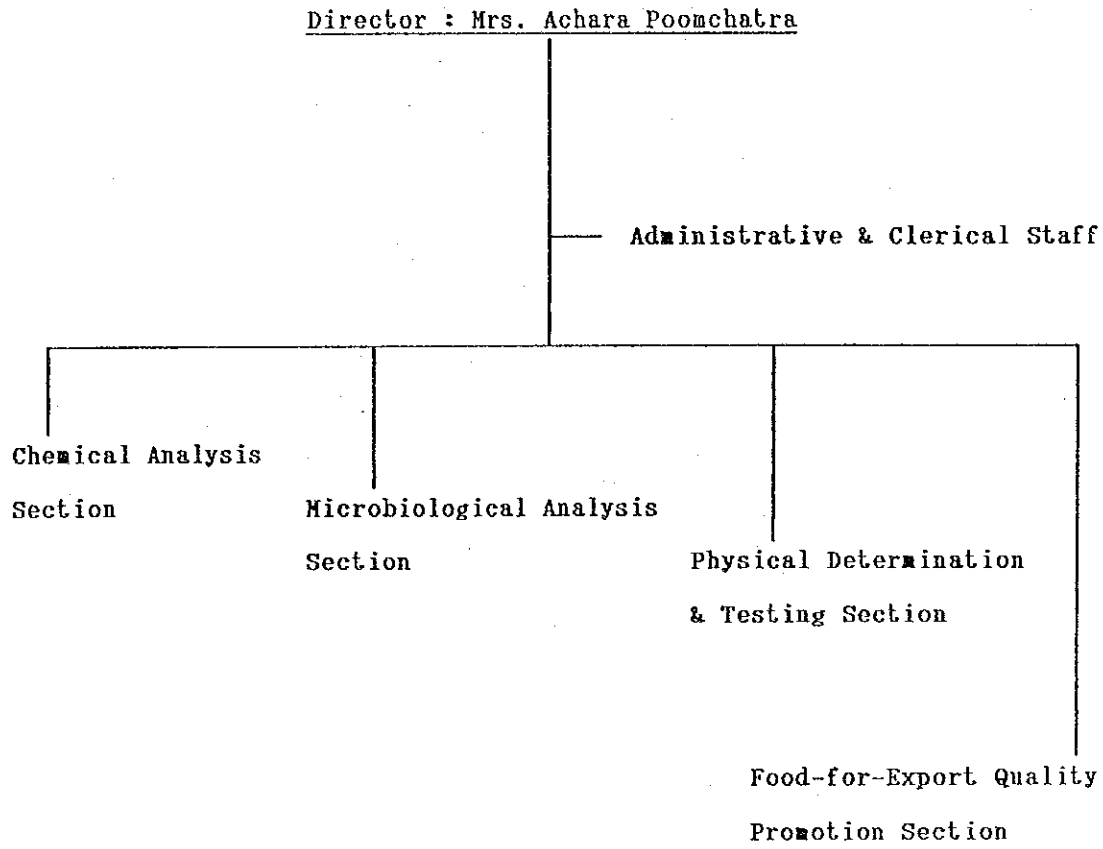
Laboratory Q.A. and Development Section

Chief of the section : Mrs. Amorn Wongrukpanich

Analyst

1. Mr. Udomkiat Punthanaprated
2. Miss. Tipawan Ningnoi
3. Miss. Jurai Chotichanataveewong

DIVISION OF FOOD-FOR-EXPORT ANALYSIS



List of Analysts of Division of Food-for-Export Analysis

Chemical Analysis Section

Chief of the Section : Ms. Chanchai Jaengsawang

Analyst

1. Ms. Sajee Pornsuttijanya
2. Ms. Suthatip Vitchaivutivong
3. Ms. Malee Charoenvitvorakul
4. Ms. Jintana Kitcharoenwong
5. Ms. Pornrat Sinchaipanich
6. Ms. Sineesad Petpinit
7. Mr. Pipat Noparkoon
8. Ms. Achara Chanasit
9. Ms. Pusaya Sangvirun
10. Mr. Pornchai Tangkiatvuthi

Microbiological Analysis Section

Chief of the Section : Ms. Pensri Rodma

Analyst

1. Ms. Urarat Vuttigornphan
2. Ms. Atcha Satjapala
3. Ms. Arunee Sornphrom
4. Ms. Nittaya Phanbua
5. Ms. Sasithorn Thitipetchrakul
6. Ms. Nongluk Pisuttilap
7. Ms. Pattama Daengchart
8. Ms. Paveena Panya
9. Ms. Chamrieng Poonyaprasit
10. Ms. Wilaiwan Suwanawat
11. Ms. Somruedee Pinit-ugsorn
12. Ms. Ged Konggee

Physical Determination and Testing Section

Chief of the Section : Mr. Tanongpan Satjapala

Analyst

1. Ms. Jaruwan Apimonraksa
2. Mr. Somchai Kitsuwannakul
3. Ms. Kuntong Pednog
4. Mr. Navarat Ratanadirok Na Puket

Food-for-Export Quality Promotion Section

Chief of the Section : Ms. Piyanart Leevivat

Analyst

1. Ms. Ladawan Chungsamanukool
2. Ms. Pranee Auewsair
3. Ms. Kanogwan Nutniyom
4. Ms. Tananun Jitnapakarn
5. Ms. Supattra Sabaywong
6. Ms. Sumalee Rithiudom

Division of Food-for-Export Analysis

17 January, 1994.

Name

③ 検査試料の依頼元と年間依頼件数（食品分析部）

Division of Food Analysis

1. Amount of analysed samples for 1993 fiscal year (Oct.92 - Sept.93)

	Sample number	
- Food and Drug Administration	1,720	(18.8%)
- Provincial Health office	1,267	
- 9 Regional Medical Sciences Center	161	
- The Thai Industrial Standards Institute	29	
- Other ministry	2,380	
- Food producer and importer	3,581	
	9,138	

2. Manpower of the Division

Section	Medical Scientist		Assistant	Worker	
	Official	Non-official		Official	Non-offical
1. Chemical Analysis of Food	14	8		1	1
2. Chemical Analysis of Water and Beverage	8	1	1	2	-
3. Microbiological Analysis of Food	9	2		2	-
4. Residues Analysis of Food	10	1		1	-
5. Analysis of Food for Hazardous Substances	11	2	1	3	
6. Laboratory Q.A. and Development	4	-	-	-	-

STATUS REPORT ON FOOD CONTROL

AND

CERTIFICATION SYSTEM

OF

THE MINISTRY OF PUBLIC HEALTH

FOOD DEVELOPMENT SECTION
FOOD CONTROL DIVISION
FOOD AND DRUG ADMINISTRATION
MINISTRY OF PUBLIC HEALTH
BANGKOK, THAILAND

Status Report on Food Control and Certification System of the Ministry of Public Health (Thailand)

FOOD CONTROL

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 (Appendix 1, section 5). 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 sevices of the Department of Medical Sciences.

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

1.1 setting up food standard and specifecation as well as hyglenic 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 conduction of epidemiological study

1.10 promotion of consumer awarness and volutary compliance of food manufacturers

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

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

1.1 Specfic-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. (Appendix 2)

(2) Standardized Food this includes 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 time to safeguard consumers. Standardized required labelling registration, the quality and labelling have to meet the standards and requirement as specitied in the Notification of the Ministry of Public Health. There are 7 types of food in the Standardized food category. (Appendix 2)

(3) General Food Food 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) will be taken into FDA's consideration as general food. General food can be categdorized into :-

a) Food notified to be labelled

b) Other general food (Appendix 2)

Legal provisions are established regarding labelling requirement, food additive, food contaminant, poisoning substances residue, packaging material, food colouring and flavoring etc.

Import and export foods are required Importation License, Manufacturing License and registration from FDA of the Ministry of Public Health before distributing into the Kingdom.

- Regulatory Compliance

Three main divisons named Food Control Division,Inspection Division, and Consumer Protection Task group are responsible for this important activities. Legal mandates consists of direct and indirect measures. Activities include setting up food standard and specification as well as hygienic and labelling requirements, controlling of the production, import and export of food products, issuance of Manufacturing License and Importation License, registration of specific-controlled food products before marketing, approval of food additives and packaging material to be used in foo, labelling and advertising approvals, giving technical advisory for food product development, inspection of food establishment, sampling and quality assessment of food products, taking legal action eg. seizure, product recalls, prosecution, conducting epidemiological studies and promotion of consumer awarness.

(1) Premarketing Control

Activities include issuance of Manufactruing License and Importation License to manufactruer and importer respectively; registration of controlled food products before marketing ; approval of food additives to be used in lood, labelling and advertising approvals.

1.1 Manufacturing License

Plant lay-out is to be submitted for approval and Plant inspection by TFDA inspcetor is required before and manufacturing license is issued. This license is to be renewed every three years.

1.2 Importation License

A license is required in order to import food into Thailand. A licensed importer may import various kinds of food providing that they are approved by the TFDA.The designated storage or warehouse has to be inspected and approved by the TFDA before a license is issued. An importation license is to be renewed every three years as well.

1.3 Product Registration

If a food product, either manufactured or imported, is categorized as Specifec-Controlled Food, it must be registered. Analysis of the product as well as details of the process and ingredients are required for the registration process and the standard of these food products have to meet the standard specified in the Ministerial Notification.

1.4 Labelling Approval

All imported food products, fresh, frozen or processed, are required to bear labels containing Thai language. The labels of all imported products are subject to aproval by TFDA prior to sell in the market. For food products, in general, labelling must follow the Notifications of the Ministry of Public Health No : 68 (B.E. 2525) and No : 95 (B.E.2528) Re : Label.

1.5 Advertising Approval

Any form of advertisement for food through any media is subject to approval of TFDA. False or deceptive advertisement on quality or benefit of food is prohibited.

(2) Monitoring and Compliances

The purpose of monitoring control is to ensure that food distributed to consumers are wholesome and have quality that complies with the national food standard. As a result, this measure deals primarily with the activities of enforcement. Inspection of all food factories and premises throughout the country is conducted regularly, together with sampling of food products for analysis and assaying to ensure compliance with legal requirements. In case of violations, actions like seizure, recall, and prosecution will be executed. In general, there are two types of inspections :

2.1 Regular Inspcetion

This is a Planned inspection to ensure that the TFDA's annual plan on consumer protection has been successfully implemented. There are 3 types of regular inspection :

- Licensing Inspcetion. This is a comprehensive inspection of newly established plant or the remodified one prior to issuance of manufacturing license.

- Routine Inspection. This is a periodic inspection of the premises that already hold licenses.

- Follow-up Inspcetion. This is to confirm that certain corrections reguired by prior inspection have been made by the plant.

2.2 Suspected or Petitioned Inspcetion. This is a particular type of inspection with specific purpose of investigation and gathering necessary evidence for prosecution.

(3) Food Surveillance:

The aim of food surveillance is to assure the safety and quality of food items distributed in marketplace. Food surveillance is conducted by several ministerial organizations and TFDA also plays a main role in this activity. Food are taken from marketplace and then analyzed to ensure the conformity to the standards.

Food Certification System

- Voluntary Compliance

Besides the regulatory compliance, Food Control Division of the TFDA takes the important role relating to up grade and develope of food manufacturers throughout the contry by setting up the GMP as a guideline for all food plants. The HACCP programes is also one of all measures used for technical and advisory services for food quality promotion in order to meet the international standard. Various types of GMPs of food, eg. Canned food, Drinking Water, Beverages, Fish Sauce, Soy Sauce, Milk Products, Fishery Products have already have been set up. Several technical training course, and technical information services have also been conducted and are in progress. This includes development of hygienic practices in food processing, and quality grading of food establishments intended for international trade, issuing different forms of certifications for exporters and food producers for export is one of the activities mentioned above, eg. Certification of Free-sale, Sanitary Certification, and GMP's Certification etc.

2. The Department of Medical Sciences (DMSc) of Ministry of Public Health Provides food analytical services for all food control activities through the work of Food Analysis Division. Recently, the Food-for-Export Analysis Division was established in providing laboratory services, Pre-export inspection of the consignment for exportous and food producers for export, are also performed upon request, issuing certificates for food export consignments in the field of food safety and health standards according to the requirements of importing countries and promotion of food export industry with reference to health requirements.

Now, these and other services concerning exportation are available through the Centre for Expert Food Service just established in March 1922. This centre will act as a one stop service centre for the Ministry of Public Health and provide various types of services required by the exporters and country of destination. It is located in the Department of Medical Sciences, Bangkok, and operated with the cooperation of the Thai Food and Drug Administration.

APPENDIX 1
UNOFFICIAL TRANSLATION

FOOD ACT B.E. 2522

BHUMIBOL ADULYADEJ REX.

Given on the 8th day of May B.E. 2522

Being the 34th year of the Present Reign

By Royal Command of His Majesty King Bhumibol Adulyadej it is hereby proclaimed that:

Whereas it is deemed expedient to revise the law on Food Quality Control:

His Majesty the King, by and with the advice and consent of the Constituent Assembly in its capacity as Parliament, is graciously pleased to enact an Act as Follows:

SECTION 1. This Act shall be called the "Food Act B.E. 2522"

SECTION 2. This Act shall come into force on and from the day following its publication in the Government Gazette.

SECTION 3. The following shall be repeal:

(1) Food Quality Control Act B.E. 2507

(2) Announcement of the Revolutionary Party No. 49, dated 18 January B.E. 2515

All other laws, rules and regulations insofar as they are provided for herein or are contrary to or conflict with the provisions of this Act are superseded hereby.

SECTION 4. In this Act:

"Food" means edible items and those which sustain life:

(1) Substance can be eaten drunk, sucked or gotten into the body either by mouth or by other means, no matter in what form, but not including medicine, psychotropic substances, narcotic under the law as the case may be,

(2) Substance intended for use or to be used as ingredients in the production of food including food additive, colouring matter and flavouring:

"Controlled foods" means foods published in the Government Gazette by the Minister as the quality or standard control food;

"Food recipe" means list of substance which is used as ingredient in the production of food in a specified content;

"Container" means any object used as a receptacle for placing, packaging or any other method;

"Label" includes any figure, invented design or text shown on the food, food container or package;

"produce" means to make, mix, transform and includes repacking;

"sale" includes to distribute or exchange as well as to have in a possesion for the purpose of sale;

"import" means to bring into the Kingdom;

"export" means to sell out side the Kingdom:

"Factory" means factory under the factory law set up for the production of food;

"Licensee" means person who received license under the Act, in the case of Juristic person receiving the licensee shall include the person that the Juristic entity has appointed to operate business;

"authority" means the Secretary General of the Food and Drug Administration; or a person authorized by him.

"Cummission" mean Food Commission;

"Competent officer" means persons appointed by the Minister to carry out the provisions of this Act;

"Minister" means the Minister in charge of this Act.

SECTION 5. The Minister of Public Health shall be in charge of the execution of this act and shall be empowered to appoint competent officers, promulgate Ministerial Regulations, specifying the fees not exceed the maximum fee specified in this act, exempting the payment of fees or set other activities in order to carry out the provisions of this Act.

Ministerial Regulations and notification after published in the Government Gazette shall come into effect.

SECTION 6. In the interests of controlling food, the Minister shall be empowered to publish in the Government Gazette.

(1) prescribing controlled foods.

(2) prescribing quality or standard of controlled food by reference to the name, class, kind, or nature of food produced for sale, import for sale or sale including principle, conditions and methods of production for sale, import for sale or sale;

(3) prescribing quality or standard of food other than controlled food prescribed under (1) with or without the principle conditions and methods of production for sale, import for sale or sale;

(4) prescribing the proportion of ingredients used in the production of food by reference to the name, class, kind or nature of food produced for sale, imported for sale or sale, including the use of colouring matter and flavouring;

(5) prescribing the principle, conditions and methods of using preservatives and methods of preserving, admixture of colouring or other matter in food produced for sale, imported for sale or sale

(6) prescribing the quality or standard of container and use of container including the prohibition to use any packaging material as a container of food;

(7) prescribing the methods of production, tools and utensils used in the production and preservation of food in order to prevent the food produced for sale, imported for sale or sale from becoming impure food under this Act;

(8) prescribing food, which is prohibited to be produced, imported or sold;

(9) prescribing the principle conditions and methods of inspection, sampling, storage, seizure, and method of analysis of food including reference documents;

(10) prescribing the class and kind of food produced for sale, imported for sale or sale which required labels, the texts on the labels, conditions and the display of the labels and also the principle and method of advertising on the labels.

Chapter 1
Food Commission

SECTION 7. There shall be a commission called the "Food Commission composed of the Permanent Secretary of the Ministry of Public Health as Chairm Secretary General of the Food and Drug Administration, Director General of the Health Department or representative, Director General of Medical Service Department or representative, Director General of the communicable Disease control Department or representative, Director General of the Medical Science Department or representative, Director General of Science and Service Departm or representative, Director General of Department of Domestic Trade or repres Director General of Customs Department or representative, representatives fro the Ministry of Defense, representative from Ministry of Agriculture, and repersentative of the Legislative Commission are members and not more than 9 qualified persons appointed by the Minister as members. Of this group not more than 4 persons must be representatives of manufacturer, importer or dealer of food.

SECTION 8. The Commission shall have the power and duty to offer a advice and opinions to the Minister or the authority, as the case may be, in the following matters;

(1) Promulgation under Section 6

(2) Consideration appeals under Section 19

(3) Withdrawal of the product licence under Section 39.

(4) To act according to Section 44.

(5) To suspend licences or withdraw licences under Section 46.

SECTION 9. Members appointed by the Minister shall have a term of office of two years and may be reappointed.

SECTION 10. Apart from vacating office of the expiration of a terms, under Section 9. members appointed by the Minister shall vacate office upon;

(1) death

(2) resignation

(3) being adjudged bankrupt

(4) being adjudged incompetent or quasi-incompetent

(5) being sentenced by or final judgement to imprisonment except for petty offenses or offerses of negligence.

When a member vacates office before the expiration of his term, the Minister may appoint another person in his stead and shall serve for the remainder of the unexpired term.

In the case of the Minister appointing additional members while other members previously appointed are still in office, the additional member shall be in office equal to the remainder of the unexpired term of the previously appointed members.

SECTION 11. The quorum for the meetings of the Commission shall consist of at least half the total number of members.

If the Chairman of the Commission is absent from the meeting, those attending shall elect one of themselves as Chairman for the meeting.

Decisions of the Commission shall be by a majority vote. Each member shall have one vote. In case of tie, the Chairman of the meeting shall have an additional casting vote.

SECTION 12. The Commission shall have the power to appoint a subcommittee for carrying out duties that the Commission decreed and Section 11 shall apply to the meeting of the sub-committed mutatis mutandis.

SECTION 13. In the performance of their duties, the Commission is empowered to issue written orders summoning any person to testify or submit documents or any material for consideration.

Chapter 2

Applications for licences and the Granting of Licences

SECTION 14. No one may to produce food for sale except receiving license from the authority.

Applications for licences and the granting of licences shall be in accordance with the principle, procedures or conditions prescribed in the Ministerial Regulations.

SECTION 15. No one may import food for sale except receiving licence from the authority.

Applications for licences and the granting of licences shall be in accordance with the principle, procedures or conditions prescribed in the Ministerial Regulations.

SECTION 16. Section 14 and 15 shall not be including the following;

(1) Occasional Production or import of food which received occasional licence from the authority.

(2) Production or the export of food sample for registration or for consideration before ordering.

Persons receiving exemption under (1) and (2) must abide by the principle, and conditions prescribed in the Ministerial Regulation.

SECTION 17. Licences issued under Section 14, Section 15 and Section 16(1) shall accord protection to the employees and representative of the licensee.

If shall be deemed that actions of the employees or representative of the licencee that is accorded protection, are the actions of the licensee except when the licensee can prove that the actions were beyond his Knowing or control.

SECTION 18. Licenses issued under Section 14 and Section 15 shall be valid until the 31st December of the third year from the date of issue. If the licensee wishes to extend the licence, must submit an application before the licence has expired. Upon submitting the application, the license can continue the business until the authority does not grant the licence extention.

The application for extension of licence and the granting of licence shall be in accordance with the principle and conditions prescribed in the Ministerial Regulations.

SECTION 19. In the event that licence is not granted or does not grant extension of the licence or does not grant permission to modify of production premises, import premises or storage premises. The person applying for licence, extension of licence or permission to modify premises has the right to appeal to the Minister in writing within 30 days from the date of acknowledgement of the refusal to issue a licence, extention of licence or to modify premises.

The decision of the Minister shall be final.

In the event that the licence is not granted extension of licence, prior to the Ministers decision, the Minister is empowered to allow to continue the business upon request from the person who submitted the appeal

Chapter 3

Duties of the licensee concerning food

SECTION 20. The licensee under Section 14 or Section 15 is prohibited to produce, import or keep. The food outside the place specified in the licence.

SECTION 21. The licensee is prohibited to modify the production premises, import premises or storage premises except by the permission from the authority.

Application for permit or the granting of permit shall be in accordance with the principle and conditions prescribed in the Ministerial Regulations.

SECTION 22. If the licence or product licence is lost or destroyed, the licensee shall notify the authority and apply for a replacement of licence or replacement of product licence within fifteen days from the date which the loss or destruction is known.

The application for licence or product licence and the replacement of licence and the replacement of product licence shall be in accordance with the principle and conditions prescribed in the Ministerial Regulation.

SECTION 23. The licensee must show their licence or replacement, as the case may be openly and conspicously at the place of production or importation which specified in the licence. The licensee must have a sign showing "the food production premises" or "the import food premises" openly and conspicously outside the premises.

SECTION 24. For the benefit of export or when it is necessary for the licensee to occasionally produce controlled food for export. The authority may grant occasional licences for licensee to produce controlled food according to the standard of foreign countries or international standards, regardless of whether the standard are lower or higher than the standard that specified by the Minister in Section 6. The commission shall be notified.

Chapter 4
Control of Food

SECTION 25. No one may produce, import for sale or distribut the following foods:

(1) impure food;

(2) adulterated food;

(3) Substandard food;

(4) other food which specified by the Minister.

SECTION 26. Food of the following description shall be deemed impure;

(1) Food which contains anything likely to be dangerous to hea

(2) Food in which a substance or chemical substance has been which could deteriorate the quality unless such admixture is necessary to the process of production, the production and has been authorized by the competent officer.

(3) Food unhygienically produced, packed or stored.

(4) Food produced from animals having a disease which might be communicated to man.

(5) Food in containers made of materials which are likely to be dangerous to health.

SECTION 27. Food of the following description shall be deemed adulterated:

(1) Food for which other substances are partly substituted or in which valuable substances are wholly or partly removed and which is sold as or under the name of the genuine food.

(2) Substances or food produced as substitutes for any food and distributed as being genuine food.

(3) Food which is mixed or prepared in any way to conceal defect or inferior quality of the food.

(4) Foods labelled in order to deceive or try to deceive the purchasers in matters of quality, quantity, usefulness or special nature or place or country of production.

(5) Food which is not up to the quality or standard prescribed by the Minis under Section 6(2) or (3) and the quality or standard of that food deviate from the upper or lower specified limit more than thirty percent or its devi may harmful to the consumer. deviation

SECTION 28. Substandard food is a food not up to the quality r standard prescribed by the Minister under Section 6(2) or (3) but ts deviation is not as high as in Section 27(5)

SECTION 29. Food of the following description shall be deemed ood under Section 25(4)

(1) not safe for consumption;

(2) unreliable indication;

(3) Value or usefulness is not appropriate to the consumer.

protect SECTION 30. For the benefit of ensuring that food be hygienic and to rotect consumer from health hazard. The Secretary of the Food and Drugs dministration shall be empowered to give written order to.

Administration (1) the licensee to alter or repair production premises or torage premises.

storage produced (2) suspension of production or import food which is unlawfully roduced or imported or food that the results of analysis show that it is ot fit for consumption.

not it (3) Publicize the results of analysis to the public in the case that is impure food under Section 26 or adulterated food under Section 27 or bstandard food under Section 28 or food which could be harmful to the health Substandard the public or that container is made of materials which are likely to be ngerous when it uses as a food container. The publish shall include the following.

(a) if the producer is known, the name of the producer and the ass or discription of the food or containers and if the food or containers e trade names or lot number, the trade name or lot number, as the case be.

(b) In the event that the producer is not known but the tributor is known, the name of the distributor including class or. cription of the food or container.

Chapter 5
Product registration and Advertisment of food

SECTION 31. The licensee under Section 14 or Section 15, who wishes to produce or import controlled food must get a product licence from the authority.

Applications for certificate and the granting of certificate of food recipe shall be in accordance with the principle and conditions prescribed in Ministerial Regulation.

SECTION 32. Upon promulgation under Section 6(1) the licensee under Section 14 produced controlled food prior to the promulgation date must suspend production of food until receive product licence under Section 31 unless the authority gives temporary permit to continue production for an appropriate period of time as may be deemed appropriate.

SECTION 33. Upon promulgation under Section 6(1) the licensee under Section 15 imported controlled food into the Kingdom prior to the promulgation date must apply for product licence under Section 31 within 60 days from the promulgation date unless the authority has extended the time.

SECTION 34. The licensee who produce or import controlled food must produce or import according to the approved recipes.

SECTION 35. The application for product licence under Section 31 must include the following details.

(1) name of food;

(2) name and quantity of the ingredients in the food;

(3) size of packing;

(4) label;

(5) name of producer and place of production;

(6) result of analysis of the food by government laboratory or institutions specified by the Commission.

(7) other materials in connection with the food recipes.

SECTION 36. Alteration of approved food recipe must get permission from the authority. The granting of alteration of food recipes shal be in accordance with the principle and conditions prescribed in the Ministerial Regulation.

SECTION 37. Product registration shall be valid forever unless it is revoked under Section 39.

SECTION 38. When it is necessary, for the benefit of controlling food, to make a food to be safe for consumption or to protect the consumer from health hazard, the authority shall be empowered to order the alternation of approved food recipes as appropriate or as necessary in order to make the food safe for consumption.

SECTION 39. Any approved food recipe if..... found later that the details of the food do not conform to the details in the approved food recipe or ..... is adulterated under Section 27 or ..... is unsafe for consumption and the details of the food recipe cannot be altered under Section 38. The Minister is empowered to revoke the product licence and the order shall be published in the Government Gazette.

The order of the Minister shall be final.

SECTION 40. False or deceptive advertising of the quality, usefulness or indication of a food is prohibited.

SECTION 41. Anyone wishing to advertise the qualities, usefulness or indication of a food by radio, television, film, newspapers or other printed matter or by other means for business purposes must submit the sound, pictures or films or text of the advertisement to the authority for consideration, ... and can be advertised after receiving permission.

SECTION 42. To protect the interests and safety of the consumer, the authority is empowered to give written orders to

(1) the producer, importer or distributor of food or food advertising person ..... stop advertising ..... considered to be violated Section 41.

(2) the producer, importer or distributor of food or food advertising person stop producing, ... importing, ... distributing or advertising a food which the Commission deems as not having the usefulness, quality or indication as advertised.

Chapter 6
Competent Officer

SECTION 43. In the performance of their duties, competent officer shall have the following powers:

(1) to enter a place of production, storage area, place of sale or office of the producer, storekeeper, distributor, including the importer office for inspection in connection with enforcement of this act during normal working hours;

(2) where it is suspected that there is a violation of this act, to ..... enter a place or vehicle to inspect the food and seize or attach the food or utensils connected with the violation including the containers and packages of food and documents connected with the food:

(3) to take reasonable quantity of food for inspection and analysis.

(4) to seize or attach food or containers suspected of capable of hazardous to the health for analysis;

(5) to seize or attach impure food, adulterated food or substandard food or containers capable of hazardous to the health or having the nature of which not in accordance with the quality or standard set by the Minister under Section 6(6).

In the performance of the duties in paragraph one the licensee or other person involved must give appropriate facility.

SECTION 44. Food or containers seized, attached or collected by competent officer under Section 43, after checking by the competent officer and proved to be impure under Section 26, adulterated under Section 27 or substandard under Section 28 or food that specified by the Minister under Section 29 .... or to be containers which can be hazardous to the health of the consumer or having characteristics not according to the quality or standard set by the Minister under Section 6(6). Provided no legal proceedings in the court, the competent officer with the approval of the commission may order to destroy or treat in any way as may be deemed appropriate.

SECTION 45. When performing their duties, competent officers must show their identity cards when requested by licensee or person concerned.

The identity card of the competent officer shall be according to which prescribed in Ministerial Regulation.

Chapter 7

Suspension or revoke of licence

SECTION 46. When it appears that a licensee violates this Act, Ministerial Regulations or notifications issued hereunder, or the results of the tests on food produced by any licensee is found to be impure under Section 26, adulterated under Section 27 or substandard under Section 28, food or containers might be harmful to consumer. The authority with the approval of the commission is empowered to order the suspension of the licence not more than 120 days each time or in the event that legal proceedings have been in the court that the licensee has committed an offense under this Act, the licence can be suspended until final judgement has been reached.

In the case that there is final judgement, any licensee who has committed a crime under Section 26 or Section 27. The authority with the approval of the Commission is empowered to revoke the licence

Order for suspension of the licence or revoke of the licence shall be made in writing to inform the licensee. In case the licensee may not be found, or the licensee refused to accept the order, it shall be posted in a conspicuous place at the place of production, import, sale or office of the licensee and it shall be deemed that the licensee has been notified the order from the date of posting.

Person which the licence has been suspended or revoked has the right to appeal to the Minister within thirty days from the date of acknowledgement of the order. The Minister is empowered to lift the appeal or alter the order of the authority benificial to the person who appealled.

The decision of the Minister shall be final.

The appeal to the Minister under paragraph four, however, shall not stay the execution of the order for suspension or revoke of the licence.

It shall be regarded that production, importation for sale of the controlled food, during suspension or revoke of licence is violated Section 14 paragraph one or Section 15 paragraph one, as the case may be.

Chapter 8
Punishment

SECTION 47. Whoever violates notifications issued under Section 6(4) (5) or (9) shall be liable to a fine of not more than twenty thousand bah

SECTION 48. Whoever violates notifications issued under Section 6(6 shall be liable to imprisonment of not more than 2 years or a fine of not more than twenty thousand baht or both.

SECTION 49. Whoever violates notifications issued under Section 6(7 shall be liable to a fine of not more than ten thousand baht.

SECTION 50. Whoever violates notifications issued under Section 6(8 shall be liable to imprisonment from six month to 2 years or a fine from five thousand to twenty thousand baht.

SECTION 51. Whoever violates notifications issued under Section 6(10 shall be liable to a fine of not more than thirty thousand baht.

SECTION 52. Whoever does not follow the orders of the Commission under Section 13 or whoever obstructs or not give facility to a competent officer acting under Section 43 shall be liable to imprisonment of not more than one month or a fine of not more than one thousand baht or both.

SECTION 53. Whoever violates Section 14 paragraph one or Section 15 paragraph one shall be liable to imprisonment of not more than 3 years and a fine of not more than thirty thousand baht or both.

SECTION 54. Whoever produces or imports food on occasions without licence under Section 16(1) or does not follow the Ministerial Regulations prescribed under Section 16 paragraph 2 shall be liable to a fine of not more than five thousand baht.

SECTION 55. Any licensee who violates Section 20 or Section 21 paragraph one shall be liable to a fine of not more than five thousand baht.

SECTION 56. Any licensee who violates Section 22 paragraph one or Section 23 shall be liable to a fine of not more than one thousand baht.

SECTION 57. Any licensee sell controlled food produced for export in the Kingdom, violating Section 24 shall be liable to imprisonment of not more than three years and a fine of not more than thirty thousand baht.

SECTION 58. Whoever violates Section 25(1) shall be liable to imprisonment of not more than 2 years and a fine of not more than twenty thousand baht or both.

SECTION 59. Whoever violates Section 25(2) shall be liable to imprisonment from six months to ten years and a fine from five thousand baht to one hundred thousand baht.

SECTION 60. Whoever violates Section 25(3) shall be liable to a fine of not more than fifty thousand baht.

SECTION 61. Whoever violates Section 25(4) shall be liable to imprisonment of not more than five years and a fine of not more than fifty thousand baht or both.

SECTION 62. Any licensee who does not follow the orders of the authority under Section 30(1) shall be liable to a fine of not more than ten thousand baht.

SECTION 63. Whoever does not follow the orders of the authority under Section 30(2) shall be liable to a fine of not more than fifty thousand baht and a daily fine of five hundred baht for the whole period the order was not followed.

SECTION 64. Any licensee violating Section 31 paragraph one shall be liable to imprisonment of not more than two years or a fine of not more than twenty thousand baht or both.

SECTION 65. Whoever sell unregistered controlled food under Section 31 shall be liable to a fine from one thousand to ten thousand baht.

SECTION 66. Whoever violates Section 34 shall be liable to imprisonment of not more than one year and a fine of not more than ten thousand baht or both.

SECTION 67. Any licensee violates Section 36 shall be liable to imprisonment of not more than one year or a fine of not more than ten thousand baht or both.

SECTION 68. Any licensee does not follow the order of the authority under Section 38 shall be liable to a daily fine of 500 baht for the whole period the order was not followed.

SECTION 69. Whoever produces, imports for sale or distributes food which the Minister has revoked the product licence under Section 39 shall be liable to imprisonment of not more than 3 years or a fine of not more than thirty thousand baht or both.

SECTION 70. Whoever advertises food violating Section 40 shall be liable to imprisonment of not more than 3 years and a fine of not more than thirty thousand baht or both.

SECTION 71. Whoever violates Section 41 shall be liable to a fine or not more than five thousand baht.

SECTION 72. Whoever does not follow the order of the authority issued under Section 42 shall be liable to imprisonment of not more than 2 years or a fine of not more than twenty thousand baht or both and additiq daily fine of not less than five hundred baht but not more than one thousand baht for the whole period the order was not followed.

SECTION 73. If the offenses under Section 48, Section 50, Section 58, Section 59, Section 60, Section 61 or Section 69 was committed directly retail selling to the consumer, the offender shall be liable to imprisonment of not more than 6 months or a fine of not more than five thousand baht or both but if the offender committed the offense again within 6 months after the first offense, the offender shall be liable to imprisonment of not more than one year or a fine of not more than ten thousand baht or both.

SECTION 74. Any licensee produces or imports food after the licence has expired without submitting an application for extension .... of licence shall be liable to a daily fine of not less than 500 baht but not more than one thousand baht for the whole period the licence is expired.

SECTION 75. Any offense under this act with a penalty of a fine only the Secretary General of the Food and Drug Administration or any who the Secretary General designated can set the fine.

Transitory Provisions

SECTION 76. Licence under the law concerning the quality control of food prior to this act comes into force shall be in valid until it is expired. If the licensee wishes to continue the business and has submitted application under this Act, the licensee can continue the business under the existing licence until receiving a new licence or until receiving notification of the refusal to grant a licence. In the event that licence is granted, the licensee shall take all necessary actions to comply with this Act within 180 days from the date of receiving the licence.

APPENDIX 2

LIST OF FOOD IN THE MINISTRY OF PUBLIC HEALTH 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 Containers	Only Non-alcoholic Beverages
8.	Food Colours	a) Organic colour :- Red : Ponceau 4R, Carmoisine or Azorubine, Erythrosine Yellow : Tartrazine, Sunset Yellow FCF, Riboflavin Green : Fast Green FCF Blue : Indigo Carmine or Indigotine, Brilliant Blue FCF b) Inorganic colours :- Vegetable charcoal, Titanium dioxide c) Natural Food Colours :- e.g. Cochineal, Carotenoids, Chlorophylls, Copper pomplex

SECTION 77. Product licence and label authorized under the law concerning the quality control of food prior to this Act shall be in valid for 3 years after this Act comes into force.

SECTION 73. The producer or importer of food prior this act comes into force must applies for licence under Section 14 or Section 15 within 90 days after this Act comes into force, upon submitting the application can continue the business until receiving licence or received notification from the authority refusing to grant licence.

Counter-signature:

S. HOTRAKIJ

Deputy Prime Minister.

Schedule of Fees

(1)	Factory licence	each 10,000 baht (Maximum)
(2)	Import licence	each 5,000 baht
(3)	Occasional Factory licence	each 2,000 baht
(4)	Occasional Import licence	each 2,000 baht
(5)	Product licence	each 5,000 baht
(6)	Replacement of licence	each 500 baht
(7)	Replacement of Product licence	each 500 baht
(8)	Extension of the licence shall be equal to the fee of each licence.	

No.	Type of Food	Remarks
9.	Fat and Oil	
10.	Peanut Oil	
11.	Food in Sealed Containers	(Canned Food)
12.	Milk	
13.	Cultured Milk	
14.	Cream	
15.	Butter Oil	
16.	Butter	
17.	Cheese	
18.	Ghee	
19.	Ice-cream	
20.	Modified Milk for Infant	
21.	Flavoured Milk	
22.	Other Milk Products	
23.	Margarine	
24.	Food Enhancers	
25.	Semi-processed Food	
26.	Infant Food	
27.	Supplementary Food for Infant and Children	
28.	Some Particular Sauces	Chilli sauce, Tomato sauce, Papaya sauce, etc.
29.	Palm Oil	
30.	Coconut Oil	
31.	Mineral Drinks	
32.	Soybean Milk in Sealed Containers	

No.	Type of Food	Remarks
33.	Fish Sauce	
34.	Food Additives	
35.	Jam, Jelly and Marmalade in Sealed Containers	
36.	Sodium Cyclamate and Food Containing Cyclamate	
37.	Food for Weight Control	
38.	Royal Jelly and Royal Jelly Products.	
39.	Honey	
	II. STANDARDIZED FOOD.	
1.	Meiki or B-x (By-Product Liquor from the Production of Mono-sodium Glutamate)	
2.	Food Containing Pesticide Residues	
3.	Food Containing Contaminants	Tin, Zinc, Copper, Lead, Arsenic , Mercury, Aflatoxin, and other contaminants as allowed by FDA
4.	Quicklime Soaked Egg	
5.	Chocolate	
6.	Food Contaminated with Radioactive Substances	
7.	Products from the hydrolysis or fermentation of soybean protein.	

No.	Type of Food	Remarks
	III. PROHIBITED FOOD AND SUBSTANCES.	
1.	Substances prohibited to be manufactured, imported or sold or being used as ingredients in food	Dulcin, Cyclamic acid and its salts (except Sodium Cyclamate); AF-2 (Furylframide) ; food containing substances as mentioned
2.	Substances prohibited to be used in food	Brominated vegetable oil, Salicylic acid, Boric acid, Borax, Calcium iodate or Potassium iodate, Nitrofurazone, Potassium chlorate, Formaldehyde, Methyl alcohol, Coumarin, Dihydro coumarin, Daminozide
	GENERAL FOOD IV. FOOD REQUIRED TO BEAR STANDARD LABEL.	
1.	Food imported for sale	
2.	Husked Rice Flour	
3.	Seasoning Salted Water	
4.	Sauce in Sealed Containers	
5.	Bread	
6.	Food for Special Purpose	
7.	Chewing Gum and Candy	
8.	Processed Agar and Jelly	
9.	Irradiated Food	
10.	Food with Anti-moisture Substances in the same container	

No.	Type of Food	Remarks

11. Garlic Products
12. Flavouring Agents
13. Processed Food Ready for Consumption
14. Cut and Cleaned Raw Food in Package Ready for Cooking
15. Some Meat Products.

OTHER GENERAL FOOD

1. Raw or Cooked Food
2. Processed or Non-Processed Food
3. Preserved or Non-Preserved Food

   eg. Frozen Food

APPENDIX 3

LIST OF MINISTERY OF PUBLIC HEALTH NOTIFICATIONS CONCERNING ASPECTS OF FOOD CONTROL OTHER THAN FOOD

No.	Topic	Remarks
1.	Quality or Standard of Containers used as Food Containers	
2.	Labeling Requirement	The following food are required to bear label: 1) Specific-controlled food 2) Standardized food 3) Imported food 4) Food required to bear label. Information required on the label includes a) Trade name b) Kind and type of food c) Registration number (if any) d) Name and address of the manufacturer or producer e) Net content in metric unit f) Main ingredients in approximate percentage of weight g) Manufacturing date or expiration date h) Keeping instruction i) Instruction for preparation j) Use of preservatives, colouring agents, food flavouring agents, MSG k) Special instruction for food intened for infant or particular group.

Appendix 4

MINISTERIAL REGULATIONS

No. 1 (B.E. 2522(1979))

Issued under the Food Act B.E.2522 (1979)

* * * *

By virtue of the powers conferred in Section 5, Section 14, Section 18, Section 21 and Section 22 of the Food Act B.E.2522(1979), the Minister of Public Health hereby issues the Ministerial Regulations as follows :

No. 1. Any person wishing to apply for the License to set up factory to produce food for sale shall file the application in the Form Or./1 annexed hereto together with the evidences specified in the said Form.

No. 2. Applicant for License under No. 1 shall attach two sets of the evidences in support of the application for License as follows :

(1) Descriptions of machinery, tools complete with equipment used in the production of food, type, size (Horse Power) and a reliable Certificate showing that the food produced will have the quality or standard as prescribed and safe in consumption.

(2) Maps showing the location of the factory and structures in the compound nearby.

(3) Plans of structures within the compound of the factory with correct scale showing the following details :

(a) Front view, side view, floor plan and cross section of the building used in the production.

(b) Partitions or area or the compound by dividing into sections for the production of each type of food for use in storing raw materials, compound for packing, compound for storing finished food and other compounds. The floors and walls of the said compounds shall be of materials easily for cleaning and the level of the floors of the food production room shall be sloping to the drainage for convenience in cleaning.

(c) Pipes or drainage, system or process in the treatment of polluted water or waste water with details in the computation together with the sizes of the pipes or drainage and direction of the water-flow inside the factory to the outside of the factory in details. Should there be public drainage near by the compound of food production, the drainage shall be shown to connect the public drainage as well.

No. 3. The Food Production License shall be Form Or. 2 annexed hereto.

No. 4. The Licensee to produce food shall comply with the conditions specified hereunder :

(1) Shall maintain the compound in the production, packing or storing of finished food, storage for raw materials and other compounds clean and correct according to hygiene and able to protect flies or foreign materials to mix or dirty the raw materials or finished food and to arrange for sufficient light and ventilation according to necessity.

(2) Arrange for the provision of suitable tools and utensils for use with the work with measures to prevent the tools and utensils to mix up or become dirty with the materials or dirty things. Tools and utensils for use in making food shall be made of metal or safety materials according to the technique in the production of such type of food.

(3) Arrange for the bath-rooms, toilets and sanitary wares complete with soaps for washing hands sufficiently for the number of workers and shall maintain cleanliness as well as the application of disinfectants as a daily routine.

(4) Keep the tools and utensils under (3) including the factory building in good condition and clean according to hygiene at all times.

(5) Arrange for the storage of wastes sufficiently and clean according to hygiene including the suitable methods to dispose of the wastes and fume.

(6) Water used in the production of food shall be clean and drinkable according to the quality or standards of the Ministry of Public Health and the water used in the factory building shall be clean water.

(7) Workers who prepare or make food shall be dressed clean and suitable for the type of work attending, such as aprons, boots, gloves and hoods.

(8) Workers with wounds or symptons of disease which might spread the bacteria into the food shall be prohibited to work in contact with the food produced during such period.

(9) Shall not use, engage or employ an incapable person or an unsound mind or a person who is the carrier of disease or who is suffering from the following diseases to work in the place specified in the License :

(a) Leprosy

(b) Acute Pulmonary Tuberculosis

(c) Drug addict

(d) Alcoholism

(e) Elephantiasis

(f) Objectionable skin disease.

(10) Accept workers to prepare and make food only those with Medical Certificates issued by physician that they are free from the diseases under (9).

(11) Arrange for the workers to have physical examination by the physician at least once a year and the Certificates of physical examination shall be kept as evidence.

(12) Shall prohibit or prevent any person to do any thing objectionable to the maintenance of cleanliness in the production of food, such as smoking, spitting in the compound of the production, packing or storage of finished food or raw materials.

(13) Shall keep out all kinds of animals in the compound used in the production, packing or storing of finished good or storage of raw materials.

(14) Shall fix the sign boards under (12) and (13) in the conspicuous place in the said compound.

No. 5. Any Food Production Licensee wishing to renew the License, shall file the application in the Form Or. 3 annexed hereto together with the evidences specified therein.

In granting the renewal of the Food Production License, the Licensor will specify in the description of the renewal of the License in the Original License or issue new License like the Original License.

No. 6. Any Food Production Licensee wishing to apply for a Substitute License shall file the application in the Form Or. 4 annexed hereto together with the evidences specified therein.

In granting the application for the Substitute of the License, the Licensor shall issue new License like the Original License but with the word "Substitute" in front.

No. 7. Any Food Production Licensee wishing to remove the place of production or place of storage of food shall file the application in the Form Or. 5 annexed hereto together with the evidences as specified therein.

The granting of the removal of the place of production or place of storage of food, the Licensor shall so specify in the Food Production License or the Substitute.

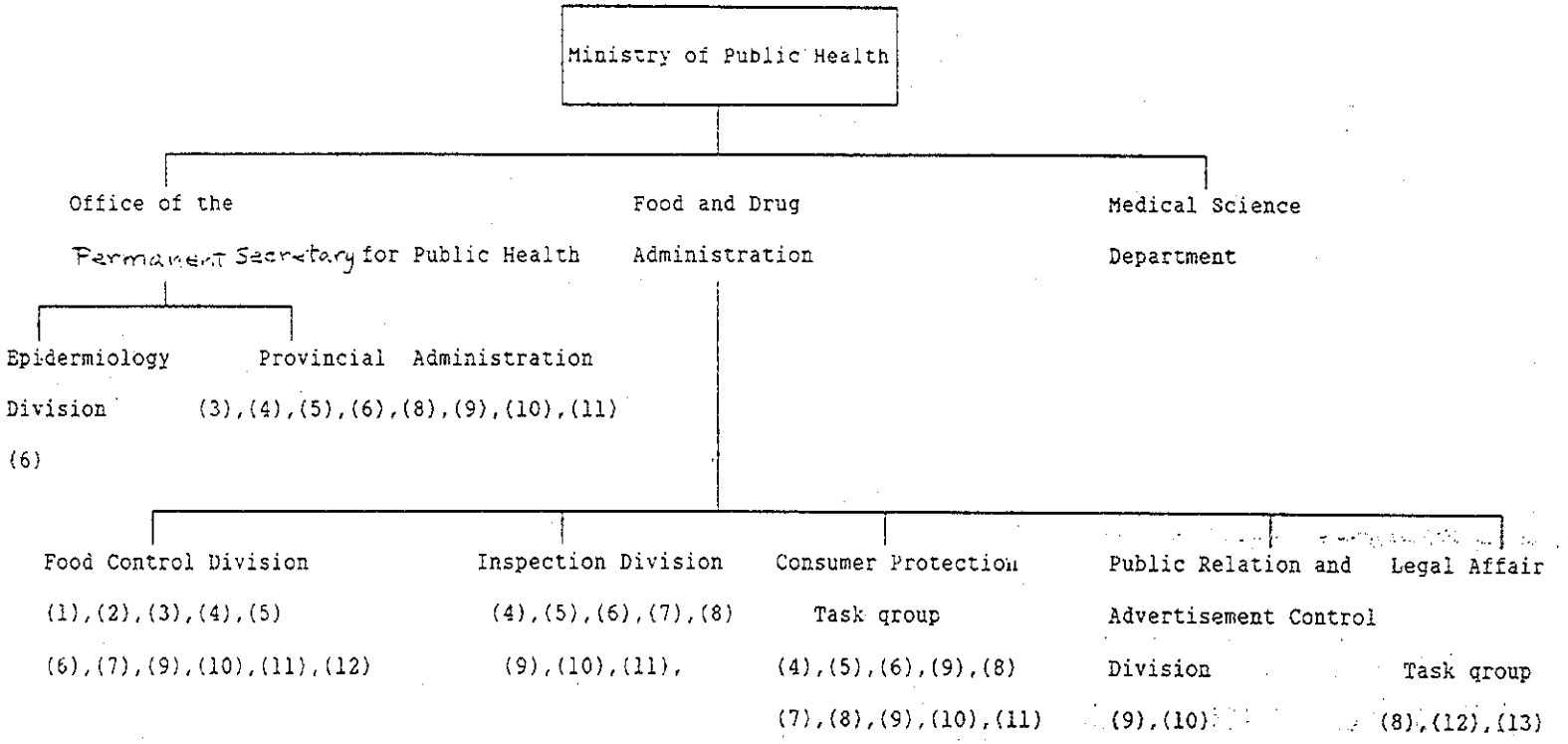
In applying for the removal of the place of production or storage of food, the provisions in No. 2 shall apply mutatis mutandis.

No. 8. In filling the application under these Ministerial Regulations, it shall be made at the Food Control Division, Food and Drug Administration, Ministry of Public Health, and for other provinces other than Bangkok Metropolis, it can be made at the Public Health Office of such particular province as well.

Given on the 17th November 1979

BOONSOM MARTIN
Minister of Public Health

Appendix 5 Activites and Organization Chart for Food Control System in Thailand



Activities

(1) Establishment of Food Standard and Specification

(2) Updating of Regulatory Measures

(3) Premarketing Control

(4) Monitoring and supervision

(5) Surveillance

(6) Sampling and Analysis

(7) Voluntary Compliance
- set up GMP guideline
- set up HACCP programme
- issue certificate for exported food

(8) Prosecution of violation Regulation

(9) Consumer Relationd Education

(10) Intersectorial Cooperation and Coordination

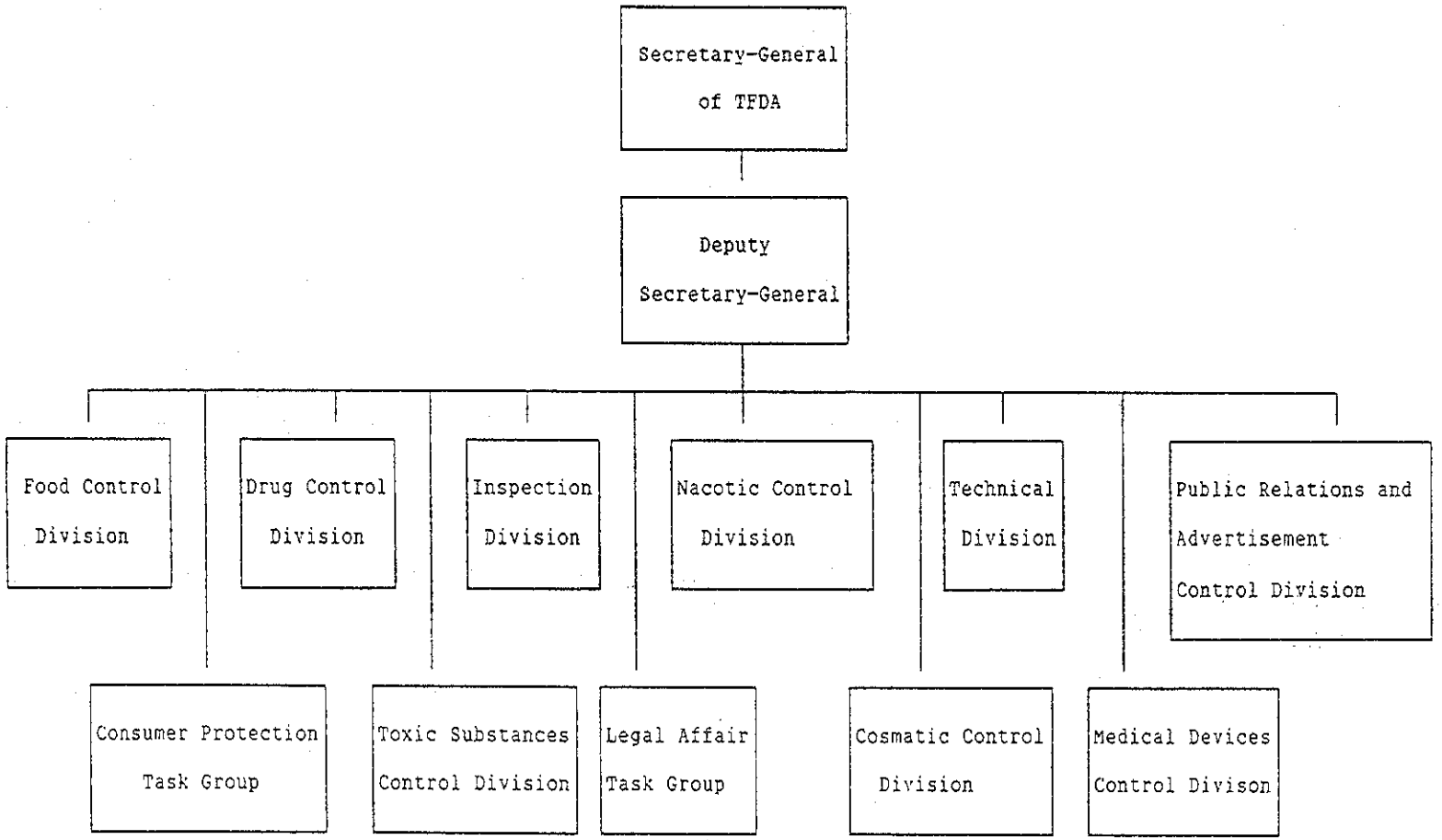
(11) Import and Export Inspection

(12) update of Law, Regulation and Notification

(13) Consulting legal work

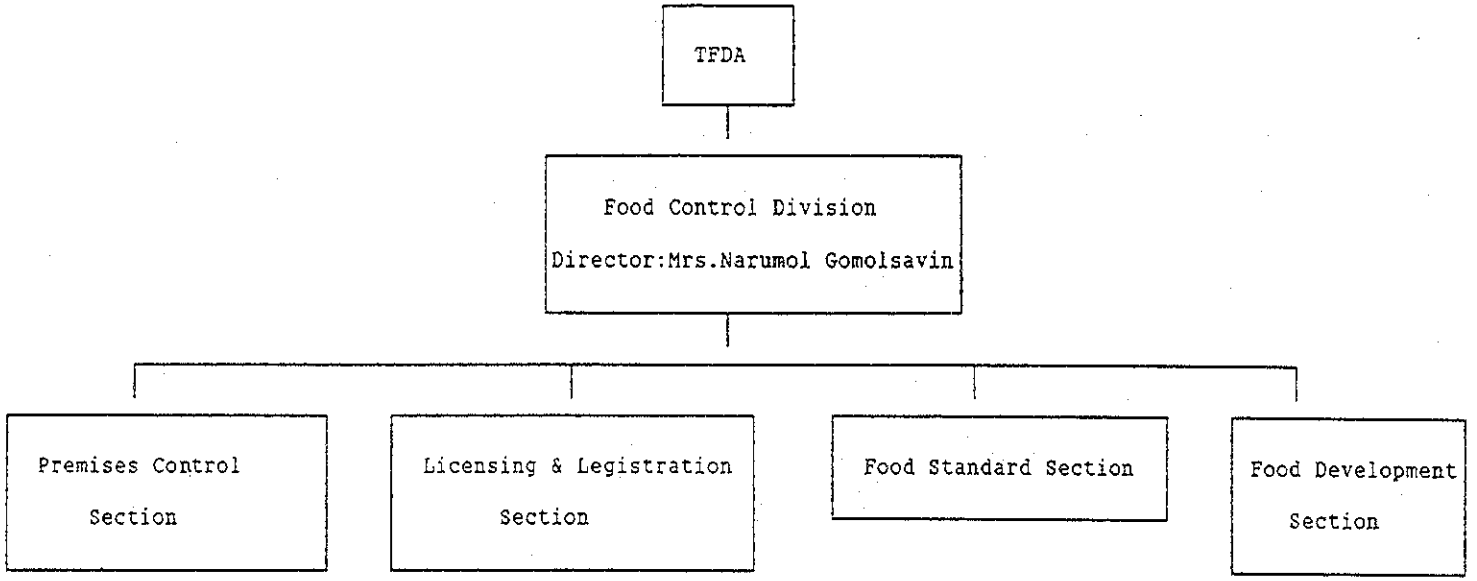
Appendix 6

Organization chart of TFDA



Appendex 7

Organization Chart of Food Control Division



Chief: Mr. Boonsong Chimpalee — 12 Technical Staffs

Chief: Dr. Charnin Charoenpong — 14 Technical Staffs

Chief: Ms. Tipaya Panatosa — 11 Technical Staffs

Chief: Ms. Daranee Mukhajonpun — 7 Technical Staffs

14 Administrative Clerical Staffs and 3 temporory personels

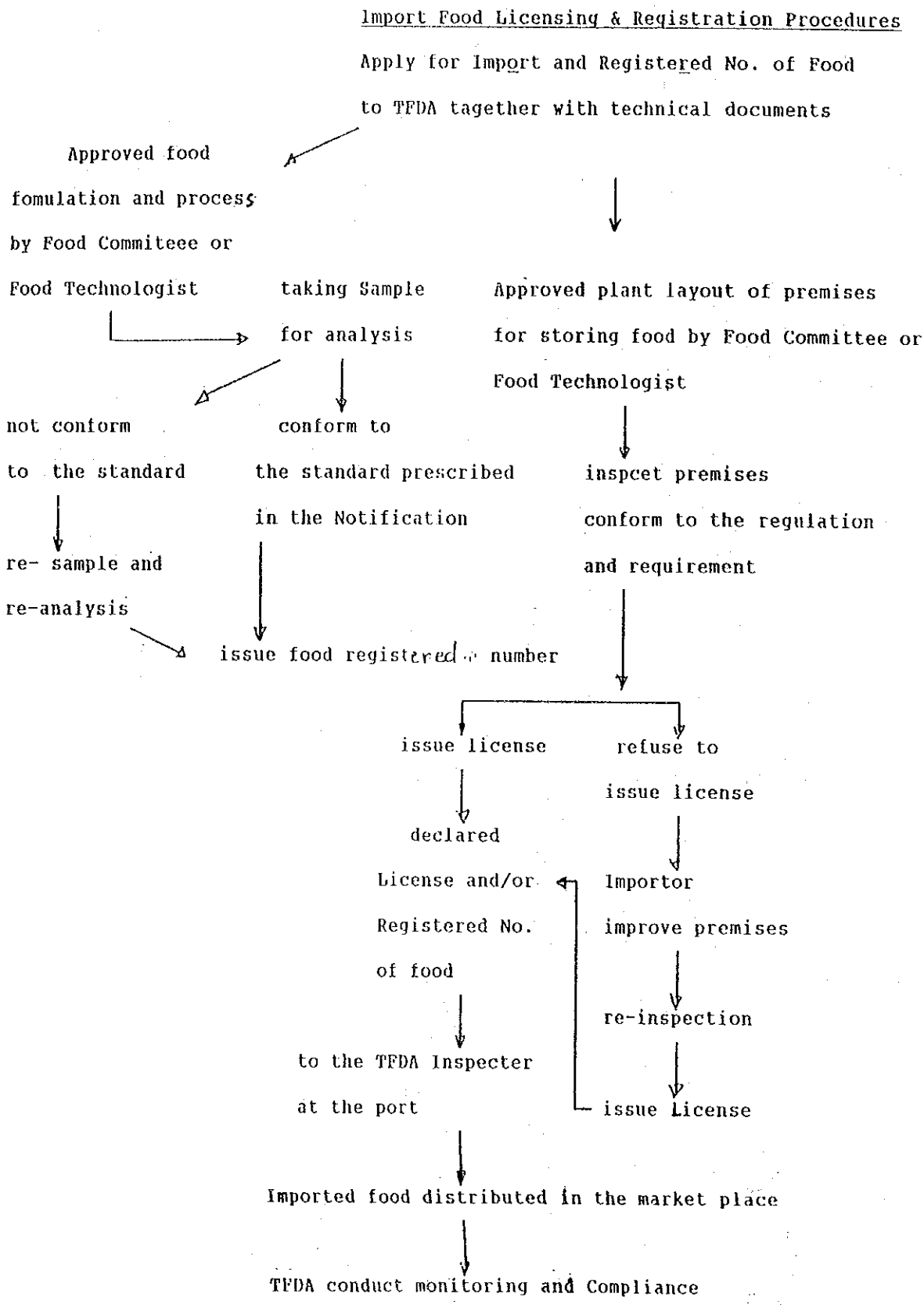
Appendix 6

Personels of TFDA who ase responseble for food Control System in Thailand

Division	Total	Food Technologist	Pharmacist	Administrative Clerical Staff	Employee & Worker	Lawyer
Food Control Division	61	43	1	14	3	-
Inspection Division	77	15	46	12	4	-
Consumer Protection Task group	44	5	38	2	1	-
Public Relation and Advertisement Control Division	40	5	23	12	-	-
Legal Affair Task Group	15	-	-	5	-	10

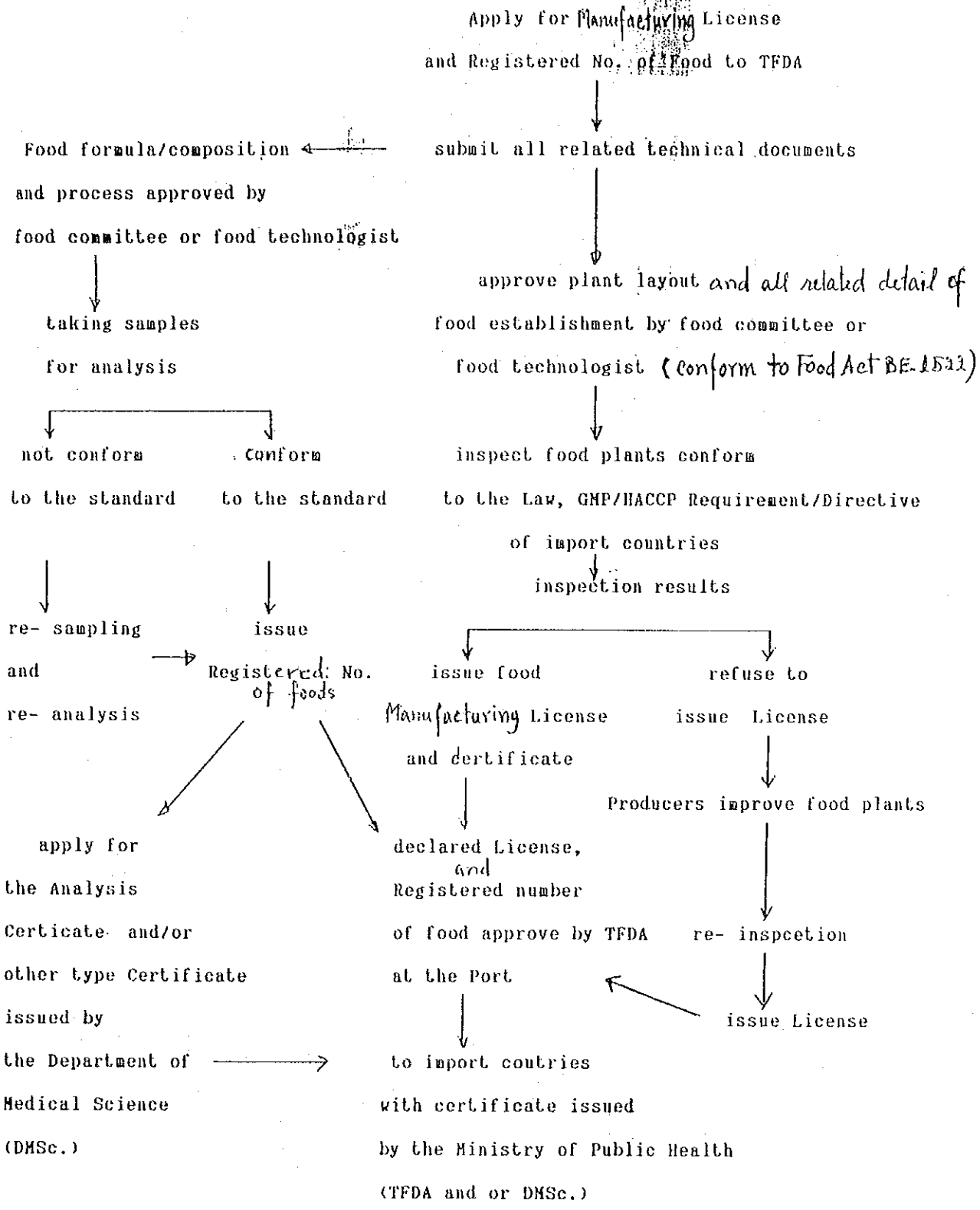
72 Provincial Health Offices Administration : Local Authority

Appendix 7

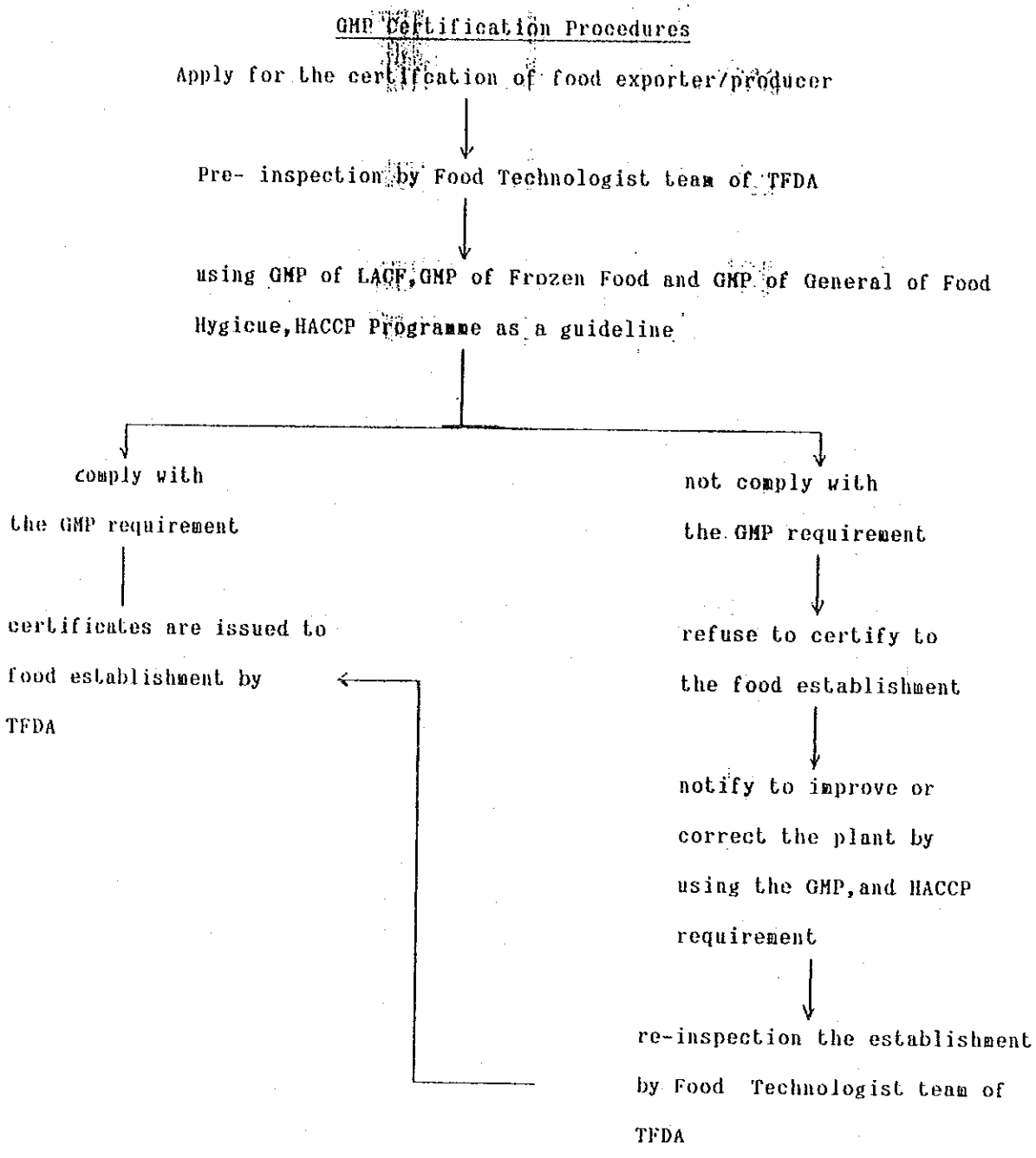

Import Food Licensing & Registration Procedures
Apply for Import and Registered No. of Food
to TFDA tagether with technical documents
Approved food
fomulation and process
by Food Commiteee or
Food Technologist
taking Sample
for analysis
Approved plant layout of premises
for storing food by Food Committee or
Food Technologist
not conform
to the standard
conform to
the standard prescribed
in the Notification
inspcet premises
conform to the regulation
and requirement
re- sample and
re-analysis
issue food registered number
issue license
refuse to
issue license
declared
License and/or
Registered No.
of food
Importor
improve premises
re-inspection
to the TFDA Inspecter
at the port
issue License
Imported food distributed in the market place
TFDA conduct monitoring and Compliance

Appendix 10

Export Food Licensing and Registration Procedures



Appendix 11


GMP Certification Procedures
Apply for the certification of food exporter/producer
Pre- inspection by Food Technologist team of TFDA
using GMP of LACF,GMP of Frozen Food and GMP of General of Food Hygicue,HACCP Programme as a guideline
comply with the GMP requirement
certificates are issued to food establishment by TFDA
not comply with the GMP requirement
refuse to certify to the food establishment
notify to improve or correct the plant by using the GMP,and HACCP requirement
re-inspection the establishment by Food Technologist team of TFDA

endix 12

Types of Certificates issued by Food Control Division

1. Certificate of Free Sale
2. GMP Certificate
3. Sanitary Certificate
4. Approved Food Additive Certificate
5. Approved Food Formulation and Composition Certificate
6. Approved Food Labelling Certificate
7. others certificate as requested

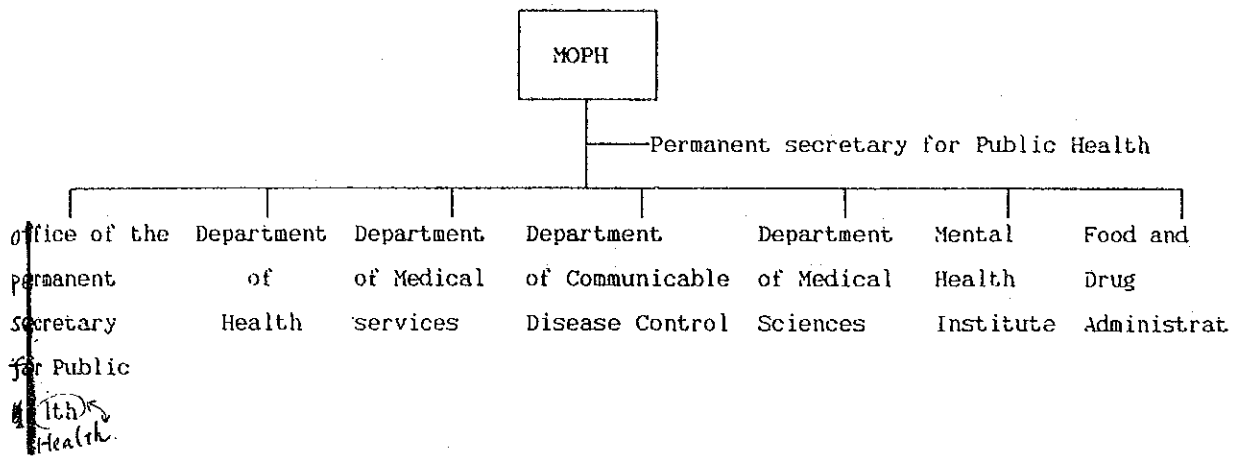
Inspection Division
Food and Drug Administration

Bangkok, Thailand
October 1993

Contents

PART A
Organization Chart

Ministry of Public Health Organization Structure



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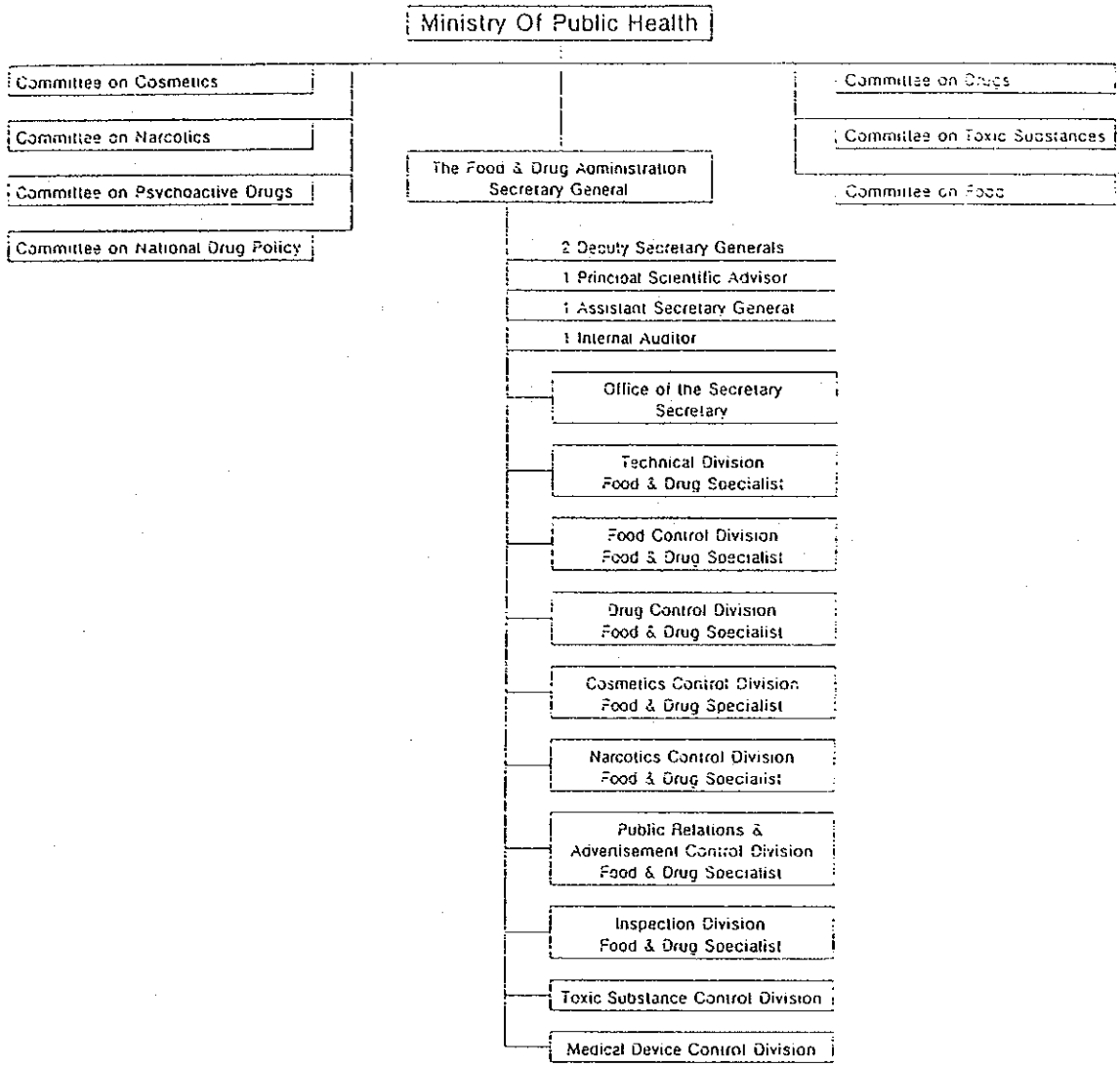
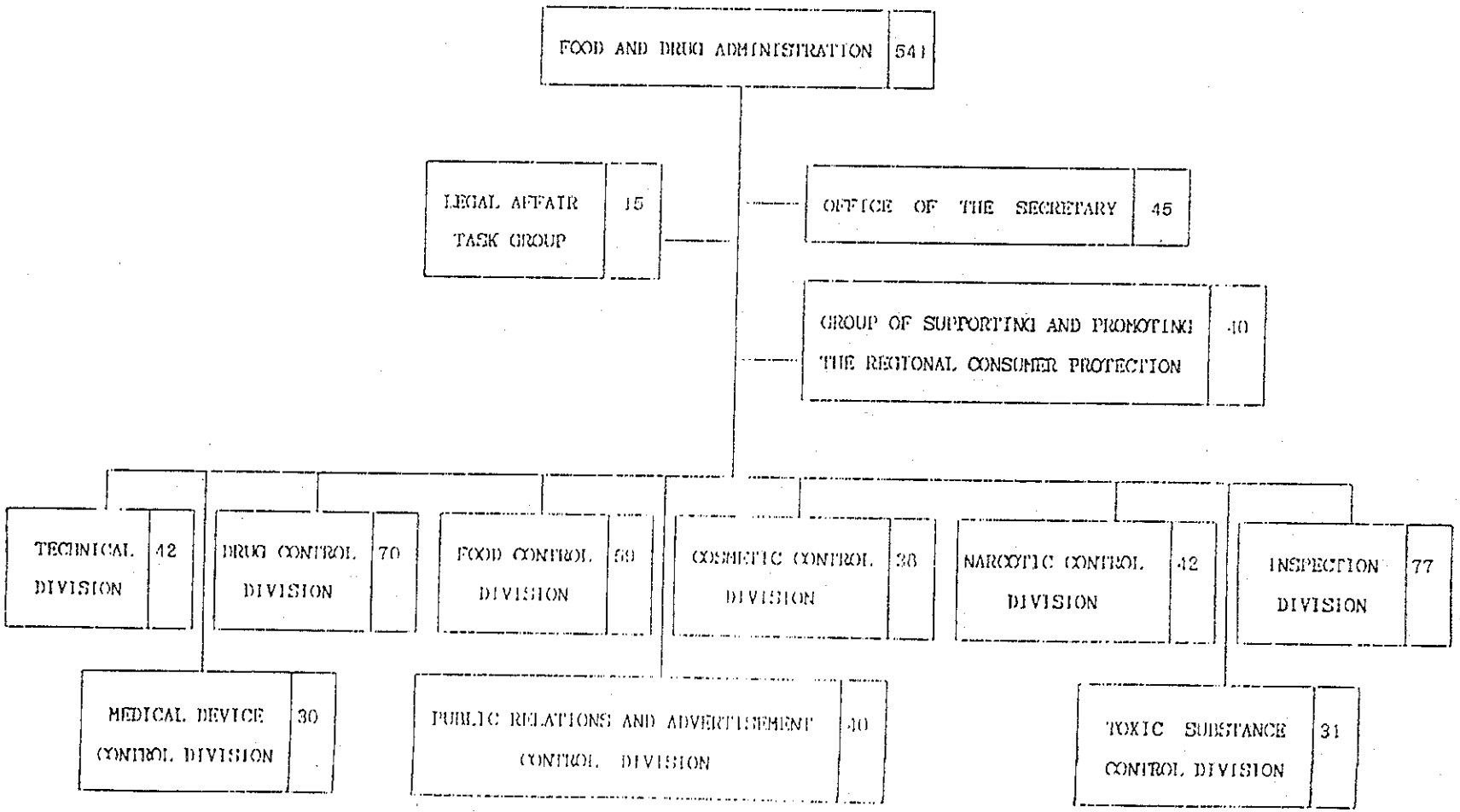
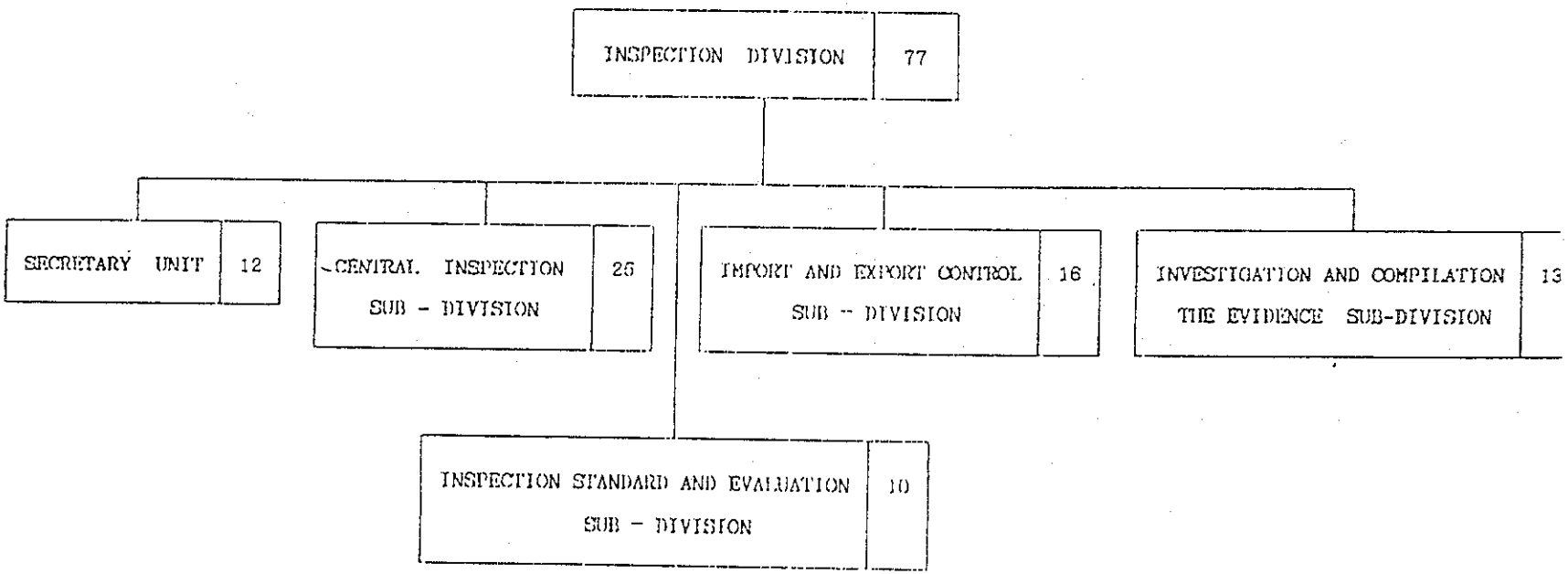
ORGANIZATION CHART OF THE FDA



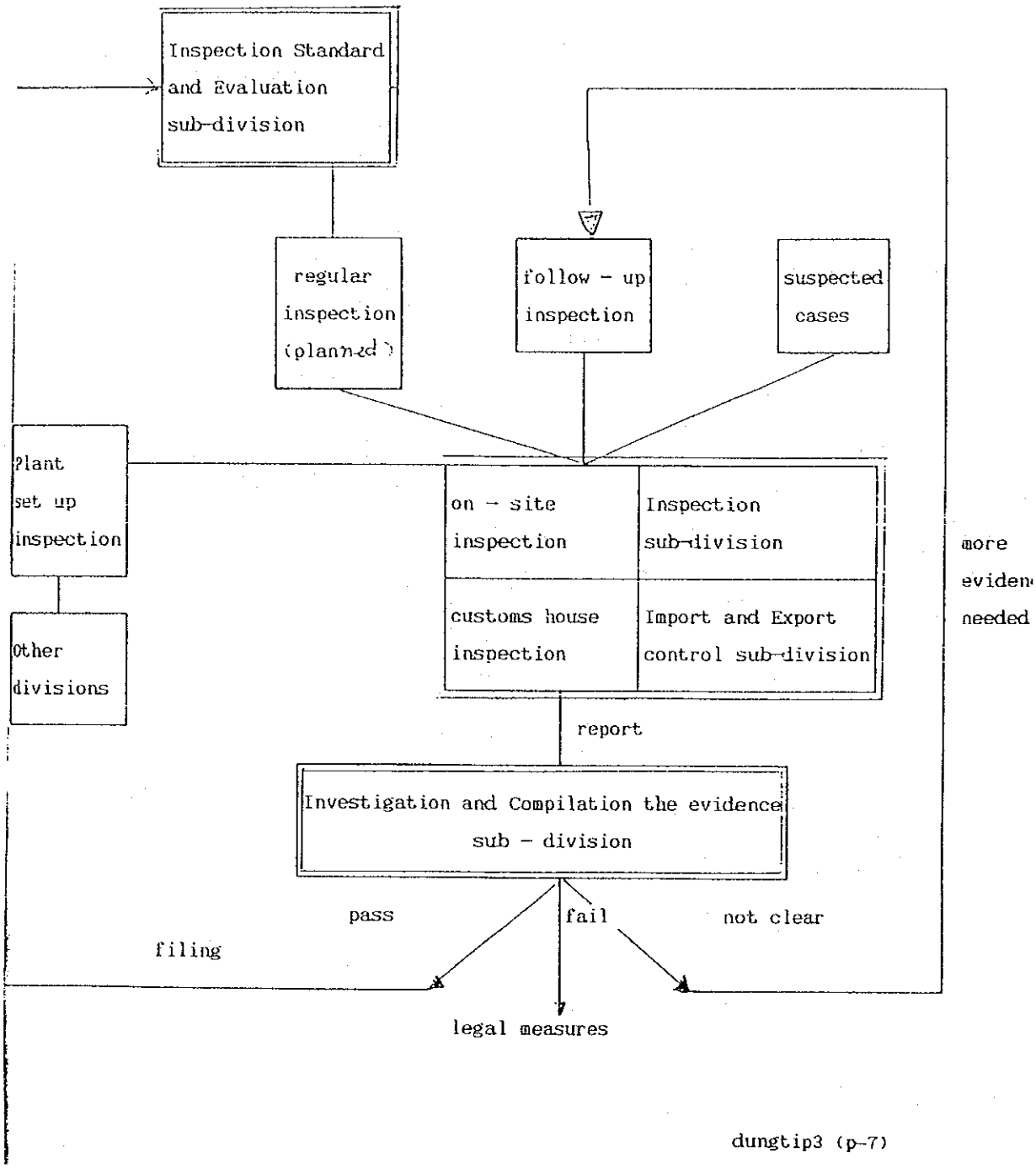
ORGANIZATION OF FOOD AND DRUG ADMINISTRATION



ORGANIZATION OF INSPECTION DIVISION



Work flow of Inspection Division



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PART B
Scope and Responsibility

Inspection Division

To be resposible in accordance with the laws concerned and to follow the National Economic and Sócial Development Plan :-

(1) To inspect licensed and non-licensed premises to compiy with the laws

(2) To inspect and operate at the Custom Houses concerning with importing and exporting the controlled products

(3) To operate in case of violation by collecting and analysing evidences in order to prosecute or to take any appropriate actions

(4) To supervise and monitor the controlled products in order to protect the consumers

(5) To research and set up consumer protection's plan including follow up and evaluation

(6) To train and give the knowledges of the laws and appropriate technologies to officers and persons in the business concerned

(7) To look after the confiscated or detained products except narcotic substances in accordance with the regulations

(8) To communicate and exchange informations concerning controlled products at the border area

(9) To co-operate with other government sectors concerned

****

Type of Inspection

(1) Regular Inspection

1.1) Routine Inspection

1.2) Follow - up Inspection

1.3) Other reasons

- When a new factory has been established
- When a factory has changed the existing lay-out

(2) Suspected or Petition Inspection

2.1) Complaints

2.2) Investigation the cause of the problems occured at the manufacturer or importer's site

****

Secretary Unit

Job responsibility

- To administrate the general tasks such as accounting, budgetting, transporting and personnel
- To manage the booking and document
- To type and xerox paper

CENTRAL INSPECTION SUB_DIVISION

Scope and responsibility

(1) To monitor the controlled product in the market to ensure that they comply with standards and regulations

(2) To investigate the cause of any problems occuring at the manufacturer's and/or importer's sites and also at wholeselers and detailers

(3) To collaborate with other government agencies about the prosecution procedures

(4) To give advice and training to staff members and the companies concerned to improve the quality of the practices

(5) To continue surveillance and follow up the inspections of private firms

****

Investigation and Evidences Compilation Sub-division

Job responsibility

- To set up the investigating plan and to collect the evidences
- To consider the information and evidences of analytical reports for prosecution
- To inform, consult and prosecure producers against FDA laws
- To take care confiscated products under court jurisdiction

Import and Export Control Sub-division

Job responsibility

- To inspect and to control the imported, transitted and exported products under the FDA standards and regulations at the Custum

- To survey and follow up the new products in order for consumers' benefit

- To consider the request for permission of imported products

---

Inspection Standard and Evaluation Sub-division

Job responsibility

- To set up the plans for inspecting, following and evaluating
- To determine the standard of practice .
- To study and research on developing for consumer protection .
- To assess the data collected by the computers .

PART C
Laws and Regulatory Procedures

Laws

1.Definition

2.Committee

- personnel
- authority : promulgation, consider appeal, withdraw license , order to destroy , suspend license etc.

3.Licensing for importer, manufacturer and retailer (where necessary)

- import, manufacture, and sell are not allowed without licensing except recieving exemption.
- duty of the licensee etc

4.Registration : categories, labelling, packaging, formula, processing etc

5.Quality of products : counterfeit , impure, adulterate, deteriorate sub-standard, others which specified by the minister etc

6.Advertisement control.

7.Authority of officers

8.Penalty : suspend or revoke license or registration, fine, imprisonment, (official, warning) etc

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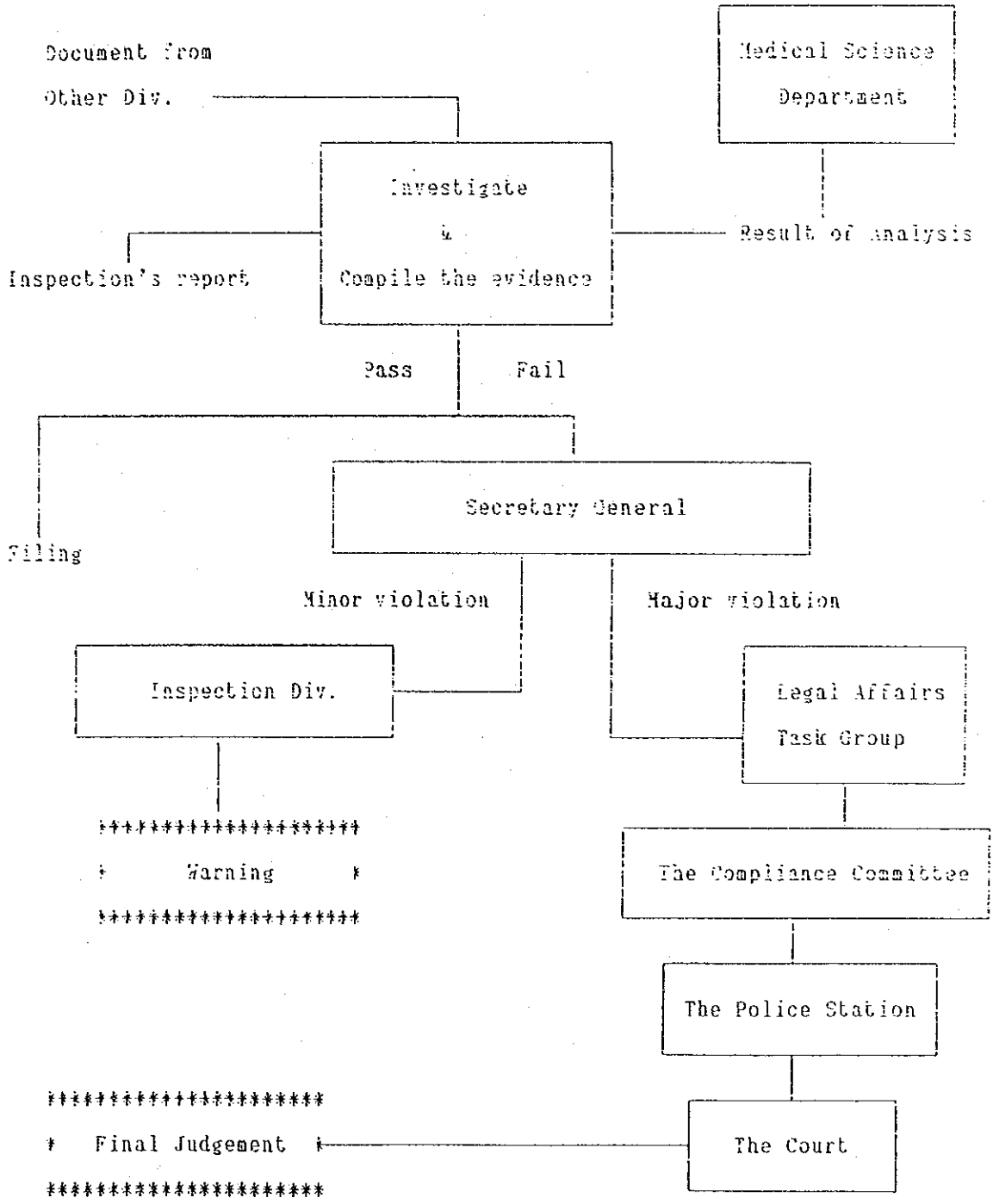
Legal Measurement



PART D
Activity and Training Programmes

Background of Inspector

Area	Personnel
Pharmaceutical Science	47
Food Sciences	3
Nutritionist	4
Home economics	3

dungtip3 (p-18)

Health Consumer Protection activities

Activities	Past	Present	Future
Premarketing control			
- premises (licensing)	all	drug , food.	drug
- products (registration)	all	drug . food. cosmetic , toxic substance	drug.
- advertisement	drug , food	drug , food	drug
Post marketing control			
- premises	all	all	all
- products	all	all	all
- advertisement	all	all	all
Surveillance	Drug	Drug Chemical substances	Drug Chemical substances Cosmetic Medical device
Public - relation	all	all	all

* All = Food, Drug, Cosmetic, Medical device, Toxic Substances

* Drug include Drug , Narcotic, Psychotorpic substances

dungtip3 (p-5)

Refreshment Course for inspectors (Feb 1992 - Sep 1992)

Objectives 1. Inspectors should have the knowledge of inspection techniques, know-how, law & regulation in the same level.

2. Inspectors should be trained systematically

3. Inspectors can share their experience.

Content 1. The role of inspectors on health consumer protection.

2. Essential basic knowledge eg.

- plant sanitation
- personnel hygiene
- contamination
- producing process
- quality control/asswance
- GMP - The principle
  - Developing programme
- HACCP
- Sampling techniques
- Degradation ; Storing ; Transportation
- S.O.P.

3. Investigation techniques

ethadology : just only lecture and share experience by discussion

dungtip3 (p-14)

training courses in Thailand

Food	-	Soy-bean sauce
	-	fish sauce
	-	drinking water
	-	soft drink in sealed container
	-	low acid canned food
Drug	-	Improving local pharmaceutical industry
	-	Law & drug regulations
	-	GMP
	-	Investigation technique of criminal law
	-	Drug stability
	-	Manufacturing technique of injection

dungtip3 (p-15)

- Expected Training programmes

1. Food & Drug Control system
   - Pre-marketing
   - Post-marketing
   - Import & Export system
2. Sanitation
3. Layout of factory
4. Manufacturing technology & Proper process
5. Qualigy assurance system ; GMP, HACCP, ISO 9000, S.O.P.
6. Waste and Hazard Control
7. Inspection technique
8. Sampling technique
9. Contamination/Degradation/Storing/Delivery process

dungtip3 (p-17)

THE EXPECTED KNOWLEDGE OF INSPECTOR

Inspector

- law & regulations
  - Law
- Investigation techniques
  - Investigation
- Inspection
  - Factory
    - layout
    - sanitation
      - plant
      - staff
    - processing
      - producing process
      - quality control/assurance proce
      - contamination
        - microbial
        - chemical
        - physical
    - Quality assurance measures
      - S.O.P
      - GMP
      - HACCP
      - ISO 9000 etc
  - products
    - sampling techniques
    - degradation
    - storing
    - transportation
    - packing and packaging

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