

III-6 Executive Committee 記録 (1978. 3. 7)

Project : Promotion of Provincial Health Services
Report of the Executive Committee Meeting
at Prapok-khao Hospital, Chanthaburi, March 7, 1978.

Name of attendants :-

- | | |
|------------------------------|---|
| 1. Dr. Mongkol Mokkaasmit | Assistant Project Director |
| 2. Dr. Chaisit Dharakul | Field Project Manager |
| 3. Dr. Sujarti Jatanasen | Director, Division of Epidemiology |
| 4. Dr. Pramukh Chandavimol | Provincial Chief Medical Officer
Chonburi |
| 5. Dr. Suchint Phalakornkul | Director, Chonburi Hospital |
| 6. Dr. Khunthong Sukatipanta | Deputy PCMO, Chanthaburi |
| 7. Dr. Damrong Phanthumkosol | Chief, Section of Clinical
Pathology, Prapok-khao Hospital |
| 8. Miss Paradee Mamechai | Thai Co-ordinator |
| 9. Dr. Soichi Kumaoka | Japanese Expert team leader |
| 10. Dr. Toshihiko Fukunaga | Japanese Expert in Virology |
| 11. Mr. Toshio Hida | Japanese Co-ordinator |

Note of the Executive Committee Meeting
at Prapok-khao Hospital on
March 7, 1978.

The executive committee considered and agreed on the following :-

The Plan of Action in 1978.

- I. Activity I : Strengthening of Provincial Health Laboratory
(PHL) and Side-Room Laboratory (SRL).

1. Objectives

Strengthening of the Chanthaburi Provincial Health Laboratory Service.

- 1.1 Strengthening of the PHL as a clinical diagnostic laboratory.
- 1.2 Strengthening of the PHL as a public health laboratory.
- 1.3 Strengthening of the side-room laboratory (SRL) in two district hospitals and two district health and medical centers (Thamai district hospital, Klung district hospitals, Pong-Nam-Ron district health and medical center, and Lam-Singha district health and medical center).

1.1 Strengthening of the PHL as a clinical diagnostic laboratory

Specific objectives.

1. Strengthening of the clinical microbiology section.
2. Strengthening of the clinical chemistry section.
3. Strengthening of the clinical hematology section.
4. Strengthening of the blood banking.
5. Strengthening of the clinical microscopy.

Activity

1. Selecting proper media for identification and isolation of bacteria.
2. Standardization of antimicrobial susceptibility test, Kirby - Bauer method.
3. Standardization of Methods for determination of SGOT, SGPT, LDH (kinetic method).
4. Micromethod for determination of bilirubin in pediatric patients.
5. Serum protien electrophoresis.
6. Automation of white blood cell count.
7. Platelet count, phase contrast.
8. Coagulation study, prothrombin time.
9. Standardization of techniques for typing and cross matching in blood banking.
10. Antiglobulin test.

Estimated work load

2. 5,000-7,500 / year
3. 1,000 / year
4. 200 / year

5. 500 / year
6. 15,000-20,000 / year
7. 200-500 / year
8. 500-1,000 / year
9. 4,000 / year
10. 500 / year

Method of implementation (Improve standards for identification)

- i. Analysis and selection of appropriate transport media and culture media.
- ii. Necessary supplies for the activities in this section should be adequately stored at DPHLS, and be ready for shipment upon request.
- iii. The network of technical supervision will be organized between DPHLS, DCP and PHL. Regular inspection of PHL should be considered. DCP will act as a reference laboratory.

Method of implementation (for Quality control)

- i. All measures of precision and accuracy should be emphasized, regulated and performed.
- ii. Daily quality control in clinical chemistry should be seriously considered, and introduced into activity. DPHLS with the co-operation of DCP should prepare and supply the pool serum, especially lyophilised form, to PHL (s) for daily use. Commercial control serum should be supplied upon request.
- iii. Regular checking of the quality of PHL, as a part of quality control program, should be carried out at DPHLS by sending "unknown" specimens to PHL for chemical analysis.

Resources Needed

<u>Personnels</u>	<u>Level</u>	<u>Number</u>
1. Medical Technologist.	College graduate (MT).	1
2. Medical Laboratory Assistant.	Senior high-school level with 1 year in school of Medical laboratory technician.	3*

1.2 Strengthening of the PHL as a public health laboratory Specific objectives :

1. Set up a viral diagnostic laboratory.
2. Strengthening of the bacteriologic section.
3. Strengthening of the food examination section.

* will be available in July 1978.

Activities

- 1.1 Serodiagnosis of dengue and DHF suspected patients.
- 1.2 Examination of feces of food handlers.
- 2.2 Examination of feces for surveillance of diarrheal diseases.
- 3.1 Bacteriological examination of food from small shops, food vendors, and water for household from various sources.
- 3.2 Specimen collections for chemical analysis.

Estimated work load

- 1.1 Will be performed from March 1978 till November 1978 (approx 500 cases).
- 2.1 1,000 / year
- 2.2 300 / month
- 3.1 Bacteriological examination of food 300 / year;
Bacteriological examination of water 500 / year.
- 3.2 300 / year

Method of implementation (1)

- i. Necessary spaces and personnels of the section will be considered by DPHLS, PCMO and hospital's director.
- ii. Diagnosis which would require much more complicated technique such as neutralization and virus isolation will be carried out in VRI.
- iii. VRI will act as a reference laboratory for this purpose.
- iv. Japanese expert (s) in virology will assist in every point of the operation.
- v. Special trainings are needed, and will be scheduled.

Method of implementation (2)

- i. Primary examination, namely identification, isolation, and analysis, will be done at PHL.
- ii. DCP will act as a reference laboratory.
- iii. PCMO will arrange for specimen collection.
- iv. No need for further training at present.

Method of implementation (3)

- i. Bacteriologic examination will be carried out at the PHL.
- ii. Chemical analysis will be performed at DFA.
- iii. PCMO and DFA will arrange for specimen collection.
- iv. Specimen collection trainings, are needed.

- v. DFA will give necessary technical guidance for the routine operations.

Resources Needed

<u>Personnels</u>	<u>Level</u>	<u>Number</u>
1. Medical technologist.	College graduate (MT)	1
2. Medical Laboratory Assistance.	MLA	3*
3. Clerk for PHL.	Commerce.	1

* will be available in July 1978.

1.3 Strengthening of the SRL in district hospitals and district health and medical centers.

Specific objectives

1. Set up simple hematologic examination.
2. Set up simple urine analysis.
3. Set up simple stool examination.
4. Set up simple bacteriological examination.
5. Set up a linkage between PHL and SRL.

Activities

- 1.1 Determinations of hemoglobin and hematocrit, white blood cell count, differential white blood cell count, ABO typing.
- 1.2 Examination for malaria (thick and thin film)
- 2.1 Examination of urine for sugar, albumin, Bence Jones protein, bilirubin, urobilinogen, blood, acetone and diacetic acid, and specific gravity.
- 2.2 Microscopic examination of urine. (centrifuge)
- 3.1 Examination of stool for blood, and ova of parasites (direct microscopic)
- 4.1 Simple bacteriologic examination of clinical specimens by smear & stain - for gonorrhoea, tuberculosis, ...etc. (Gram stain and Zeil-Neilson stain)
- 5.1 Collect and transport specimen to PHL for confirmation and/or performing other difficult tests not available at SRL.

Method of implementation (1.3)

- i. Recruit the personnels.

- ii. Necessary spaces and personnels will be provided by the Division of Rural Health.
- iii. Japanese side through DPHLS is responsible for the supply of necessary laboratory instruments, reagents including glasswares.
- iv. Intensive training for the Junior-highschool-level personnels is needed, at Chanthaburi, for at least 3 months.
- v. The network should be organized between PHL and SRL. PHL will act as a reference laboratory, and will be responsible for the regular technical supervision of the SRL.

Resources Needed

<u>Personnels</u>	<u>Level</u>	<u>Number</u>	<u>Remark</u>
1. Laboratory Worker	Junior high-school level with 3 months of intensive training.	4	Three(3) are available at present.
2. Medical Laboratory Assistant.	Senior high-school level with one year in school of medical laboratory technician.	4	-not available -required recruitment in 1978.

Activiti II Strengthening function of Divisions concerned in the Department of Medical Sciences in relating to the Project.

Objectives

1. Strengthening function of VRI
2. Strengthening function of DME
3. Strengthening function of DCP
4. Strengthening function of DFA
5. Strengthening function of DPHLS
6. Strengthening function of PHL, Chonburi province.

1. Strengthening function of VRI

1978

1. Objectives :

1. To support collaborative field research and virus laboratory set up in Chanthaburi Province.

2. To promote and expand research activities in the field of virology in order to obtain information and data necessary of the formulation of the virus disease control program in Thailand.

3. To set up new techniques for isolation and identification of dengue virus.

2. Project activities

1. Carry out field research on haemorrhagic fever by virological investigations of the clinical specimens and public health specimens collected from Chanthaburi area.

2. Production and standardization of antigens and reference sera for serologic tests of virus diseases. These research reagents will be supplied to PHL.

3. Train personnel in the field of virological techniques.

3. Activities schedule

1. About 500-600 pairs of blood specimens will be collected in early May and December 1978 and examined for the transmission rates of dengue and Chikungunya viruses.

2. Serum from D.H.F. suspected patients as well as the Aegypti mosquitoes from the area of outbreak will be submitted to VRI from May to October 1978 for virus isolation. About 50 samples of each kind of specimens are expected for the whole season.

3. Diagnostic reagents will be supplied to PHL whenever the virus laboratory is set up.

4. Individual training can be performed at any time. Group training should be informed about 1 month in advance.

5. The assistance or advice to the PHL will be given upon the request.

4. Management

1. The collection of blood specimens in May & December will be carried out by a team of VRI with the assistance of PCMO (Epidemiologist assistant and Chief of Health Centre).

2. Prapok-khao Hospital, PHL and Japanese experts will assist in the collection and shipment of patient's sera for virus isolation. Division of Medical Entomology will assist in collection and shipment of mosquitoes for virus isolation.

The fiscal year budget of VRI may cover the supplies and ordinary expenses in VRI concerning this project in 1978.

3. Give assistance or advice to the PHL.

2. Strengthening function of DME

1978

1. Objectives :

1. To support the entomological and ecological studies on arbovirus infection.
2. To support the vector surveillance and control team in Chanthaburi to prevent and control Dengue Haemorrhagic Fever.

2. Project activities

- 2.1 Study Aedes aegypti field population densities in Mueng district and other study areas three seasons per year.
- 2.2 Carry out or supervise Aedes aegypti control measures in the study areas it is necessary to keep the mosquito density not exceed 2 females per man hour and the breteau index not over 50 for the larval density.
- 2.3 Collect Aedes asgypti in non control areas for virus isolation during three seasons.
- 2.4 Co-operate with the VRI in carrying out the virus isolation from Aedes mosquitos and D.H.F. patients.

3. Activity Schedules

- 3.1 Aedes landing collection from 40 to 100 houses (random) in Chanthaburi municipality and 30 houses in each study area in other districts, and also visual larval surveys from 100 houses in town and 50 houses in other study areas to be carried out each season by the DME.
- 3.2 Carry out Aedes aegypti control measures in the study areas, (Time to be considered later.) by DME and the local team.
- 3.3 Collect at least 100 female Aedes aegypti per batch for virus isolation each season. The time schedule depends on the virus Laboratory.
- 3.4 Cooperate with the VRI whenever the VRI is ready.

4. Management

- 4.1 DME will set up the schedule of work and supervision for the local vector surveillance and control team which is under PCMO to carry out all the Entomological work.
- 4.2 Virus isolation from the patients sera and from the mosquitoes will be done in the cooperation of the Prapok-khao hospital, VRI and DME.

3. Strengthening function of DCP

1978

1. Specific Objectives

1. To act as a central reference laboratory for Chanthaburi and Chonburi laboratories.

2. To co-operate with the Activity IV.

2. Project activities

1. Improve laboratory diagnostic techniques.

2. Further investigation for specimens sent by PHL in the field of bacteriology, mycology, parasitology, hematology, serology and clinical chemistry, will be performed by DCP.

3. Gives technical consultation, supervision to PHL.
(at least twice a year)

4. Supply of diagnostic antisera, antigen and sensitivity test star to PHL.

5. Serves as a training centre for PHL staff in specialized field.

3. Management

1. The primary isolation of causative organisms will be done by PHL staff.

2. Confirmation of isolated specimens will be performed by DCP.

4. Diagnostic antigens and antisera which will be supplied by DCP upon request :-

1. Diagnostic antisera for enteric pathogens :-

1.1 For Salmonella - Salmonella Polyvalent A-65 antisera
- Salmonella Polyvalent A-I antisera
- Salmonella group A, B, C, D, E, F, G, H, I antisera

1.2 For Shigella - Shigella Polyvalent antisera
- Shigella group A, B, C, D Polyvalent antisera

1.3 For Pathogenic E. coli
- Pathogenic E. coli Polyvalent I, II antisera

1.4 For Cholera - Cholera Polyvalent antisera

- Monospecific Inaba antisera

- Monospecific Ogawa antisera

2. Cholera Phage group IV
3. Salmonella O₁ Phage (Felix)
4. Salmonella antigens for Widal's Test
5. Antigens for Weil - Felix Reaction
6. Sensitivity Test Star
7. Anti A & Anti B Grouping Sera for blood grouping

4. Strengthening function of DFA

1978

1. Objectives

1.1 To support the diagnosis, treatment, prevention and control of GI disease and food - borne diseases in Chanthaburi Province.

1.2 To give technical support in Food Bacteriology laboratory set up in Chanthaburi.

1.3 Chemical analysis for health hazards in food.

2. Project Activities

2.1 Training personnels in Food Bacteriology at DFA for 3 months (See Addendum)

2.2 Set up analytical manual for food Bacteriology.

2.3 DFA will be the reference laboratory and responsible for the proficiency of the provincial laboratory.

2.4 Chemical analysis for health hazards in food :

2.4.1 pesticide residues

2.4.2 aflatoxine

2.4.3 mercury

2.4.4 prohibited food additives

Samples for chemical analysis should be collected at harvesting area for fruits and vegetables. Grains, seeds and nuts etc. should be checked three times annually at the harvest, storage and market. The specimens will be sent to DFA for analysis.

2.5 Routine analysis of potable water.

Estimated work load

2.4.1	pesticide residues	20 / year
2.4.2	alfatoxins	10 / year
2.4.3	mercury	50 / year
2.4.4	probibited food additives	50 / year
2.4.5	potable water	10 / year

3. Management approach to implementation

3.1 The routine collection of sample will be carried out by health inspectors.

3.2 Instruction for sample collection will be given in training course for inspector.

3.3 The DFA staffs will join the health inspector occasionally for field sampling.

3.4 The analysis will be carried out by DFA existing staffs.

ADDENDUM

Tentative Program of Food Microbiology Training
for a technician at Chantaburi Laboratory

April 3 - June 30, 1978.

- April 3-4 Enumeration of organisms from foodstuffs by:
1. Standard Plate Count Methods.
 2. Most Probable Number Methods for coliforms, E.coli.
 3. Fungi Enumeration Technique.
- April 17-21 Medium preparation, activities, selectivities and sterilization technique of media, glasswares and equipments used in microbiological analysis works including discussion for methods of analysis and microbiological regulations in food law.
- April 24-28 Detection of Vibrio parahaemolyticus from seafood.
- May 1-5 Detection of Staphylococcus aureus from food.
- May 8-12 Detection of Clostridium perfringens from food.
- May 15-19 Detection of Salmonellae and Shigellae from food.
- May 22-31 Serological identification of Salmonellae, Shigellae, Vibrio parahaemolyticus and Enteropathogenic E.coli.
(Salmonella Center, Division of Clinical Pathology)
- June 1-9 Microbiological Examination of Water and Soft-drinks.
- June 12-23 Microbiological Examination of Water and Soft-drinks, -serve menu, and ice-cream.
- June 26-30 Food Sanitation (Utensil Swab Test technique)
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5. Strengthening function of DP HLS

1978

1. Specific objectives

1.1 To recruit and supply of qualified personnels to the clinical diagnostic laboratory and PHL in the model area.

1.2 To cooperate in training activities with the Activity IV.

2. Project Activities

2.1 Increase in number of MLT and MLA students by providing more facilities (equipment) and spaces.

2.2 Supply of qualified MT, MLT or MLA to the model area according to the number required.

2.3 The staffs of DPHLS will be sent to Chanthaburi as the tutors and as a member of the working group in developing of the curriculum.

3. Activity schedules

3.1 The number of MLT and MLA can be increased in the academic year of 1978 (after June).

3.2 The schedule will be set after the required total number of personnels are known.

3.3 Responding to the schedule of Activity IV.

4. Management

4.1 More spaces will be provided in the school of Medical Laboratory Assistant, DPHLS. And also some additional equipment will be requested from the Japanese side as for increasing the number of the students for adequately supply to the model area.

4.2 Set up the budget of the next fiscal year for the personnel recruitment.

4.3 Set up the budget of the next fiscal year for the expenses in training activities.

6. Strengthening function of PHL, Chonburi province

1978

1. Objectives

To strengthen the clinical diagnostic and public health laboratories as well as other existing health organizations to enable to serve as a regional laboratory.

2. Activities

Detailed planning of activities will be set up afterwards in order to strengthen this laboratory to be a regional laboratory in correspond with the progress in strengthening of the model area in Chanthaburi province.

3. Management

As the development of Chonburi laboratory to be a regional laboratory in the second phase, requesting for some assistance such as fellowships and equipment is necessary as to lay a basic foundation for the further development of this laboratory which going to be strengthened by:-

1. Strengthening in microbiology
2. Strengthening in clinical chemistry
3. Strengthening in hematology
4. Strengthening in clinical microscopy

Activity III Strengthening of Epidemiological Surveillance:

1. Objectives

1. To obtain epidemiological information for identification of the health problem in Chanthaburi.
2. To be able to conduct survey in detail according to the information obtained by surveillance method.
3. To select suitable subject for study and research in the field.

2. Activities

1. To improve disease notification system by
 - 1.1 Revise the form and method of notification.
 - 1.2 Training local health worker and midwife at all level on basic epidemiology and surveillance system, roles and responsibility of health personnel in surveillance system.
 - 1.3 Training for Provincial epidemiological worker, District surveillance worker to persuade, stimulate and supervise local health worker on surveillance activities.
2. To improve laboratory surveillance parallel to program set up at S.R.L. and P.H.L., all local health workers should be trained on the method of specimen collection, transportation of specimen to laboratory.
3. Training on preliminary case investigation to perform active case finding, contact tracing, investigation for possible sources of infection.

3. Management

3.1 PCMO must request the Rural Health Division to fill all positions according to the minimum requirement for personnel needed in every tambol & district.

3.2 Surveillance worker should be post in the model area.

3.3 Qualify personnel BSc in Public Health should be post for provincial epidemiological worker. The present worker should be post in Ampur

Muang surveillance worker.

3.4 Full support from Division of Epidemiology are needed to develop curriculum on Epidemiological Surveillance for health worker from all level, and trainee from division must be full time available in the training courses.

Activity IV Training

General Objectives

1. To set up a refresher course for M.L.A. at Chantaburi in laboratory techniques.
2. To set up a refresher course for nurses, midwives and the health workers in epidemiology and some laboratory techniques.
3. To set up a continuing training program in laboratory techniques for rural health laboratory workers.
4. To arrange for individualized specific training program for M.T. and M.L.T. from Pra-pok-khao Hospital, Chantaburi provincial health laboratory and other provincial health laboratory.

Specific Objectives

The trainees will be divided into 4 groups:-

- gr.I M.L.A. in molel area.
- gr.II Nurses, midwives and health workers.
- gr.III Rural health laboratory workers.
- gr.IV M.T. and M.L.T. from Chantaburi provincial health laboratory and other provincial health laboratory.

The specific objectives of training program for each group will be:

- gr.I
 1. To strengthen the technical efficiency and effectiveness in laboratory services to meet the standard quality control program.
 2. To develop philosophy and concept of comprehensive health care and the role of laboratory services in the health service delivery system.
- gr.II
 1. The set up a refresher course for developing higher knowledge and practical skill on epidemiology and surveillance system. Health survey, health information collection and analysis including health planning will be also emphasized.
 2. To set up a refresher course for strengthen the technical knowledge and skill in specimen collection, reporting and performing some laboratory test.
- gr.III To set up a refresher course for strengthening the knowledge and skill in laboratory techniques.
- gr.IV To arrange for individualized specific training program for M.T. and M.L.T. from Pra-pok-khao Hospital, Chantaburi provincial health laboratory and other provincial health laboratory. These individualized specific training program

will be determined according to the specific problem in technology in each laboratory. e.g. laboratory technology in virology, bacteriology, mycology or clinical chemistry etc.

Curriculum

1. Content of curriculum will correspond to the above-states specific objectives of the training program of each group of the trainee.
2. Persons responsible for curriculum development
 - Activity manager, will function as the co-ordinator or the secretary of the working group for the detailed curriculum development.
 - Working group, will consist of the representative from the following agencies:
 1. DPHLS and other related Division.
 2. Division of Epidemiology.
 3. P.C.M.O. office-Chantaburi and from other provinces.
 4. P.P.K. Hospital-DEPT. of Pathology.
 5. Japanese expert team.
 - Chairman of the working group. Activity manager.

Training Methods

These methods will be applied in the training program:

1. Lecture
 - Lecture program will be held at P.P.K. Hospital and at the PCMO office.
 - Audio-visual aids will be used and educational sheets will be distributed.
 - Educational resource center should be established to facilitate further continuous self-learning.
2. Practical training
 - Practical training program will be arranged at the Dept. of Pathology P.P.K. Hospital and at the P.H.L.
 - A system for follow-up continuous practical training after completion of this program will be set up.
3. Field work training
 - Field work training program will be arranged at some selected model district, tambon and village.

4. Specialized training

- Advance training in some specialized fields e.g. in virology, bacteriology, mycology and other subject will be arranged and held at central agencies such as the VRI or other institute under the Dept. of Medical Sciences and also in Japan.

Courses

There will be 4 courses of training each for trainee group:

- Course 1. for trainee group I
- Course 2. for trainee group II
- Course 3. for trainee group III
- Course 4. for trainee group IV

Duration of courses

- Course 1. Lecture - 1 wk.
Practical training - to be determined according to necessity.
- Course 2. Lecture - 1 wk. plus training for simple laboratory test.
Field work - 1 wk.
- Course 3. Lecture and practical training will be integrated together and the duration will be at least 2 wks.
- Course 4. To be determined according to the problem.

Trainees

As described, trainees will be divided into 4 groups:

1. M.L.A.

This group of trainees will included all laboratory workers of the existing lab. both under PHL control, under the P.P.K. Hospital control and district hospitals.

The total number of trainees under this category is approximately 18.

2. Nurses, Midwives and Health workers.

Nurses—from P.C.M.O. office, Dept. of Preventive and Social Medicine P.P.K. Hospital, district hospital and district medical and health centers will be trained.

Midwives—from P.C.M.O. office, district hospital and MPH centers, District Public Health Office, and Health centers will be trained.

Health workers from all health services delivery units in the province will be trained.

3. Rural health lab. workers.

The existing district hospital lab. workers and the candidates assigned as the district hospital lab. workers will be trained.

The new candidates for P.P.K. hospital lab. assistants will be also included in this category.

The total number will be approximately 12 (3 district hospital, 9 P.P.K. hospital)

4. Group IV will include M.T. and M.L.T. from Chantaburi, Trad, Rayong, Chonburi provincial health laboratory.

Classes

The details of classes arrangement will be set up after the curriculum is completed.

Tutors

Tutors will be recruited from the following agencies:

1. DPHLS and other institutions under the DMS.
2. Div. of Epidemiology.
3. PCMO office-Chantaburi, Trad, Chonburi, Rayong.
4. P.P.K. Hospital and Chantaburi PHL.
5. Japanese expert team.

Evaluation

The result of the training will be evaluated by test practical, oral and written during the training period, immediate post training period and also follow-up post training period.

Activities schedule

1. Curriculum
The curriculum will be completed within May 15, 1978.
2. Training materials and equipment.
Training materials and equipment will be ready within the end of July, 1978.
3. Training program will start on the beginning of September 1978.
4. Detailed time-table of training program will be ready before the beginning of September 1978.

Resource needed

Personnels

Tutors- To be recruited from various agencies as already described.

Facilities

1. Lecture room - Source from P.P.K. Hospital and PCMO office conference room.

2. Office - Source from P.P.K. Hospital.
3. Accommodation for tutors from outside Chantaburi-Hotels

Operation cost

Transportation, per diem and accommodation for trainees from rural areas and from other provinces (for 4 groups of trainee in one year)

approximately estimated 150,000 bahts

Source - Department of Medical Sciences.

Activity V Research

5.1 Research on arbovirus infections in Chanthaburi area

5.1.1 Objectives : Studies on virological, epidemiological, and ecological aspects of arbovirus infections, especially dengue infections, in Chanthaburi area.

5.1.2 Management : Thai side will provide scientists to work in this field of research with Japanese experts as the coworkers.

5.1.3 Activities in 1978 :

5.1.3.1 Seroepidemiological survey on arbovirus infections.

Work site

Ta-gadngao and Bo

Specimen collection

Blood specimens from healthy people of selected age groups will be collected using filter paper method. Target : 500 paired sera per year.

Time of specimen collection

- in pre-epidemic season (June) and
- in post-epidemic season (December) of each year

Method for analyses

- HI antibody titration against Dengue, Chikunkunya, and JE antigens by microtiter method.
- Statistical analyses of the data in relation to the activity 5.1.3.2.

Responsible staff

VRI staff, Japanese expert

Supporting groups

PCMO staff, PHL staff, Staff of Div. epidemiology
Epidemiological surveillance network

5.1.3.2 Entomological and ecological studies on the
arbovirus vector mosquitos

Work site same to 5.1.3.1

Specimen collection

- Landing collection of day mosquitos
- light-trap collection of night mosquitos

Time of specimen collection

- in hot, rainy, and cold seasons; in June 1978, December 1978/January 1979, and in March/April 1979

Method for analyses

- Identification of mosquito species and classification
- Virus isolation from collected mosquitos and identification of isolates
- Ecological survey on mosquito vectors
- Standard procedure of virus isolation will be established and applied.

Responsible staff

Entomological side : Staff of Div. entomology

Virological side : Staff of VRI; Japanese expert

Supporting group

PCMO staff, staff of Div. epidemiology

Epidemiology surveillance network

Personnel to be recruited

5.1.3.3 Epidemiological tracing of DHF cases when there is an outbreak.

Specimen collection

- blood specimens from the selected patients and the families to which the patients belong
- blood specimens from households which surround the patient's household
- mosquitos near-by the patient's household

Target : 10 sets of specimens

Method for analyses

- Seroepidemiological and virological tracing will be carried out from the patient to the surrounding environments
- HI-, NT-antibody titration of blood specimens
- virus isolation from patient's serum and mosquitos
- ecological and epidemiological survey of the outbreak

Responsible staff

Entomological and ecological side : Div. entomology staff

Epidemiological side : Div. epidemiology staff

Virological side : VRI staff ; Japanese expert

Supporting groups

PCMO staff

Prapok-klao

PHL staff

Epidemiological surveillance network

5.2 Analyses on causative agents of GI diseases in the model area

1. Objectives

Incidence of GI diseases, especially acute diarrhoeal diseases, is one of serious health problems in Chanthaburi area as well as in the other parts of the country. Studies on causative agents of the diseases in view of microbiology, parasitology, and of other fields, in relation to epidemiology, is necessary to identify the qualitative and quantitative status of the incidence of the diseases in the area and to obtain information for the planning of improved control measures.

2. Management : Thai side will provide scientists to work in this field of research with Japanese experts as the co-workers.

3. Activity schedule in 1978

3.1 Set up the network for specimen collection

- Specimen collection network which covers the selected areas will be set up on the bases of Activity III.
- Format of the record to be attached to each specimen should be re-considered and standardized so as to meet statistical works and follow up. (New format will be used not only in the work sites but also in all other areas of the province.)
- Following supplies are distributed to health centers in the work sites for specimen collection : specimen container,

referral card, disinfectant etc.

- Transportation for the specimens will be considered.

3.2 Examination of the specimens

- Specimens are examined in the bacteriology section of the PHL, and in side room laboratory if necessary. Not only the specimens from patients but also from healthy person, food and water must be examined to fulfill epidemiological requirement.
- Examination must be extended to the detection of agents such as V. parahaemolyticus, Cl. perfringens, enteropathogenic E.coli, enterotoxin producing E.coli, fungi, parasites, viruses and other possible causative agents. Drug resistance of the isolates will be tested when necessary.
- Target of examination is ca.500 specimens per month.

3.3 Confirmation of isolates

- Isolated pathogens are confirmed in bacteriology section of Division of Clinical Pathology, Department of Medical Sciences.

3.4 Data collection and analyses

- Results of examination and confirmation, patient records, and other information are accumulated in the Field Project Headquarter for summarizing and analyses.
- Following the accumulation of information, statistical and other analyses will take place according to the plans prepared from several stand points, such as epidemiology, medical cares, planning of laboratory services and control measures, etc...

4. Responsible staff

Specimen collection (3.1)	: Health personnel in the work sites ; Hospital staff
Examination of specimen (3.2)	: PHL staff ; SRL staff ; Japanese experts
Confirmation of isolates (3.3)	: DCP staff
Data collection and analyses (3.4)	: PCMO staff ; PHL staff Hospital staff Staffs of Div. Epidemiol. and DCP Japanese experts

5. Resource needed

5.1 Request for personnel

5.2 Supplies

Antisera will be supplied by DCP :-

Antisera

Set of antisera for <i>Vibrio parahaemolyticus</i> diagnosis	1 set
Set of antisera for O group typing of <i>V. parahaemolyticus</i>	1 set
Antisera for diagnosis of <i>Shigella</i> Set No. 1	1 set
Set No. 2	1 set
Antisera for diagnosis of <i>Salmonella</i> Set No. 1	1 set
Set No. 2	1 set
Antisera for pathogenic coli group	1 set
Antisera for cholera diagnosis	1 set
FITC conjugated antirabbit IgG goat serum for FA microscopy	5 ml vial 5

Sera for TC works

Foetal calf serum	100 ml vial 20
Calf serum	100 ml vial 20

5.3 Operational research on community participation in health promotion.

A program of community participation in promotion of community health activity will be designed and instituted through this research activity.

1. Objectives To search for efficient and effective implementation in community participation for promotion of rural community health in the model areas.

2. Management : Thai side will provide scientists to work in this field of research with Japanese experts as the co-workers.

3. Plan of activity

It will be formulated in March by the group scientists from Thai and Japanese sides. The plan will be broken down into steps, as following:

- 3.1 To fill the gaps between villagers and existing health organizations :
 - Establishment of epidemiological surveillance network inside the communities.
 - Establishment of referral system from communities to hospitals and health laboratories.
 - Strengthening of existing medical service delivery system inside the communities.
- 3.2 Establishing suitable health education program for villagers.
- 3.3 Designing of suitable organization of community participation for promotion of assisting in preventive and curative medical services.

4. Responsible staff

PCMO staff

Hospital staff

Japanese experts

III-7 Progress Report

Project : Promotion of Provincial Health Services

1. Equipment :

All of equipments, glasswares, reagents and vehicles requested in 1976 have been arrived and supplied to each activity.

Request of equipments for 1977 was examined thoroughly for specification by the project director, Japanese team and Dr. K. Fukai. What can be purchased by this year budget will be decided according to the priority order after discussion with Dr. Fukai and his mission during their visit to Thailand in November, 1977.

2. Fellowship :

In 1977, four short-term and three long-term fellowships are awarded instead of six short-term and five long-term fellowships which have been proposed by the co-ordinating committee. And now the first fellow, Dr. Nadhirat Sangkawibha Director of VRI has left the country for a study tour in Japan.

The fellowships for 1978 are now under consideration by the Japanese side.

3. Expert :

The request for experts to work in other fields of research is under careful consideration by both sides of Thai and Japanese.

4. Project's activities :

4.1 Activity I

The problems were insufficient water supply and unstable electricity supply. However, water supply in the laboratory has been improved much by installing tanks and power pump. Electricity for the laboratory is under the process of improvement.

For strengthening of the PHL as a clinical diagnostic laboratory, some activities have already been under the process of preparation and will be started as regular service in the near future which are listed as follows;

1. Automation of blood cell count
2. Platlet count by phase-contrast microscope
3. Coagulation studies
4. Proper techniques of typing and cross matching in routine use of blood
5. Standardized method of antimicrobial susceptibility test (Kirby-Bauer method)

For strengthening of the PHL as a public health laboratory, the serologic diagnosis of some viral infection is under the process of preparation and laboratory personnel is under vigorous training. Equipment have already been received.

Some of the laboratory staffs have been recruited, the laboratory personnel (bacteriology) will be sent to Japan for further training for a year from December 1977.

For strengthening of four SRLs, laboratory basic equipments have been requested for 1977 Japanese Fiscal Year. The laboratory personnels for SRLs will receive the training from 14th November 1977.

4.2 Activity II

All of the Divisions concerned in Activity II are now ready to give the full support to the field research. Especially the VRI is playing the role now, since the research on Virology is the only one research being operated.

The equipment and vehicles has been supplied to PCMO and PHL of Cholburi province as to strengthening of its function. Thai and Japanese authorities are now considering the direction of the detailed planning in further strengthening of its activities.

4.3 Activity III

It is expected to have active activities after the health worker and the midwife have been trained, and also the enough facilities are provided especially the motor bicycle.

4.4 Activity IV

Curriculum of the tuition, selection of trainees and trainers and financial support have been worked out. The first training session will be commenced in the middle of November 1977 for a group of 58 trainee at the Phrapokkklao Hospital. For training activity, overhead projector, slide projectors, teaching microscope, video-tape-recorder, tape recorder, electric printer, electric typewriter, Thai and English, black boards and slide copier were furnished.

However, there is no doubt that lack of permanent secretarial staff has hampered the effective management of a pile of documentary business in Activity IV.

4.5 Activity V

Operational research in virology

1. Seroepidemiological study has been under taking by collecting of blood specimens in pre and post epidemic seasons of haemorrhagic fever as to estimate the antibody levels of people in Chanthaburi province, 820 specimens of pre epidemic season were collected in seven age groups from difference areas in Chanthaburi. The specimens collected are now under examination to measure the HI antibody titers.

The post-epidemic season specimens will be collected in December 1977 from the same areas.

2. Virus isolation from haemorrhagic fever patients.

The isolation of virus was tried employing suckling mice with the cooperation of the Department of Pediatrics, Siriraj hospital.

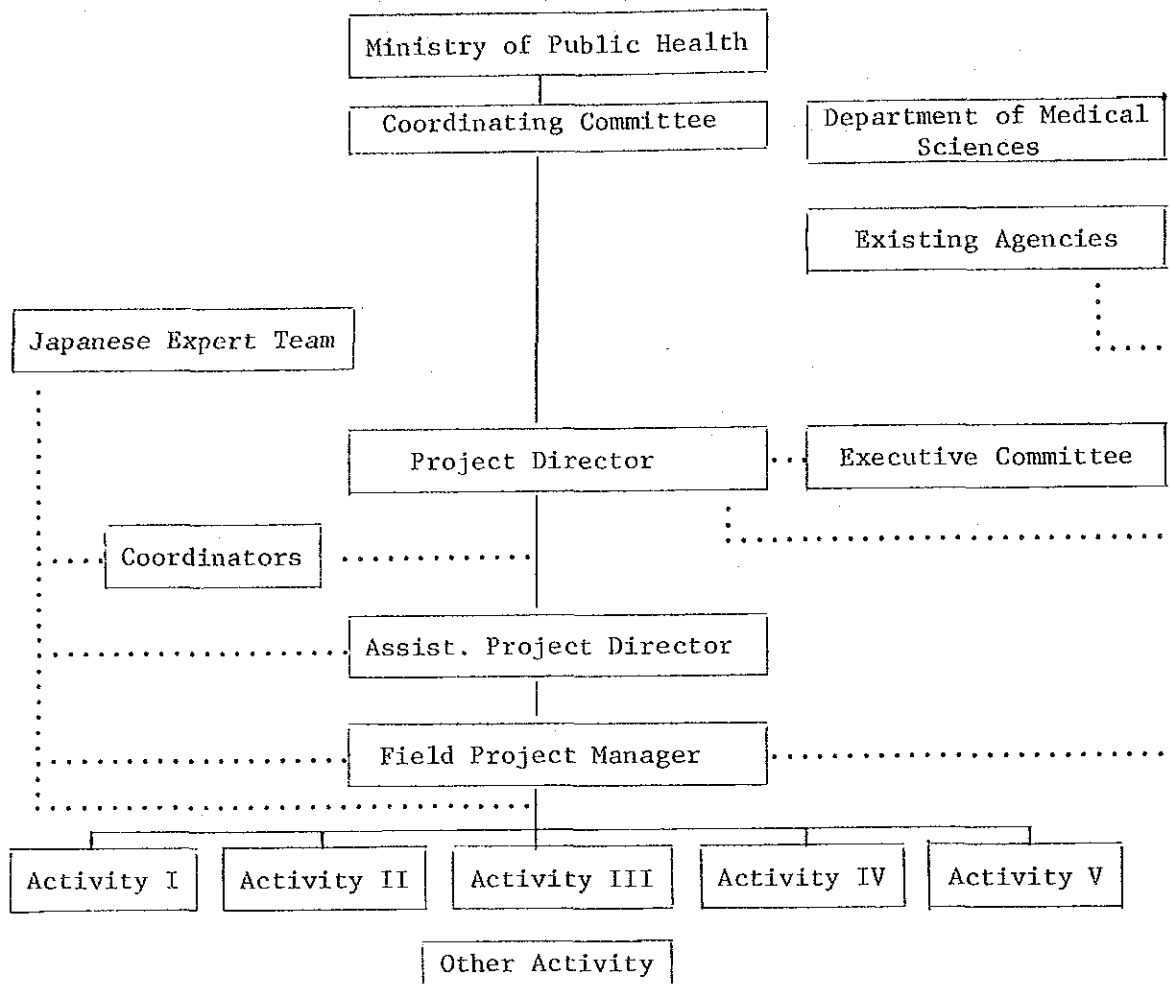
Five strains were isolated and now under examination for typing of viruses by neutralization test.

November 4, 1977.

Soichi Kumaoka, M.D.
Japanese Expert Team Leader

Sutas Guptarak, M.D.
The Project Director

PROJECT: PROMOTION OF PROVINCIAL HEALTH SERVICES
 ORGANIZATION CHART



Activities

- Activity I Strengthening of PHL and SRL, Chanthaburi
- Activity II Strengthening function of Divisions concerned in the Department of Medical Sciences in relation to the Project
- Activity III Strengthening epidemiological surveillance system
- Activity IV Training
- Activity V Operational research
1. Research on arbovirus infection in Chanthaburi area
 2. Analysis on causative agents of GI diseases in the model area
 3. Operational research on community participation in health promotion
 4. Research in food science
 5. Research on HBs antigen and HBs antibody
- Other Activity Miscellaneous administrative activities.

III - 8 Quarterly Progress Report No.1

Project : Promotion of Provincial Health Services

From January to March 1978

There are some considerable progress of Activity I, II, III and IV as to prepare themselves for supporting the works of the other Activities. For Activity V (Research) particularly, there is a little progress since the dispatching of Japanese experts still very delay, which selecting of suitable persons for particular field of research caused the difficulties for the Japanese side.

1. Equipment :

Requested equipment for 1977 have been approved by the Japanese side in the approximately amount of ¥80,000,000. One jeep and some reagents from 1977 list have already been arrived which the jeep was sent to PCMO Chanthaburi for the field work. The first lot of equipment for 1977 is shipped from Japan and expected to arrive Bangkok very soon.

2. Fellowship :

It is expected eight fellowships to be awarded in 1978. The first fellowship has been awarded to Dr. Sujarti Jatanasen, Director Division of Epidemiology. For one additional short-term fellowship in food survey which has been proposed by the Co-ordinating Committee is now under consideration by the Japanese side.

3. Expert :

The Japanese experts which are going to be dispatched in the near future in 1978 are as follows :-

- 3.1 Mr. Takeo Miyazaki, expert in Biochemistry, will arrive in April.
- 3.2 Dr. Yoshinobu Okuno, expert in Virology, will arrive in April.
- 3.3 Dr. Tsutomu Maruyama, expert in Bacteriology, will arrive in May according to 1976 request.

4. Project's activities

4.1 Activity I

4.1.1 Strengthening of the PHL as a clinical diagnostic laboratory

The followings are the activities which now are under the regular service :-

1. Platelet count, phase contrast.
2. Coagulation study, prothrombin time.

At present the numbers of request are rather small. It is hoped that the test will be popular in future.

3. Typing and cross matching of blood.
4. Standardization of antimicrobial susceptibility test (Kirby-Bauer method)
5. Antiglobulin test

The activities which are under the improvement and expect to put into the regular service in 1978 are as follows:

1. Selecting proper media for identification and isolation of bacteria.
2. Determination of SGOT, SGPT, LDH (kinetic method)

This activity will be started when reagents are supplied from the agents, and cuvettes are supplied from the Japanese side.

3. Micromethod for determination of bilirubin in pediatric patients.

The improvement is expected when cuvettes for D.B. spectrophotometer are received from Japanese expert.

4. Serum Protein electrophoresis

The activity has not been started yet due to lack of instruction manual for proper operation of the instruments. The fluctuation of the electricity is another obstacle. However, it is hoped that probably in May 1978, the problem may be solved and the activity can be initiated.

5. Automation of white blood cell count.

The instrument is presently run daily as "testing". The result of testing is quite satisfactory. It is expected that the instrument can be put into service in May 1978.

4.1.2 Strengthening of PHL as a public health laboratory.

1. Serodiagnosis of dengue and DHF suspected patients.

The laboratory has been set up in PHL, Prapokklao Hospital in March 1978.

Number of the test performed

DHF suspected patient	20
Survey from OPD	110

2. Bacteriological examination for surveillance of Diarrheal disease.

- Examination of feces for cholera suspected cases

Since there is an outbreak of cholera, large numbers of specimen have been sent for examination

Number of specimen from Jan - March 1978

from PCMO 4402

from Prapokklao Hospital 2326

- Examination of feces from food handlers.

It is waiting for the arrangement of specimen collection by the office of PCMO.

3. Bacteriologic examination of food and water.

Food and water were sent for bacteriologic examination at PHL.

Number of specimen from Jan - March 1978

Food 217

Water 1163

4. Specimen collection of food and water for chemical analysis.

The specimens will be collected by DFA at regular interval and the examination will be performed by DFA at the Department of Medical Sciences.

4.1.3 Strengthening of SRL

After attended three month training course at PHL, Prapokklao Hospital, all three laboratory workers were sent back to Tamai District Hospital, Klung District Hospital and Pong nam ron District health and medical centre.

Since all three SRL are not completely equipped with necessary instruments, so the laboratory works at these SRL can be performed only on the limited scales. It is hoped that all equipment will be supplied to these three SRL in very soon.

Supervision and follow-up for the progress of SRL are the major responsibility of PHL. One visit to Pong nam ron SRL was made in the middle of March 1978.

4.2 Activity II

4.2.1 DPHLS

1. In 1978, the number of student in the School of Medical Laboratory Technician of DPHLS has been increased, by MLT from 12 to 30 and MLA from 50 to 90, as to fulfill the required adequate numbers of PHL Chanthaburi.
2. For personnel recruitment, 2 MT and 7 MLA have been sent to work at PHL, Chanthaburi. The remain 2 MT and 6 MLA will be sent after June 1978 when they graduated.
3. In cooperation in training with Activity IV, the staffs of DPHLS has been sent to Chanthaburi as a member of working group in developing of the curriculum and also as a tutor in the first two training courses for nurses, midwives, sanitarians and health workers.

4. Budget and supplies, the budget allocation for the expenses in training activities has been set up by DPHLS in 1978 fiscal year.

Media and chemical reagents has been supplied by DPHLS to PHL Chanthaburi.

4.2.2 DFA

1. Prepared a Manual for Bacteriological Examination of food to be used in PHL Chanthaburi.
2. A Manual for specimen collection has been prepared and will be sent to Chanthaburi for training activity.
3. Collection of food sample for contamination study is planning, it is expected to start collection of the sample in April 1978 in cooperation with PCMO.
4. Already prepared curriculum and facilities for training of laboratory staffs from Chanthaburi and Cholburi at DFA.
5. Setting up of Food Bacteriology laboratory at PHL Chanthaburi and preparing of the necessary equipment lists for that laboratory are now studying by DFA.

4.2.3 VRI

1. To study on dengue hemorrhagic fever (DHF), it is essential to establish methods to measure not only the HI antibody but also the neutralizing antibody titers in sera.

As for HI antibody titration, the method had been well established but not for the method for neutralizing antibody titration. Therefore, we have developed a method for neutralization test against dengue type 1 - 4, combining fluorescent antibody technique and micromethod which employs BHK-21 cells grown in Lab-Tek 8-chamber slides. This method seems to be utilized for the titration and we used this method for the identification of the isolated viruses from DHF patients.

2. In Jan. 1978, 423 blood specimens of post epidemic season were collected from the same different age groups as in pre-epidemic season, for estimation of HI antibody titer and transmission rate study.
3. In obtaining the blood specimens from adults, it is going to be a problem because adults do not give the full cooperation as in children. This matter has to be discussed with PCMO how to convince the people to improve the cooperation since this investigation has to be studied from every age group.

4.2.4 DME

1. *Aedes aegypti* field population densities of 6 areas in Chanthaburi were determined. *Aedes aegypti* control was carried out.

2. ULV applications were done in 12 locations totaling 6189 houses. The locations selected for adulticide application were high human, high vector populations and centres of communication where Dengue transmission could take place. Total malathion used was 66 litres.

Result : Malathion application

- a. One day after treatment the female Aedes reduction was 90%.
- b. Malathion could suppress the mosquito for 7 to 10 days.
- c. After 60 days of post treatment it was found that the Aedes population had recovered to preliminary level.

Larviciding was not carried out yet.

4.2.5 DCP

1. Confirmation of organisms; from 25 specimens sent by PHL Chanthaburi, 16 strains of Shigella and 4 strains of Vibrio cholerae are confirmed as followings:

13 x Shig. flexneri, type 2 b

1 x Shig. flexneri, Var. y

2 x Shig. Sonnei

3 x Vibrio cholerae, biotype Eitor, serotype Ogawa

NAG vibrio 1 strain

2. Supplies of antisera and antigen to PHL Chanthaburi;

- a. antisera V. cholerae-Polyvalent 18 ml.
 V. cholerae-Ogawa 11 ml.
 V. cholerae-Inaba 6 ml.
- b. widal antigen 2 sets

one set contained

O antigen S. typhi 500 ml.

H antigen S. typhi 500 ml.

H antigen S. paratyphi A 500 ml.

H antigen S. paratyphi B 500 ml.

4.2.6 PCMO Cholburi

Two short-term fellowships have been requested each for Chief medical officer Cholburi and the Director of Cholburi Hospital, which now are considering by the Japanese side.

4.3 Activity III

4.3.1 Division of Epidemiology

They have sent their staffs as the tutor to the second training course for nurses, midwives, sanitarians and health workers which organized by Activity IV for the lecture of total 13 hours and for practical of total 4 hours.

4.3.2 PCMO

1. Thirty nine trainee have been recruited by PCMO to attend the second training course. Two field areas Tambon takad ngao, Tamai district and tambon Bor, Klung district have been set up for practical work and demonstration for this training course.

As there was an outbreak of Cholera in Muang district during the trainee attending the course. The manager of Activity IV, the lecturers with the assistance of PCMO has demonstrated how to practically manage the situation in the epidemiological point of view to the trainee, which gave an excellent result.

2. The family folder of inhabitants, operating maps, numbers of population etc. concerning the selected model areas will be completely prepared very soon by PCMO.

4.4 Activity IV

The second training course has been held on 6-17 March, 1978 at Prapokklao conference room, Chanthaburi.

Trainees : 1 Public health personnels 36
 2 MLT 3

Duration : 2 weeks

Training : divided into 2 parts

1. Theory 1 week
 - Lecture
 - Discussion among the trainers and the trainees
2. Practice 1 week

2.1 Trainees were divided into 4 groups, each group practised in the area of cholera

- Plabhla village
- Chantanimit village
- Chantanimit village (other side of the river)
- Salang village

Trainees worked efficiently according to epidemiology and surveillance system

- seeking the contacts, inquiring and examining the disease

- disinfected the patient's belongings and in the close area
 - doing rectal swab from every person in the patient's house and in the close area. Sending stool specimens to the laboratory.
 - collecting food and water specimens from the patient's house and from the close area. Sending them to the laboratory.
 - giving medicine, documents and basic health education.
 - following up the result from the laboratory.
 - repeating working at the same place to make sure that we could stop spreading of the disease.
- 2.2 Every trainee was assigned to do rectal swab correctly for 5 cases in 2 days, so each trainee could do 10 cases.
- 2.3 Trainees practised in the field area
- Tagad-ngao village
 - Bor village
- 2.4 Hospital observation tours are provided when the trainees send their patients to be treated in the hospital.

N.B. Training personnels changed the schedule at once when they had heard there was cholera in Chanthaburi. They integrated theory and practice together because it was better to demonstrate epidemiology in the reas situation.

Training personnels accompanied with the trainees everytime they went to practise to demonstrate and suggest the correct and efficient working.

Evaluation :

1. Trainees were content in the training program and they would like to have further training program.
2. Trainees gained much knowledge of epidemiology and surveillance system. If there are some epidemics in there are some epidemics in their villages, they realize what they should do.
3. Trainees knew the net work of epidemiology and surveillance system, they were willing to co-operate with this project.

Problems and constraints :

1. Some health centers are very far, the road is in bed condition. Public health workers cannot send the specimens everyday because it is difficult to go to the laboratory and they have much routine work.
2. Lack of public health workers. There is only one health worker in some health center. He cannot leave

the health center vacant to send the specimens.

Suggestions :

1. PCMO should supply mobile health education unit to arouse the people and motivate their interest in epidemiology.
2. Let the hospital personnels attend the training, for the understanding of the working situation in the rural area.

4.5 Activity V

4.5.1 Operational Research in Virology

Virology laboratory has been established since 1978 in Prapokklao Hospital where blood antibody titer for arbovirus is being measured by haemagglutination inhibition test as a routine work.

Blood specimens from people in the same age groups were examined both in pre-epidemic and post-epidemic seasons. In studying of transmission rate of arbovirus, it is necessary to have a data from a closed co-operation studies of the DME concerning mosquito density, adulticide and larvicide applications, and etc.

The followings are the detailed studies of VRI and DME:-

Table 1. Arbovirus transmission rates and mosquito densities in different areas in Chanthaburi, 1977.

Tambol	No. tested	% dengue infection	% chik infection	mosquito per man hr. A/B/C ^{**}
Municipality*	33	9.4	9.4	6.5/1.0/6.2
Nongbua*	52	13.5	0	ND/ND/ND
Bangkaja*	16	31.2	0	7.3/1.8/8.4
Makharm	91	8.8	4.4	8.2/ND/ND
Nong-Ohr	59	2.0	1.2	ND/ND/ND
Nongchim	40	37.5	7.5	12.9/ND/12.8
Plui	100	14.0	8.0	7.1/ND/ND

* Malathion ULV treatment

** by DME

A : Before treatment

B : 1-2 days after treatment

C : Two months after treatment

Table 2. Transmission rates of arbovirus in non-treated areas in Chanthaburi, 1977.

Age years	No. tested	% dengue infection			% chik infection		
		sero conv.	4-fold titer rise	Total	sero conv.	4-fold titer rise	Total
< 1- 4	86	15.1	5.8	20.9	7.0	0	7.0
5- 9	95	7.4	11.6	18.9	9.5	1.0	10.5
10-14	32	15.6	0	15.6	3.1	3.1	6.2
15-24	50	8.0	2.0	10.0	6.0	0	6.0
25-34	15	6.7	6.7	13.3	6.7	0	6.7
> 35-44	12	0	8.3	8.3	0	0	0
Total	290	10.3	6.6	16.9	6.9	0.7	7.6

Table 3. Transmission rates of arbovirus in treated areas in Chanthaburi, 1977.

Age years	No. tested	% dengue infection			% chik infection		
		sero conv.	4-fold titer rise	Total	sero conv.	4-fold titer rise	Total
1-4	58	10.3	5.2	15.5	5.2	1.7	6.9
5-9	23	4.3	4.3	8.7	0	0	0
10-14	16	6.2	6.2	12.4	0	0	0
15-24	5	0	20.0	20.0	0	0	0
25-34	10	10.0	10.0	20.0	10.0	0	10.0
35-44	9	0	11.1	11.1	0	0	0
Total	121	7.4	6.6	14.0	3.3	0.8	4.1

Table 4. Number of *Aedes Aegypti* landing collection in Chanthaburi during August to October 1977.*

Location (Tambol)	Malathion ULV treatment	before treatment	day after treatment	2 months after treatment
		Total (Female/Male)	Total (Female/Male)	(Female/Male)
Municipality	Yes	6.5 (3.8/2.7)	1.0 (0.4/0.6)	6.2 (2.8/3.4)
Nongbua	Yes	ND	ND	ND
Bangkaja	Yes	7.3 (3.0/4.3)	1.8 (0.8/1.0)	8.4 (4.1/4.3)
Nongchim	No	12.9 (5.7/7.2)	ND	12.8 (5.4/7.4)
Plui	No	7.1 (3.8/3.3)	ND	ND
Makharm	No	8.2 (3.5/4.7)	ND	ND
Nong-Ohr	No	ND	ND	ND

ND : Not done

* From the Report of months September - October 1977,
Division of Medical Entomology.

Table 5. RESULTS OF AEDES LANDING COLLECTION. (DME)

Date	Landing rate (No / man-hour)			
	Female	Male	Total	
6-6-77	9.0	6.6	15.6	NONG-CHIM
7-6-77	5.8	6.4	12.2	PLEW
8-6-77	8.1	6.8	14.4	BANGACHA
9-6-77	9.6	6.1	15.7	MAKHAM
10-6-77	7.2	5.7	12.9	MUENG

Table 6. Details of Treatment in 12 Location of Chanthaburi Province. (DME)

Location	Total Treated Area ha.	No. of houses	Population	Amount of Insecticides Used for Machine (ml.)		Total Insecticide used ml.	Amount of insecticides used/house	Application Rate ml/ha	AI gm/ha
				LECO HD	MARUYAMA				
Chanthaburi *									
Municipality	91.28	2,500	17,500	15,250	-	15,250	6.1	167.1	133.7
Thamai **	37.125	1,134	8,550	5,000	3,035	8,035	7.1	216.4	173.1
Ban Kacha **	14.13	219	1,227	1,875	850	2,725	12.4	192.9	154.3
Ban Tab sai	-	156	1,007	1,550	3,000	4,550	29.2	-	-
Ban-Pa-Tong	-	635	7,158	3,200	3,426	6,626	10.4	-	-
Ban-Ta-Mun	-	150	1,350	3,020	1,050	4,070	27.1	-	-
Ban-No-Yai-arm	-	96	470	1,690	1,590	3,280	34.2	-	-
Laem-sing	40.75	623	2,279	2,060	6,980	9,040	14.5	221.8	177.5
Kao-Perid	6.5	191	1,600	1,590	-	1,590	8.3	244.6	195.7
Ban-Nong-Bua	-	105	1,080	-	3,180	3,180	30.3	-	-
Ban-Nuay-Sa-Ton	10.25***	170	1,100	1,840	790	2,630	15.5	256.6	250.3
Ban-Nong-Kla	-	210	1,150	3,630	1,400	5,030	23.9	-	-
12 Locations	-	6,189	44,471	40,705	25,301	66,006	10.7	-	-

* Area Treated with Abate and Sumithion ULV

** Evaluated area (before and after treatment)

*** Vietnam Village behind KAO-PERID (PERID ISLAND)

4.5.2 Analysis on causative agents of GI diseases in the model area

One Japanese expert on bacteriology is expected to start his duty at PHL, Chanthaburi from May 1978. He will assist the present staffs in improving activities at bacteriology section. The target at the end of 1978 of 1,000 fecal specimen examination per month was settled at the last executive committee meeting held on 7 March 1978.

Incidentally the recent outbreak of cholera in Chanthaburi province forced the present staffs in PHL and health officers to examine large number of specimens bacteriologically. And this outbreak gave a good opportunity to the trainees of midwives and sanitarians to practice how to collect specimen and to carry them to the laboratory.

4.5.3 Operational research on community participation in health promotion

Three field tambols have already been selected by the provincial chief medical officer for this research. Those tambols are as follows ;

1. Tambol Takad Ngao, Thamai District
2. Tambol Bo, Klung District
3. Tambol Saikao, Pong Namron District

Those tambols were selected because of the characteristic feature of disease pattern seen in each tambol. Activities in health centres of those selected tambols are excellent. In those health centres the family folder of inhabitants has already been nearly completed.

According to the policy which is going to be operated in this research. The Thai and Japanese authorities agreed that the connection between health officials in amphur, tambon levels and the health communicators should be improved and strengthened first and the health volunteers can be set up later, which is a little altered from the policy of the Ministry of Public Health which has been adopted. The permission has been asked to the Under-secretary of State for Public Health by the Project authorities. This research can be run according to the Project's policy in three tambons mentioned above only after the official permission has been given by the Ministry of Public Health.

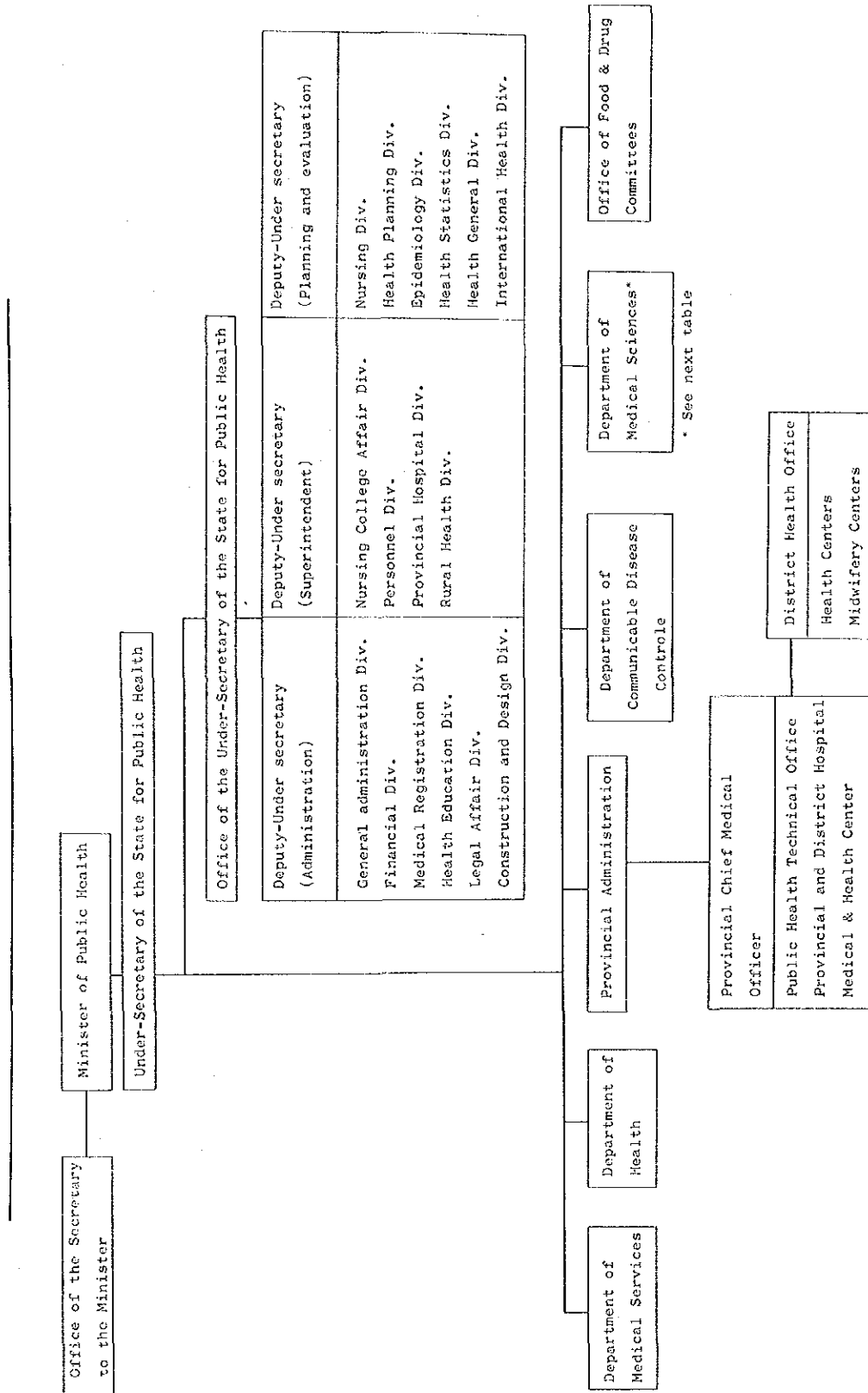
March 31, 1978

Soichi Kumaoka, M.D.
Japanese Expert Team Leader

Sutas Guptarak, M.D.
Project Director

III-9 公衆衛生省機構圖

Organization of the Ministry of Public Health



III - 10 Department of Medical Science (医科学局) に於ける職務分担

- i) Office of the Secretary
- ii) Division of Medical Entomology
1966年設置。Vector biology 特に Aedes, Culex 蚊族の研究を実施する。
- iii) Division of Provincial Health Laboratory Services
Medical Laboratory Assistant (MLA), Medical Laboratory Technologist の教育および地方衛生検査室 (PHL) の統括指導を行なう。
- iv) Division of Radiation Protection Service
医用X線に関する許可業務, 障害予防指導, 機材の規格点検等を行なう。
- v) Division of Clinical Pathology
細菌学, 血液学, 血清学, 寄生虫学, 真菌学における研究および調査を実施する。
- vi) Division of Toxicology
毒物検査, 鉱山労働者の中毒調査, 化粧品等の含有毒物検査。
- vii) Division of Drug Analysis
薬品含有量の検査, Office of Food & Drug Committee からの調査依頼にかかる薬物の検査を担当する。又麻薬類の検査も行なう。
- viii) Division of Food and Beverage Analysis
食品, 水に関する細菌学的検査, 化学的検査, 食品添加物検査, 輸出食品の品質検査および証明, 許可等を担当する。
残留農薬の検出をも実施。
- ix) Division of Medical Research
タイ国産薬用植物に関する調査研究, 薬用植物の育成, 利用法の研究をも行なう。
- x) Virus Research Institute
1963年設置。ウイルス学に於ける基礎的および応用的研究, 全国を対象とするウイルス学的検査を担当する。WHO の Regional Influenza Center および Serum Bank としての任務をもっている。

III - 11 PRIVILEGES ACCORDED TO FOREIGN EXPERTS

On Official Programs of Technical and Economic
Cooperation with the Government of Thailand

Department of Technical and Economic Cooperation
Ministry of National Development

Bangkok, Thailand

April, 1967

FOREWORD

As a result of the increasing interest in programs of technical and economic cooperation with Thailand shown by many foreign governments and by almost all Departments of the Government of Thailand, a growing number of foreign experts and technicians have come to Thailand to assist the Government in the process of accelerated development. To ensure that foreign experts and technicians are given every facility in carrying out their task, the Government has taken steps to accord suitable privileges and exemptions to these experts in recognition of the importance of the services they provide to Thailand.

Agreements have been concluded with many foreign governments to define the status of foreign experts and to provide the legal basis for appropriate exemptions, particularly in respect of customs duties and taxes. A special committee has been set up to lay down a framework for privileges which can be offered unilaterally by the Government, notably in respect of tax reimbursements for those experts who would not legally be entitled to exemptions. In addition funds have been set aside to provide for various expenses which may be incurred in connection with the experts' assignments.

As a result of the various bilateral agreement, laws and regulations a wide range of facilities can now be offered to foreign experts working in Thailand. But misunderstandings and confusion have sometimes arisen as to the correct application of privileges and exemptions. I have felt, therefore, that there was a need for a handbook which would explain the facilities which we are able to accord to experts provided by different governments and organizations. The staff of the Department of Technical and Economic Cooperation has now compiled this handbook as a guide to the working rules as present followed in interpreting the relevant bilateral agreements, laws and regulations.

It is possible that some errors may have persisted despite all our efforts to secure the most accurate possible statement of the working rules to be observed. We should welcome any comments or observations which might lead to subsequent corrections or to greater clarity in presentation.

We hope that publication of this handbook will be of value to foreign experts and technicians for whose convenience the privileges and exemptions are provided. We hope also that it may be useful to other governments and organizations who may consider sending technical staff to Thailand in the future as part of a program of technical cooperation. Finally, I hope that the publication of this handbook may contribute ultimately to the revision of regulations and agreements to secure greater uniformity which help to avoid misunderstandings of any kind.

Bunchana Atthakor

(Bunchana Atthakor)

Director-General

Department of Technical and Economic
Cooperation.

April 27, 1967

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PRIVILEGES ACCORDED TO FOREIGN EXPERTS ON
OFFICIAL PROGRAMS OF TECHNICAL AND
ECONOMIC COOPERATION WITH THE GOVERNMENT OF THAILAND

The privileges detailed in the following sections are applicable to all foreign experts except those provided under U.S. Government or U.N. programs, for whom separate provisions apply. The privileges are classified in five sections:

1. Immigration privileges
2. Allowances and reimbursable expenses
3. Tax and duty exemptions
4. Tax and duty reimbursements
5. Legal obligations

Privileges under sections 1 and 2 are applicable to all foreign experts alike. The privileges under sections 3 and 4 are dependent on the existence and the provisions of bilateral agreements or project agreements concerning programs of technical and economic cooperation between the foreign government or agency and the Government of Thailand. In the following sections the term 'project agreement' refers only to those formal agreements in which tax and duty privileges for experts under the project have been agreed by the governments concerned.

A. GENERAL PRIVILEGES

SECTION 1 IMMIGRATION PRIVILEGES

1.1 Exemption from visa and immigration fees and from alien registration

When the expert first arrives in Thailand a temporary residence permit must be obtained from the immigration authorities. A re-entry visa or multiple re-entry visa will be required if the expert temporarily leaves Thailand at any time during his assignment. The expert is exempted from the payment of fees for such visas and permits and is not required to hold an alien registration certificate. These rules apply equally to the wife and children of the expert.

Upon request DTEC will assist in obtaining residence permits and re-entry visas. If desired DTEC will also provide an identification card for the expert for the duration of his assignment. The necessary forms and details of these facilities are available on written request from DTEC Colombo Plan or Third Countries Divisions.

SECTION 2 ALLOWANCES AND REIMBURSABLE EXPENSES

All allowances and reimbursements of expenses are paid through DTEC Finance Division. Tickets or receipts for payments will be required by DTEC Finance Division in order to secure reimbursements. Payment will be made by cheque after sufficient time has elapsed for the formalities involved in the authorisation of the payment. The name of the person who will

collect the cheque should always be notified to DTEC Finance Division.

2.1 Accommodation

If free accommodation is not provided to the expert by the Government, the following reimbursements for actual expenses are payable:

- (a) assignments of not more than six months duration; up to a maximum of 200 baht per day in Bangkok and 100 baht per day in other parts of the country, on provision of receipts for actual payments.
- (b) assignments of more than six months duration; house rent up to a maximum of 4,000 baht per month in Bangkok and 2,000 baht per month in other parts of the country. A signed copy of the contract to rent the house must be deposited with DTEC Finance Division. Reimbursement will be arranged when the receipt for house rent (with stamp duty affixed at the rate of 50 satang per 100 baht) has been received by DTFC. Tax at the rate of 10 or 30 satang per 100 baht (depending on the legal status of the owner) will be deducted from the reimbursement and a certificate of tax payment will be attached. This tax should be recovered from the person to whom rent has been paid, on production of the certificate.

2.2 Allowance for travel on official duties

The following expenses will be reimbursed for official travel away from the post to which the expert is assigned:

- (a) Living allowance of not more than 100 baht per day (no receipts necessary)
- (b) Actual cost of hotel accommodation up to a maximum of 200 baht per day in Bangkok and 100 baht per day in other parts of the country. Receipts for actual payment are required.
- (c) Actual cost of travel, on production of tickets or receipts. The expert should travel by scheduled passenger services (bus, train or boat) wherever possible, and may travel first class in the case of classified passenger service. For travel by special hire service, the approval of the Department to which the expert is attached, or of the Governor of the province concerned (as circumstances permit) must be obtained.

An application for reimbursement of expenses incurred on official travel must be accompanied by the standard form detailing the journey performed and indicating the approval of the Department to which the expert is attached.

2.3 Allowances for transport

If a car is required for the performance of official duties, the following expenses are reimbursable upon provision of receipts:

- (a) Fuel and lubrication oils purchased from any Armed Forces

Service Station, not exceeding 600 baht in one month.

- (b) Repair and maintenance costs incurred as the direct result of official duties. If repair and maintenance costs are in excess of 1,000 baht, the approval of the Department to which the expert is attached will be required.

For vehicles supplied by the Thai Government, the wages of one driver, at the rate 450-600 baht per month, are reimbursable subject in each individual case to the approval of the Ministry of Finance.

2.4 Medical expenses

Expenses for medical treatment (but not including dental treatment) for the expert (but not his family or dependents) will be reimbursed up to a maximum of 2,000 baht per year upon provision of receipts.

2.5 Internal travel and accomodation on first arrival

The following expenses will be reimbursed after the expert's first arrival:

- (a) Actual cost of travel, on production of tickets or receipts, for the expert and his wife and children from the point of entry to the post to which he is assigned.
- (b) Actual cost of hotel accomodation, up to a maximum of 200 baht per day in Bangkok and 100 baht per day in other parts of the country, until the expert moves into permanent residence and in any case for a period not exceeding six months from the date of first arrival. Receipts for actual payments are required.

SECTION 3 TAX AND DUTY EXEMPTIONS

The tax and duty exemptions to which an expert may be entitled depend on the provisions of a bilateral or project agreement. Those exemptions to which an expert is entitled are indicated in part C.

Upon request DTEC Tax Clearance Division will assist the expert in securing tax and duty clearance from the Customs and Revenue Departments in respect of imported goods and effects. The expert himself will be responsible for collection of the goods and effects from the Port of Bangkok and for payment of any incidental charges. He is strongly recommended to engage the services of a transport firm or of one of the people at the Port of Bangkok who are specialised in the task and will be able to guide him through the formalities involved. The tax Clearance Division has a list of such people and firms whom the expert may hire. Clearance from the Customs and Revenue Department must be obtained before collection of the goods from the Port.

Exemptions of customs duty on durable imported goods and effects (including a motor-vehicle) are conditional upon subsequent reexport of the goods and effects prior to the expert's final departure. The expert should confirm the export or disposal of the goods and effects with DTEC

Tax Clearance Division as soon as possible and not less than fifteen days before his final departure. In the case of sale or transfer within Thailand to any person not entitled to the relevant exemptions, the goods and effects will be subject to the customs duties and taxes prescribed by law. The expert must inform DTEC Tax Clearance Division of such sale or transfer as soon as possible and not later than twenty days after the sale or transfer. The expert (and not the recipient or purchaser) is legally responsible for the payment of duties and taxes.

SECTION 4 TAX AND DUTY REIMBURSEMENTS

The tax and duty reimbursements to which an expert may be entitled depend on the existence and the provisions of a bilateral or project agreement. Those reimbursements to which an expert is entitled are indicated in part C.

The expert is himself responsible for the payment of taxes and duties for which he will be entitled to reimbursement. The relevant tax receipts, copies of invoices and import entry forms should be forwarded to DTEC Tax Clearance Division through the Department to which he is attached. The name of the person who is to collect the cheque for reimbursement should be given. The cheque will be issued through DTEC Finance Division after clearance and authorisation of the payment.

Reimbursement of taxes and duties on imported consumable goods at the prescribed rates will be granted pro rata within each fiscal year (1 October to 30 September). Reimbursements may be granted retrospectively in the new fiscal year for taxes and duties paid during the previous fiscal year. But unused privileges in one fiscal year (i.e. the balance of undisbursed funds) will not be carried forward for the reimbursement of taxes and duties paid in the subsequent fiscal year.

Reimbursement of customs duty on durable imported goods (e.g. motor-vehicles) is conditional upon the subsequent re-export of the goods prior to the expert's final departure. The expert should confirm the export or disposal of the goods and effects with DTEC Tax Clearance Division as soon as possible and not less than fifteen days before his final departure. In the case of sale or transfer within Thailand to any person not entitled to the relevant exemptions, the goods and effects will be subject to the prescribed customs duties and taxes. The expert must inform DTEC Tax Clearance Division of such sale or transfer as soon as possible and not more than twenty days after the date of sale or transfer. The expert (and not the recipient or purchaser) is legally responsible for the payment of duties and taxes.

SECTION 5 LEGAL OBLIGATIONS

Some obligations with which experts are requested or required by law to conform are listed below.

5.1 Vehicle and driving licenses

Experts are not exempt from taxes and fees relating to vehicle and driving licenses issued by the Police Department. The license for a

personal motor-vehicle must be obtained immediately after import, and must be renewed at the beginning of each calendar year. A driving license should be obtained on the expert's first arrival and renewed each year upon expiry. The expert should take care to inform himself of traffic laws and regulations, and is strongly advised to arrange insurance for a personal motor-vehicle. Upon request DTEC will assist in obtaining vehicle licenses.

5.2 Licenses for firearms

Licenses must be obtained from the Police Department for the import and possession of firearms. Taxes and fees must be paid by the expert. Upon request DTEC will assist in obtaining licenses.

5.3 Leave

The expert will be free on Saturdays, Sundays and official holidays. Other leave should be taken in accordance with rules and regulations prescribed by the supplying government or organization. The approval of the Government organization to which the expert is attached should normally be requested before leave is taken.

5.4 Completion of Assignment

Before departure on completion of assignment the expert must inform DTEC about the disposal of imported durable goods (including motor-vehicle) or firearms (see sections 3 & 4).

B. SUMMARY OF SPECIAL PRIVILEGES (see part C).

LIST OF PRIVILEGES WHICH MAY BE GRANTED UNDER SECTION 3

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert or his dependents on the date of, and imported within six months after, the expert's first arrival in Thailand.
- 3.2 Exemption from customs duties on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within eighteen months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and a second vehicle may be imported exempt from customs duties.
- 3.3 Exemption from customs duties on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within six months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and a second vehicle may be imported exempt

from customs duties.

- 3.4 Exemption from income taxes on salaries, allowances and earnings drawn from the expert's own country.

LIST OF PRIVILEGES WHICH MAY BE GRANTED UNDER SECTION SECTION 4

- 4.1 Reimbursement of duties and taxes on spirits, cigarettes, beverages and foodstuffs imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 14,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.
- 4.2 Reimbursement of duties and taxes on spirits, cigarettes, beverages, foodstuffs and medicaments imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 24,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from PX or Commissary.
- 4.3 Reimbursement of customs duties payable on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within six months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and reimbursement claimed on a second imported vehicle.
- 4.4 Reimbursement of income taxes on salaries, allowances and earnings drawn from the expert's own country. The expert must submit an income tax return to the Revenue Department by February 28 each year. DTEC Tax Clearance Division can assist the expert in paying and securing reimbursement of the income tax.

C. APPLICATION OF SPECIAL PRIVILEGES

Colombo Plan (with covering agreement)

SCHEDULE OF PRIVILEGES UNDER SECTIONS 3 & 4 accorded to experts under the Colombo Plan who are covered by a bitateral agreement or project agreement.

For general conditions governing these privileges see notes under Section 3 and Section 4.

Item

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert

or his dependents on the date of and imported within six months after, the expert's first arrival in Thailand.

- 3.3 Exemption from customs duties on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within six months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and a second vehicle may be imported exempt from customs duties.
- 3.4 Exemption from income taxes on salaries, allowances and earnings drawn from the expert's own country.
- 4.1 Reimbursement of duties and taxes on spirits, cigarettes, beverages and foodstuffs imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 14,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.

Colombo Plan (no covering agreement)

SCHEDULE OF PRIVILEGES UNDER SECTIONS 3 & 4 accorded to experts under the Colombo Plan who are not covered by a bilateral agreement or project agreement.

For general conditions governing these privileges see notes under Section 3 and Section 4.

Item

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert or his dependents on the date of, and imported within six months after, the expert's first arrival in Thailand.
- 3.4 Exemption from income taxes on salaries, allowances and earnings drawn from the expert's own country.
- 4.1 Reimbursement of duties and taxes on spirits, cigarettes, beverages and foodstuffs imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 14,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.
- 4.3 Reimbursement of customs duties payable on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within six months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock

held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and reimbursement claimed on a second imported vehicle.

Federal Republic of Germany

SCHEDULE OF PRIVILEGES UNDER SECTIONS 3 & 4 accorded to experts covered by the bilateral and project agreements with the Federal Republic of Germany.

For general conditions governing these privileges see notes under Section 3 and Section 4.

Item

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert or his dependents on the date of, and imported within six months after, the expert's first arrival in Thailand.
- 3.2 Exemption from customs duties on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within eighteen months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and a second vehicle may be imported exempt from customs duties.
- 3.4 Exemption from income taxes on salaries, allowances and earnings drawn from the expert's own country.
- 4.2 Reimbursement of duties and taxes on spirits, cigarettes, beverages, foodstuffs and medicaments imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 24,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.

Other Governments (with covering agreement)

SCHEDULE OF PRIVILEGES UNDER SECTIONS 3 & 4 accorded to experts outside the Colombo Plan on an inter-government program who are covered by a bilateral agreement or a project agreement (but excluding experts from the Federal Republic of Germany).

For general conditions governing these privileges see notes under Section 3 and Section 4.

Item

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert or his dependents on the date of and imported within six months after,

the expert's first arrival in Thailand.

- 3.3 Exemption from customs duties on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within six months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and a second vehicle may be imported exempt from customs duties.
- 3.4 Exemption from income taxes on salaries, allowances and earnings drawn from the expert's own country.
- 4.1 Reimbursement of duties and taxes on spirits, cigarettes, beverages and foodstuffs imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 14,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.

Other Governments (no covering agreement)

SCHEDULE OF PRIVILEGES UNDER SECTIONS 3 & 4 accorded to experts outside the Colombo Plan on an into government program who are not covered by a bilateral agreement or a project agreement.

For general conditions governing these privileges see notes under Section 3 and Section 4.

Item

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert or his dependents on the date of, and imported within six months after, the expert's first arrival in Thailand.
- 3.4 Exemption from income taxes on salaries, allowances and earnings drawn from the expert's own country.
- 4.1 Reimbursement of duties and taxes on spirits, cigarettes, beverages and foodstuffs imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 14,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.

Ford Foundation and Rockefeller Foundation

SCHEDULE OF PRIVILEGES UNDER SECTION 3 & 4 accorded to experts from the Ford Foundation and the Rockefeller Foundation.

For general conditions governing these privileges see notes under

Section 3 and Section 4.

Item

- 3.1 Exemption from customs duties on personal and household effects (not including a motor-vehicle) which were in the possession of the expert or his dependents on the date of, and imported within six months after, the expert's first arrival in Thailand.
- 4.2 Reimbursement of duties and taxes on spirits, cigarettes, beverages, foodstuffs and medicaments imported by the expert for personal consumption. The reimbursement of duties and taxes is limited to a maximum rate of 24,000 baht per year. Experts who are entitled to these benefits should not be given similar benefits in other forms, such as the right to purchase spirits, cigarettes and consumable goods from the PX or Commissary.
- 4.3 Reimbursement of customs duties payable on the import of one motor-vehicle for the personal use of the expert in connection with his assignment and imported within six months after his first arrival in Thailand. Exemption or reimbursement will not be granted in the case of purchase of a motor-vehicle from previously imported stock held by an importer. After four years from the date of import the vehicle may be disposed of (subject to the conditions relating to transfer or resale within Thailand) and reimbursement claimed on a second imported vehicle.
- 4.4 Reimbursement of income taxes on salaries, allowances and earnings drawn from the expert's own country. The expert must submit an income tax return to the Revenue Department by February 28 each year. DTEC Tax Clearance Division can assist the expert in paying and securing reimbursement of the income tax.

