

6. タイ側評価

6.1 調査方法：タイ側の意見を求めるために、プロジェクト関係各部長及び主任研究者に予め評価表を配布してコメントを求めた（表 6.5-1～7 参照）。12名のスタッフから回答があり、NIH側の考え方を窺うことができた。さらに各委員がタイ側スタッフと面接して意見を求めた。合同評価会議ではあまりタイ側の意見が述べられなかったが、Coordinating Committee 及び Steering Committee では、今後の運営について建設的な討議が交わされた。一方、タイ側でも独自に評価資料 Summary of Activities（別添資料 1）を作成した。その内容の概要を 6.4 に紹介した。

6.2 調査団が収集したタイ側意見

表 6.5-1～7 及び各室訪問調査の意見の要約を述べる。

1) NIHの施設及び機材の量と質については概ね満足している（表 6.5：5～4 の評点が多い）。ただし、ある時期に専門家の携行機材が遅れて業務に支障をきたしたという意見が多かった。（最近では改善された）。これは一方タイ側の通関手続きにも問題があった。NIHの活動が活潑になるにつれて若干の繁用機材が不足してきた。また、整備が遅れている室がある（細菌免疫室、マイコプラズマ室、病理関係）。タイ側の研究予算が少ないために、後期にも日本の機材供与に対する期待が大きい。これらの諸問題が、機材あるいは management の項に③という評価として現われたと考えられる。日本に対する不満というより、今後に対する不安から実情を訴え協力を希望する雰囲気を感じられた。しかし人によっては過大な機材供与を期待することもあった。

2) 日本専門家の貢献は概して良好と評価されている（④多い）が、滞在期間が短く、カウンターパートと一緒に仕事をするに不十分であるという批判が多かった。また、研究指導をして欲しいという要望も強い。これらの諸点が③という評価に示されたと考えられる。期間については、多忙な第一線の研究者を長期派遣することはほとんど不可能で止むを得なかった。しかし、専門家の優秀な指導力と、派遣前後の連絡などで期間に拘らず能率的な貢献が行われたと考えられる。この問題には、タイ側の人手不足とか、時間のやりくり、あるいはスタッフの自主的な応用研究に対する積極性なども関係するので、両国関係者の理解と努力により、時の流れとともに改善されると期待している。

研究指導の要請はタイスタッフの研究意欲の高揚を示すもので、むしろ歓迎すべき意見である。しかし、論文完了まですべてについて手をとって指導することは難かしい。通信などにより指導することも可能であろう。一方、タイスタッフの自主的努力を期待して今後の「研究促進」を目指してプロジェクトを進めたい。しかし、近代的研究推進についての彼等の不安を汲みとることも必要であろう。研究テーマ、専門家の選定に慎

重なる配慮が必要であろう。

生物学的製剤専門家は、双方の準備の関係などで遅れたので評価が低い、やがて改善されるであろう。

また、専門家がある時期に集中して、カウンターパートが対応し切れない例もあった。これはmanagementの評価に影響を与えたと考えられる。これは忙しい日本専門家の時期調整が難しいので止むを得なかった。しかし、一方ではNIH所長の評にも示されているようにタイ側の人材不足（協力対象の範囲に比較して）という問題も関係している。この点も相互に理解し合って処理しなければならないであろう。

- 3) 研修生について：一部において研修生増員要望がある。また、日本あるいは外国で研修を終了したものについては、学問の進歩に応じ、あるいは有能なスタッフの強化養成という意味からも短期間（2-3ヶ月）再研修の要望が多い。そのさいに、1年1人という枠を短期2-3名に代えて欲しいという意見が多い。日本側でも考慮すべき問題である（NIH所長Dr. Boonluanの意見参照（表6.5-1））。また、短期間の管理職の研修生を別枠で考慮して欲しいという要請もあった。このことは、表敬訪問のさいに、医科学局長からも要望された。

6.3 Steering Committee及びCoordinating Committeeにおける意見

Steering CommitteeにおけるDr. Vasiの研究計画の具体性及研究運営に対する意見（客観的評価の必要性）には傾聴すべきものがある。

また、Coordinating Committeeにおいては、今後の協力範囲を環境問題にまで拡大して欲しいというタイ側の意見があった。また、第三国研修について要望があり討議が交わされた。これらの事項についてはそれぞれの議事録要約（資料篇6及び8）を参照された。

6.4 タイ側評価試料の概要

タイ側では“Summary of Activities”を作成した。つぎにその概要を述べるが、詳細については別添資料1を参照されたい。

6.4.1 プロジェクトの目標：NIHに つぎの機能を期待する。

- (1) サーベイランスシステムの強化
- (2) 病因論的研究及び疫学研究に分子生物学的技術を導入し、かつ診断用キットなどを製作すること。
- (3) 生物学的製剤の開発
- (4) 免疫学的・疫学的サーベイランス及びワクチンなどの野外研究実施。また、病原体媒介昆虫のサーベイランスとその制圧方法に関する野外研究実施。

(5) 共同利用部門の設置

(6) 国内及国際的研修，ならびに病原体の同定に関するリファレンス機関としてのサービス

6.4.2 プロジェクト実施計画と運営（省略）

6.4.3 プロジェクトの成果（I）研究部門における成果

6.4.3.1 診断技術の改良等

(1) 診断用キット類の作製。つぎの各種キットを作製した：HBs抗原検出用RPHAキット，風疹抗体検索用HIキット，デング熱抗体検索用キット，HIV感染検索用キット，Digoxin RIAキット，甲状腺ホルモン診断用キット（T₃RIAキット，T₄RIAキット）。

これらのキットは国内検査施設の診断能力向上に寄与した。なお，HIV感染については，NIHは蛍光抗体法およびウエスタンブロット法などの特異的検査法のすぐれた技術を習得した。

(2) 各種生物学的製剤の作製

狂犬病抗原検索用抗血清（ウサギ），デング1型ウイルスのモノクロナール抗体，デング1型抗原，真菌症診断用抗原及び抗体，蛍光抗体法用アスペルギルス抗体，病原大腸菌分類用抗血清，サルモネラ多価H抗体，各種ワクチン及抗毒素製剤検定用国内標準品（標準百日咳ワクチン，標準ジフテリア抗毒素，標準破傷風抗毒素，標準腸チフス抗体）

(3) 診断技術の改良・開発

(i) ロタウイルス診断用double stranded RNA electropherotyping

(ii) 毒素産生コレラ菌検索用RPLA法の開発

(iv) グラム陰性糖非分解菌の脂肪酸分析法（ガスクロマト法）

(v) 毒素産生及び侵襲型大腸菌の診断にDNAハイブリダイゼーションを利用。この方法は日常の検査に使われている。

(vi) マイコプラズマ研究室の設置

6.4.3.2 基礎研究

(1) タイ北部で分離された日本脳炎ウイルスのフィンガープリント法による遺伝学的相違に関する研究

(2) バンコクで分離されたブタインフルエンザウイルスの遺伝学的解析

(3) 類鼻疽菌とその病原性の研究

6.4.3.3 ワクチン開発

(1) 日本脳炎ワクチン：GPOとの協力で国産ワクチン開発に成功し，野外試験の結果

によりワクチンの優秀性が証明された。

- (2) 風疹ワクチン：(財)阪大微研観音寺研究所の協力により，GPOと共同で開発研究中である。ウイルス培養に必要なSPドズラの飼育を完了し，シードロットシステムを作る準備ができた。
- (3) 百日咳コンポーネントワクチン：(財)阪大微研観音寺研究所の協力により，培養及び抗原精製条件を検討中である。
- (4) 組織培養狂犬病ワクチン：化学及血清療法研究所の協力により原液製造が進行中である。1990年中頃には人体用試作品が完成する予定である。

6.4.3.4 感染症の疫学的研究

- (1) 北部タイにおける日本脳炎抗体保有状況調査
- (2) タイ婦人及び小児の人ヘルペスウイルス6型(HHV-6)に対する抗体保有状況調査
- (3) 散発的急性肝炎の疫学的調査
- (4) ブドウ球菌，チフス菌及びパラチフスA型菌のファージ型分布の調査
- (5) タイ国内において分離された赤痢菌，サルモネラ及び大腸菌の血清型に関する研究

6.4.3.5 National Reference System

- (1) つぎの新技术導入により臨床微生物学分野におけるNIHのリファレンス機能が増強され，国内各施設に協力できるようになった。

ガスクロマト法による脂肪酸同定法，グラム陰性非醱酵菌の同定に非RI-DNAハイブリダイゼーション法利用，毒素産生及び侵襲型大腸菌同定にDNA-ハイブリダイゼーション法の利用，ファージ型別法など。

- (2) 標準試薬，標準抗原及び標準抗体などを多種作成して，国内試験・検査機関に配布している。
- (3) 研究者及び技術者の訓練：ワークショップその他の訓練コースにより，新技术の普及に努力した。

6.4.3.6 医昆虫学部門の活動

- (1) 主要研究事項：日本脳炎媒介蚊防除法，Aedes及びCulexに対するBti-H-14及びBs 2362の効果の研究，家ダニの調査研究，ライシュマニア症媒介における砂バエの役割の研究，地域住民によるAedes制圧方法の研究，蚊におけるJEウイルス感染状況の研究（注：以上主に日本専門家の指導による研究）
- (2) Reference Museum：日本専門家の協力により，5000種の昆虫を採集した。これはタイ国内に生息する昆虫類の60%に相当する。
- (3) デング熱及び日本脳炎媒介蚊のサーベイランス

6.4.3.7 食品分析、薬品分析及環境衛生分野における研究（省略）

6.4.4 プロジェクトの成果（II）共同利用施設の活動

次の施設が新に設置された。

実験動物センター

P₃-ラボラトリー

R I ラボラトリー

これらの施設は他の研究部門に協力するとともに、それぞれ独自の研究も実施している。内容の詳細については、調査団の調査結果（5.2.6）及び添付資料1（24頁より41頁）を参照されたい。

6.4.5 中堅技術者訓練コース及び外国研修生の訓練（省略）

調査団の調査結果（5.2.9）及び添付資料1（43頁～46頁）を参照されたい。

6.4.5 タイ側評価資料のまとめ

以上、タイ側作成資料では、診断技術の改良・開発、診断用キット類及び試薬類の製造、ワクチン開発、疫学研究、リファレンスシステムの強化などを高く評価しているが、基礎研究に関する記載は少ない。基礎研究の各テーマの完了は短期ではできないものであるから止むを得ない。一方研究の進行状況についての記載も少ないが、これは年報、Progress Reportに報告されている。研究業績の詳細については、本報告の4.4及び5.2.8を参照されたい。

6.5 その他

委員が各室を訪問したさいに、帰国した研修生及び専門家のカウンターパートから、コメントあるいは要望があったので、以下その要約を述べる。評価表（表6.5-1～7）の意見も追加した。

1) ウイルス部門

研修生 Mrs. Kruavon, Mrs. Yaowapa は帰国後も成果をあげている。Miss Wanpen, Ms. Sanit は日本で習ったことが生かせない状況（または、生かせないことを習った）。由井専門家のカウンターパート Miss Pranee は、専門家の帰ったあと培養液、モノクロナール抗体がなく RS ウイルスの分離・同定ができないといっている。

評価表より：短期間の再研修希望；長期的に協力できる若い有能な専門家を要望；論文の指導できるベテランを希望；常用機材不足の訴え（例免疫室）

2) 細菌部門

研究指導者要望（Mrs. Surang）；

プラスミドパターン分析にまだ専門家の指導必要（Mrs. Aroon）；

疫学的研究指導の専門家を要望 (Ms. Krongkaew) ;

高度技術習得のため再研修要望 (Miss Nuanchawee) ;

病理関係機材不足 (Miss. Natheewan) ; 新設された細菌免疫部門の機材は著るしく不足 (Mrs. Pimjai) ; 繁用される機材不足 (Miss Aroon) ; 特殊試薬例えば制限酵素など不足 (Miss Nuanchawee) ; マイコプラズマ室の整備不良 (Miss Rapawadee)

3) 生物製剤部門

1-1 日脳ワクチンは生産規模が拡大して来ている。(Dr. Nadhirat 談)

1-2 百日咳コンポーネントワクチンと風疹ワクチンについての速やかな専門家の派遣が必要である (Dr. Nadhirat, Mr. Kanchana, Mr. Prayuth, Ms. Malinee)

1-3 狂犬病ワクチンの精製に必要な機材が十分揃っていない。(Mrs. Kanchana)

4) 医昆虫部門

日本で研修を受けた技術は費用がかかりタイでは実用に適しない (Mr. Anusorn) ; 医昆虫部門の研修生割当は少ない (Mr. Prakong, 部長)

5) 動物センター

微生物学的モニタリングに必要な抗原, 抗体の作製習得のために専門家及び研修員派遣必要 (Dr. Tanawat, 主任)

6) 科学機器センター

(1) 構造設備と理科学機器の運用, 維持, 修繕に関する技術の研修が必要である (Mr. Chusak)

(2) 保有機器の部品の調達が現地では困難な事がある。(Mr. Chusak)

7) RI ラボラトリー

日本で研修を修了した Ms. Noppawan は研修に満足している。室長 Miss Wiya da は専門家の派遣及協力不十分であると批判している。

6.6 タイ側評価のまとめ

以上, タイ側は施設や機材には非常に満足しており, その他についても全般的には概ね良好と評価している。③^{*}という評価については, 日泰の考え方の相違もあるが, 日本側で再検討して欲しい点もある。たとえば, 再研修問題, 繁用機材や特殊試薬の供与, 整備遅れている新設室に対する機材供与。新設室は研究発展に伴い必要性が増大したものである。その他の点については, 後述の「課題」等 (7章) を参照されたい。

※ EVALUATION SHEET 中の 5 段階評価の 3 を示す。

Table 6.5-1 EVALUATION SHEET

DATE: 21 Dec. 1989

Please check the following items and give us your comment on the National Institute of Health Project.

You involved to the Project

not involved

Your profession: Doctor (Professional division: Director of The Project NIH) Medical Technician Scientist Others

Achievement: 5-very good, 4-good, 3-fair, 2-not enough, 1-poor

	ACHIEVEMENT	COMMENT
1. Project management Japanese side Thai side	5 ④ 3 2 1 5 ④ 3 2 1	Japanese side: Problems on delay of equipment delivery, JICA's paper process. Thai side : Limitation of number of scientific staff due to government process.
2. Japanese experts Term Frequency Contribution on the whole	5 ④ 3 2 1 5 ④ 3 2 1 5 ④ 3 2 1	Term : Appropriate, Those who stay long term should have co-operative project with Thai staff. Frequency :-Good, many in number however, senior & experience experts could not stay long it is good to solve the problem by having young experts to work with Thai staff. Contribution :-Most of them are very good.
3. Training in Japan Term Frequency Achievement	5 ④ 3 2 1 5 4 ③ 2 1 5 ④ 3 2 1	Term :-Appropriate Frequency :-fair, we have 5 or 6 fellowships each year, fellowships for administrators should be separated. Director of each division should have a chance to have at least one month orientation in the similar institutions in Japan so that they would support & understand the coordination among divisions. Achievement :-most of them achieved because when they are back they could apply the technologies in their work.
4. Institute facility Building Laboratory	5 ④ 3 2 1 ⑤ 4 3 2 1	Building :-Defect on the air condition system. Laboratory :-excellent
5. Donated Materials Equipment	⑤ 4 3 2 1 5 ④ 3 2 1	Materials :-very good Equipment :-in good condition & useful but delay delivery.
6. Project as a whole	5 ④ 3 2 1	Achieved to the target in promoting basic research & transferring routine diagnosing laboratory activities to provincial levels.
7. Need for future cooperation	Yes	To promote the researches which are not completed.
8. Other comments		To provide short term fellowships for Thai counterparts to further study or to brush up their knowledge in dept.

Table 6.5-2 EVALUATION SHEET

DATE: 15 Dec. 1989

Please check the following items and give us your comment on the National Institute of Health Project.

You are involved to the Project
 not involved

Your profession Doctor (Professional division: Immunology, Mrs. Kruavon (P3 Biohazard Lab.)) Medical Technician Scientist Other

Achievement: 5-very good, 4-good, 3-fair, 2-not enough, 1-poor

	ACHIEVEMENT	COMMENT
1. Project management Japanese side Thai side	5 ④ 3 2 1 5 4 ③ 2 1	- Most of projects are discussed only among high level staffs but not in middle or lower level staffs so not all people are involved. At the first step, Before project start, all scientists in each division should have discussion, decision and setting up the projects together. So projects can be done in the good manner.
2. Japanese experts Term Frequency Contribution on the whole	5 4 3 ② 1 5 4 ③ 2 1 5 4 ③ 2 1	- It is the most importance to select the experts directly related to the request from Thai side. The experts should stay as the same period as scientists request. From the consideration, young experts are active and can stay longer time so they are suitable to set up or transfer the technique or do research together with Thai scientists. In the same time, older experts who have very good knowledge and experience are necessary for consultation and discussion to make the guideline and solve the problems but can stay very short time. Therefore, the selection of experts should depend on the requirement of each project.
3. Training in Japan Term Frequency Achievement	5 ④ 3 2 1 5 4 ③ 2 1 5 4 ③ 2 1	- In the future, short term for training should be proposed for scientists who need more knowledge or new technique to continue or approve their research works. The application forms should be open for all scientists and the committee can make the decision later. This may be good way for scientists to conduct their works after training because they have to propose their objective and planning before going to Japan.
4. Institute facility Building Laboratory	⑤ 4 3 2 1 5 4 ③ 2 1	- It is quite good but it is still lack of central equipment that people can use at that place and any time.
5. Donated Materials Equipment	5 ④ 3 2 1 5 ④ 3 2 1	- Materials and equipment are supplied in much amounts. But we are lack of arranging in central lab for molecular study work.
6. Project as a whole	5 ④ 3 2 1	
7. Need for future cooperation		Yes, for 3 years. But not in general, it should be for special projects such as vaccine projects, molecular study of viral and bacterial injection and some more subjects that are not started.
8. Other comments		NIH has started research activity. It will be beneficial if the research promotion project can be extended for a few years. During doing research works, most scientists are lack of consultation. It will be good if Japanese side can arrange consultation-team for advice, discussion and solving our problems.

Table 6.5-3 EVALUATION SHEET

DATE:

Please check the following items and give us your comment on the National Institute of Health Project

You are involved to the Project

not involved

Your profession Doctor (Professional division: Medical Entomology, Mr. Prakong Medical Technician Scientist Others

Achievement: 5-very good, 4-good, 3-fare, 2-not enough, 1-poor

	ACHIEVEMENT	COMMENT
1. Project management		
Japanese side	5 ④ 3 2 1	In vector surveillance and control should receive more support.
Thai side	5 ④ 3 2 1	
2. Japanese experts		All of Japanese experts that have worked in our division are very helpful.
Term	5 ④ 3 2 1	
Frequency	5 4 ③ 2 1	
Contribution on the whole	5 ④ 3 2 1	
3. Training in Japan		Number of fellowship is not enough for entomologist.
Term	5 ④ 3 2 1	
Frequency	5 4 3 ② 1	
Achievement	5 ④ 3 2 1	
4. Institute facility		
uilding	⑤ 4 3 2 1	
Laboratory	5 4 3 2 1	
5. Donated		
Materials	5 4 ③ 2 1	
Equipment	5 4 ③ 2 1	
6. Project as a whole	5 ④ 3 2 1	
7. Need for future cooperation		Future cooperation is needed in research work and experience share.
8. Other comments		

Table 6.5-4 EVALUATION SHEET

DATE: Dec. 18, 1989

Please check the following items and give us your comment on the National Institute of Health Project

You are involved to the Project

- not involved

Your profession Doctor (Professional division: P3-Laboratory, Dr. Mattana) Medical Technician Scientist Others

Achievement: 5-very good, 4-good, 3-fair, 2-not enough, 1-poor

	ACHIEVEMENT	COMMENT
1. Project management Japanese side Thai side	5 ④ 3 2 1 5 4 ③ 2 1	
2. Japanese experts Term Frequency Contribution on the whole	5 ④ 3 2 1 5 ④ 3 2 1 5 ④ 3 2 1	Japanese experts who visited Immunology Lab. and Biohazard Lab were qualified and contributed the achievement of the project.
3. Training in Japan Term Frequency Achievement	5 4 ③ 2 1 5 4 3 ② 1 5 4 3 ② 1	Term of training should be 2-3 months period and emphasize on specific topic or technique that necessary for research project.
4. Institute facility Building Laboratory	5 ④ 3 2 1 5 4 3 2 1	Some equipments which came with the building are out of order and the staff can not repair it because of no circuit details.
5. Donated Materials Equipment	5 ④ 3 2 1 5 4 ③ 2 1	Very good.
6. Project as a whole	5 ④ 3 2 1	As a whole, the achievement of the project could be estimated as 75%.
7. Need for future cooperation		The extension of the cooperation should be emphasized on specific research project.
8. Other comments		

Table 6.5-5 Evaluation Sheet

Achievement and Comment (Clinical Pathology)

Achievement: 5-very good, 4-good, 3-fair, 2-not enough, 1-poor

Profession	Division Chief (Dr. Damrong)	Scientist 1 (Mrs. Surang)	Scientist 2 (Ms. Krongkaew)
1. Project management			
Japanese side	5 ④ 3 2 1	3	4
Thai side	5 4 3 2 1		4
2. Japanese experts			
Term	5 ④ 3 2 1	4	4
Frequency	5 ④ 3 2 1	4	4
Contribution on the whole	5 ④ 3 2 1	3	4
3. Training in Japan			
Term	5 ④ 3 2 1	4	3
Frequency	5 ④ 3 2 1	4	3
Achievement	5 ④ 3 2 1	4	3
4. Institute facility			
Building	⑤ 4 3 2 1	4	5
Laboratory	⑤ 4 3 2 1		5
5. Donated			
Materials	⑤ 4 3 2 1	4	5
Equipment	⑤ 4 3 2 1	4	5
6. Project as a whole	5 ④ 3 2 1	3	4
7. Need for future cooperation and other comment	Div. Chief : 細菌学, 真菌学, 臨床生化学の短期専門家必要, 専門家はタイ科学者を訓練する分野を正確に認識すること。 Scientist 2: 全国的にレファレンス網を強化し得るような研究協力要望 Scientist 1: 専門家, 研修生, 機材増加		

Table 6.5-6 Evaluation Sheet

Achievement and Comment

Achievement: 5-very good, 4-good, 3-fare, 2-not enough, 1-poor

Profession or Division	Animal C. (Dr. Tanawat)	Scientific equipment C. (Mr. Chusack)	Biological Product (Mrs. Kanchana)
1. Project management			
Japanese side	5 (4) 3 2 1	5	4
Thai side	5 (4) 3 2 1	4	4
2. Japanese experts			(JE Vac) (Rabies Vac)
Term	5 (4) 3 2 1	4	5 4
Frequency	5 4 (3) 2 1	4	5 3
Contribution on the whole	5 4 (3) 2 1	4	5 1
3. Training in Japan			
Term	5 (4) 3 2 1	5	4
Frequency	5 4 (3) 2 1	4	4
Achievement	5 (4) 3 2 1	4	4
4. Institute facility			
Building	5 (4) 3 2 1	4	5
Laboratory	5 4 3 2 1		
5. Donated			
Materials	5 (4) 3 2 1	4	5
Equipment	5 (4) 3 2 1	4	5
6. Project as a whole	5 (4) 3 2 1	4	4
7. Need for future cooperation and other comment	Sci. Equip C: 1. 機材及び施設の取扱い, 維持, 修理に関する特殊訓練要望。 2. 機材及び施設の部品必要。 Biolog. Prod: 百日咳及び風疹ワクチン専門家を度々要請したが応答なし。狂犬病ワクチン専門家来泰時機材不足。		

Table 6.5-7 Evaluation Sheet

Achievement and Comment

Achievement: 5-very good, 4-good, 3-fair, 2-not enough, 1-poor

	RI-Lab. (Miss Wiyada)	Enterovirus (Mrs. Yaowapa)
1. Project management		
Japanese side	5 4 ③ 2 1	5 ④ 3 2 1
Thai side	5 4 3 2 1	5 ④ 3 2 1
2. Japanese experts		
Term	5 4 ③ 2 1	5 ④ 3 2 1
Frequency	5 4 3 ② 1	5 4 ③ 2 1
Contribution on the whole	5 4 3 ② 1	5 ④ 3 2 1
3. Training in Japan		
Term	5 4 ③ 2 1	5 ④ 3 2 1
Frequency	5 4 ③ 2 1	5 4 ③ 2 1
Achievement	5 4 ③ 2 1	5 4 ③ 2 1
4. Institute facility		
Building	5 ④ 3 2 1	5 ④ 3 2 1
5. Donated		
Materials	5 4 ③ 2 1	5 4 ③ 2 1
Equipment	5 4 ③ 2 1	5 4 ③ 2 1
6. Project as a whole	5 4 ③ 2 1	5 4 ③ 2 1
7. Need for future cooperation and other comments	<p>RI-Lab Comment : 長期専門家は業務開始に当って適切な計画が必要で、さもなければ十分な成果が得られない。</p> <p>Enterovirus Comment : 研究を指導して、国際に掲載されるような論文の書き方を指導できるベテラン専門家を要望する。</p>	

7. プロジェクトの課題と今後の対策

自然科学には国境はないが、文化を異にする民族間の協力では、時々問題が起こることも止むを得ない。しかし、本プロジェクトは、両国の関係者の努力で、むしろ問題が少なく順調に進行している例であると認められる。将来のためにいつかの課題を述べる。各部門に特殊な点についてはそれぞれの項で触れたので、ここには全般的な点を取りあげる。

なお、本章に関連してプロジェクトリーダーの意見(資料11)を参照されたい。

1) 日本専門家の滞在期間が短いという批判が多い。一流の研究者の多忙な日程を考慮すると止むを得ない。しかし、派遣専門家は極めて有能で、指導力も優れているので、期間に拘らず大きい貢献を果たすと認められる。タイ側でも派遣前後の連絡などで派遣期間を有効に利用するよう努力してきた。

2) プロジェクトに係わる分野は広いので、これに対応するタイ側の人材が少ない。

このことは、今後技術移転から研究促進に発展するさいの不安材料となりかねない。今後は医学的に重要な面から評価し、必要性の高いものに人材を投入すべきであろう。

3) 来日した研修生や専門家のカウンターパートは熱心に新技術の習得に努力した。今後この能力を生かすような配慮が望ましい。しかし、研究室を訪問すると今後の研究発展に(機材及び研究指導に関連して)不安を感じていることが窺われた。

4) 技術移転が順調に進展した結果次第に研究意欲が芽生え研究指導(論文の作成も含め)の要望が高まってきた。

5) NIH各部門間の共同研究を推進する雰囲気望ましい。

6) 習得した技術を周辺に波及伝達すること及び機材の相互利用に一層の努力が必要であろう。

7) 有能な人材を育てるために再研修が必要である。研修生の配分とか研修期間などの検討が望ましい。

8) 研究促進には長期に亘る協力が必要で、至急適切な対策の検討が望まれる。

9) プロジェクトの後期になって、重要性が認められた分野に対して機材の追加補給が必要であろう。

10) NIHは付属病院をもつことが望ましい。

11) 第三国研修、国内研修のために、NIHは宿泊施設をもつことが望ましい。

すでに述べたように、基本的技術の移転は能率よく進行した。今後は本プロジェクトの看板である「研究促進」の目的達成に向って発展させなければならない。NIHの将来は、帰国した研修生や専門家のカウンターパートが、習得した技術をどこまで自家薬籠中のものとして、研究やレファレンス活動に活用できるかということにかかっている。即ちタイスタッフの自主的活動に待たなければならない。日本側としてできることは、合同評価で示唆された方針に従い、タイ国で重要な感染症に係わるテーマを(あまり多数でなく)選び、共同研

究のモデルとして研究活動を推進することであろう。このような体験を通じ共に学び共に行動するなかで研究計画の立案あるいはデータの整理、論文の作成など、タイスタッフの要望する問題点も自然に修得されるものである。

また、近い将来において、共同研究にタイ国内大学の研究者を加えることが、NIHの研究促進に役立つであろうと考えられる。

研究というものは、本来限度がないという点で、期間の制約あるプロジェクトとはそぐわない点もあるかも知れないが、長期的展望のもとに研究協力し、人的交流を計ることが、日本のためにも必要であろう。そのためには、プロジェクト終了後の協力の在り方なども再検討することが望ましい。施設や機材は老化しやがて朽ち果てるが、友情に結ばれた研究交流の成果は世代を越えて残るものである。

8. お わ り に

このプロジェクトは、派遣専門家と研修生を受入れ機関に恵まれ順調に運営されてきた。本プロジェクトに協力下された日本の各大学、研究機関及び国内あるいは現地にて懇切な指導に当てられた研究者各位に深甚なる謝意を捧げる。また、プロジェクトの運営に緻密な計画を樹て、タイ側との調整あるいは専門家相互の交友及び協力に献身的に尽力された金井チームリーダーに心より敬意と謝意を捧げる。チームリーダーと共に多数の専門家とタイ側の円滑な交流に努力された中島調整員に深謝する。

また、多くの困難を乗り越え、このプロジェクトの順調な運営に努力された歴代の医科学局長及びNIH担当医科学局副局長 Dr. Boonluan, ならびに日本専門家のカウンターパートの尽力と温い友情に深謝する。

資 料 編

資料 1

R D 及びマスタープランに伴う計画

1. 討議議事録 (R/D)

THE RECORD OF DISCUSSIONS
BETWEEN THE JAPANESE IMPLEMENTATION SURVEY TEAM AND THE AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE KINGDOM OF THAILAND ON THE JAPANESE TECHNICAL COOPERATION
FOR THE RESEARCH PROMOTION PROJECT IN THE NATIONAL INSTITUTE OF HEALTH

The Japanese Implementation Survey Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Ryosuke Murata visited Thailand from April 14, 1985 to April 23, 1985 for the purpose of working out the details of the technical cooperation program concerning the Research Promotion Project in the National Institute of Health (hereinafter referred to as "NIH") in Thailand.

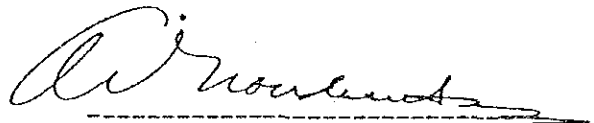
During its stay in Thailand, the Team exchanged views and had a series of discussions with the Thai authorities concerned in respect of the desirable measures to be taken by both Governments for the successful implementation of the above mentioned Project.

As a result of the discussions, both parties, taking account of the provisions of THE AGREEMENT ON TECHNICAL COOPERATION BETWEEN THE GOVERNMENT OF JAPAN AND THE GOVERNMENT OF THE KINGDOM OF THAILAND, signed in Tokyo on November 5, 1981, agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Bangkok, April 18 , 1985



Dr. Ryosuke Murata
Leader
Japanese Implementation Survey Team
JICA, Japan



Dr. Amorn Nondasuta
Permanent Secretary
Ministry of Public Health
The Kingdom of Thailand



Mr. Apilas Osatananda
Director General
Department of Technical and Economic Cooperation
The Kingdom of Thailand

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Japan and the Government of the Kingdom of Thailand will cooperate with each other in implementing the Research Promotion Project in NIH (hereinafter referred to as "the Project") for the purpose of promoting the medical science research to control infectious diseases prevailing in Thailand at NIH which is being built by the grant-aid program of the Government of Japan.

2. The Project will be implemented in accordance with the Master Plan which is given in Annex I.

II. DISPATCH OF JAPANESE EXPERTS

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide, at its own expense, services of the Japanese experts as listed in Annex II through the normal procedures under the Agreement on Technical Cooperation between the Government of Japan and the Government of the Kingdom of Thailand.

2. The Japanese experts referred to in 1 above and their families will be granted in the Kingdom of Thailand the privileges, exemptions and benefits in accordance with the Agreement on Technical Cooperation between the Government of Japan and the Government of the Kingdom of Thailand.

III. PROVISIONS OF MACHINERY AND EQUIPMENT

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to provide at its own expense such machinery, equipment and other materials necessary for the implementation of the Project as listed in Annex III through the normal procedures under the Agreement on Technical Cooperation between the Government of Japan and the Government of the Kingdom of Thailand.

2. The articles referred to in 1. above will become the property of the Government of the Kingdom of Thailand upon being delivered c.i.f. to the Thai authorities concerned at the ports and/or airports of disembarkation, and will be utilized exclusively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.

IV. TRAINING OF THAI PERSONNEL IN JAPAN

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Thai personnel connected with the Project for technical training in Japan through the normal procedures under the Agreement on Technical Cooperation between the Government of Japan and the Government of the Kingdom of Thailand.

2. The Government of the Kingdom of Thailand will take necessary measures

to ensure that the knowledge and experience acquired by the Thai personnel from technical training in Japan will be utilized effectively for the implementation of the Project.

V. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE KINGDOM OF THAILAND

1. In accordance with the laws and regulations in force in the Kingdom of Thailand, the Government of the Kingdom of Thailand will take necessary measures to provide at its own expense:

- (1) Services of the Thai counterpart personnel and administrative personnel as listed in Annex IV;
- (2) Land, buildings and facilities as listed in Annex V;
- (3) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than those provided through JICA under III above;
- (4) Transportation facilities and travel allowance for the official travel of the Japanese experts within the Kingdom of Thailand;
- (5) Suitably furnished accommodations for the Japanese experts and their families.

2. In accordance with the laws and regulations in force in the Kingdom of Thailand, the Government of the Kingdom of Thailand will take necessary measures to meet:

- (1) Expenses necessary for the transportation, within the Kingdom of Thailand, of the articles referred to in III above as well as for the installation, operation and maintenance thereof;
- (2) Customs duties, internal taxes and any other charges, imposed in the Kingdom of Thailand on the articles referred to in III above;
- (3) All running expenses necessary for the implementation of the Project.

VI. ADMINISTRATION OF THE PROJECT

1. The Permanent Secretary of the Ministry of Public Health will bear overall responsibility for the implementation of the Project.

2. The Director-General, Department of Medical Sciences (hereinafter referred to as "DMS"), Ministry of Public Health, will be responsible for the administrative and operational matters of the Project. One of the Deputy Director-General of DMS will be appointed as the Director of NIH.

3. The Japanese Team Leader will provide necessary recommendation and advise to the Director-General of DMS, Ministry of Public Health, on technical and administrative matters concerning the implementation of the Project and assume the responsibility of the control of the Japanese experts.

4. The Japanese experts will provide technical guidance and advice to the Thai counterpart personnel in the fields concerned under the Project.

5. For the effective and successful implementation of the Project, a Coordinating Committee and a Steering Committee will be established with the composition and functions as shown in Annex VI.

VII. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Kingdom of Thailand undertakes to bear claims, if any arises, against the Japanese experts engaged in the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Kingdom of Thailand except for those arising from the willful misconduct or gross negligence of the Japanese experts.

VIII. MUTUAL CONSULTATION

There will be mutual consultation between the two Governments on any major issues arising from, or in connection with this Attached Document.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be five (5) years from the 1st of August, 1985. However, there will be a general review by the Coordinating Committee on the progress of the implementation of the Project during the third year of the cooperation period in order to assess whether the term of cooperation should be modified for the successful implementation of the Project.

ANNEX I. MASTER PLAN

1. Objective of the Project

The Project aims at contributing to the promotion of research capabilities at NIH necessary for the prevention and treatment of the infectious diseases prevailing in Thailand.

2. Activities under the Project

- (1) To promote research necessary to control infectious diseases by introduction of new technology.
- (2) To cooperate in the research of developing biological products necessary for the control of the infectious diseases prevailing in Thailand.
- (3) To establish the infrastructure of such facilities commonly for various relevant activities, as an animal experiment center, a scientific instrument center, an RI laboratory and a biohazard laboratory.
- (4) Other activities mutually agreed upon as necessary.

3. Implementation of the Technical Cooperation

The Government of Japan will cooperate with the Government of the Kingdom of Thailand in carrying out the Project through the dispatch of Japanese experts, acceptance of Thai personnel for training in Japan and provision of equipment.

ANNEX II. JAPANESE EXPERTS

1. Team Leader
2. Coordinator/Liaison Officer
3. Bacteriologist
4. Virologist
5. Parasitologist
6. Medical entomologist
7. Immunologist
8. Biochemist
9. Radioisotope technique specialist
10. Expert in Animal experiment
11. Expert in Biological products
12. Expert in Biostatistical Analysis
13. Experts in other fields to be mutually agreed upon as necessary

ANNEX III. LIST OF THE ARTICLES

1. Equipment, reagents and other materials necessary for the research to control infectious diseases.
2. Equipment, reagents and other materials necessary for the research of biological products.
3. Reference books and documents necessary for research activities.
4. Vehicles.
5. Other equipment and materials mutually agreed upon as necessary.

ANNEX IV. LIST OF THAI COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Director-General, DMS
2. Deputy Director-General, DMS (Director, NIH)
3. Deputy Directors, NIH
4. Principal scientists in the fields of:
Virology, Bacteriology, Parasitology, Medical Entomology, Immunology, Biochemistry, RI technique, Animal experiment, Biological products, Statistical analysis, and others mutually agreed upon as necessary.
5. Administrative personnel:
Secretaries
Clerks
Typists
Drivers
Messengers
Watchmen
Other necessary supporting staff
6. Maintenance engineers
7. Other personnel mutually agreed upon as necessary

ANNEX V. LIST OF LAND, BUILDINGS AND FACILITIES

1. Offices and other facilities in DMS, Bangkok necessary for the Japanese Team Leader, Coordinator, and other experts.
2. Offices and other facilities in NIH, Nonthaburi necessary for the Japanese Team Leader, Coordinator, and other experts.
3. Regional Medical Sciences Center.

ANNEX VI. COMPOSITIONS AND FUNCTIONS OF THE COMMITTEES

1. Coordinating Committee

(i) Composition

- 1) Chairman: Permanent Secretary, Ministry of Public Health
- 2) Thai side:
 - a. Director-General, DMS
 - b. Deputy Director-General, DMS (Director of NIH)
 - c. Deputy Directors, NIH
 - d. Principal medical officials, Ministry of Public Health
 - e. A representative of the University Affairs Office
 - f. A representative of the Department of Technical and Economic Cooperation
- 3) Japanese side:
 - a. Team Leader
 - b. Coordinator/Liaison officer
 - c. Other experts and personnel concerned to be dispatched by JICA, if necessary.
 - d. Resident Representative of the Bangkok office, JICA

Note: Officials of the Embassy of Japan may attend the Committee as observers.

(2) FUNCTIONS

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

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

2. Steering Committee

(1) Composition

- 1) Chairman: Director, NIH
- 2) Thai side:
 - a. 2 Deputy Directors, NIH
 - b. 2 Principal scientists, NIH
 - c. 2 Senior scientists, NIH
- 3) Japanese side:
 - a. Team Leader
 - b. Coordinator/Liaison officer
 - c. Other experts and personnel concerned to be dispatched by JICA, if necessary.

Note: If necessary, officials of the Embassy of Japan and Resident Representative of the JICA Bangkok office may attend the Steering Committee as observers.

(2) Functions

The Steering Committee will meet monthly or whenever necessity arises and work:

- 1) To review the overall progress of the implementation in line with the master plan and the policy and recommendations of the Coordinating Committee of the Project.
- 2) To review the measures taken by the Government of Japan, i.e.:
 - a. Dispatch of Japanese experts,
 - b. Acceptance of Thai counterpart personnel in Japan for training,
 - c. Provision of machinery and equipment,
- 3) To review the measures taken by the Government of the Kingdom of Thailand, i.e.:
 - a. Allocation of necessary budgets, (including local cost expenditures)
 - 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 of the Project,
- 5) To recommend to the both Governments, particularly on:
 - a. Appointment of the Thai counterpart personnel,
 - b. Effective utilization of machinery and equipment,
 - c. Appropriate dispatch of Japanese experts,
 - d. Acceptance of Thai counterpart personnel, for training in Japan,
 - e. Other matters mutually agreed upon as necessary.

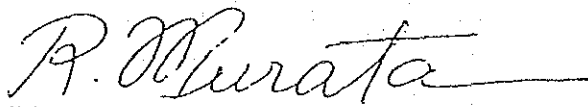
2. Tentative Schedule

TENTATIVE ANNUAL SCHEDULE OF IMPLEMENTATION FOR THE
RESEARCH PROMOTION PROJECT IN THE NATIONAL INSTITUTE OF HEALTH

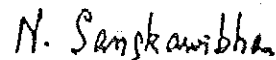
The Japanese Implementation Survey Team and the Thai authorities concerned have jointly formulated the Tentative Annual Schedule of Implementation of the Project as annexed hereto.

These have been formulated in connection with the Attached Document of the Record of Discussion signed between the Japanese Implementation Survey Team and the Thai authorities concerned for the Research Promotion Project in NIH on the condition that necessary budget will be allocated for the implementation of the Project, subject to changes within the framework of the Record of Discussions when necessity arises in the course of implementation of the Project.

Bangkok, April 22 , 1985



Dr. Ryosuke Murata
Leader
Japanese Implementation Survey
Team, JICA, Japan



Dr. Nadhirat Sangkawibha
Director General
Department of Medical Sciences,
Ministry of Public Health
The Kingdom of Thailand

I TENTATIVE ANNUAL SCHEDULE OF IMPLEMENTATION FOR THE RESEARCH PROMOTION PROJECT IN NIH

	1985	1986	1987	1988	1989	1990
NIH CONSTRUCTION						
TECHNICAL COOPERATION						
ACTIVITY 1 RESEARCH						
1) Etiological Study of Infectious Diseases	E ←				→	
2) Molecular Microbiology	E ←			F ↔	→	
3) Medical Entomology	F ←					
4) Others	E ←	E/F ←				
ACTIVITY 2 BIOLOGICAL PRODUCTS						
1) JE Vaccine	E/F ←					
2) Rabies	E/F ←					
3) DPT	E/F ←					
4) Immunoglobulin	E/F ←					
5) Quality Control, Bioassay	E/P ←					
ACTIVITY 3 COMMON FACILITIES						
1) Animal Experiment Center	F ←	E ↔				
2) RI Laboratory		F ↔				
3) Biohazard Laboratory		E ↔				
SUPPLY OF EQUIPMENT						

NOTE: The Government of the Kingdom of Thailand is requested to assign the personnel trained in Japan to the Project until the completion of the Project.

E = Japanese Expert

F = Fellowship

----- Time and duration will be fixed later

II. List of experts requested for fiscal year 1985/86

Field	Number	Period
Team Leader	1	1 year
Coordinator/Liaison officer	1	5 years
Bacteriologist	1	1 month
	1	3 months
Expert in biostatistical analysis	1	3 months
Biochemist	1	3 months
Immunochemist (Radioimmunoassay)	1	1 month
Expert in biological product (JE, rabies)	2	3 months(each)

III. List of experts requested for fiscal year 1986/87

Field	Number	Period
Team leader	1	4 years
Expert in animal experiment	4	2-4 months(each)
Expert in mycotoxin	1	3 months
Expert in Radioisotope technique	1	3-6 months
Entomologist	1	3-6 months
Expert in biological product	2	3 months(each)

IV. LIST OF FELLOWSHIPS REQUESTED FOR FISCAL YEAR 1985/86 AND 1986/87

Field	Number	Period
Administration and research promotion	1	3 weeks
Health research planning and management	1	3 months
Genetic study in bacteriology	1	18 months
Genetic study in virology	1	18 months
Immunology in relation to infectious diseases	1	12 months
Immunochemistry	1	12 months
Animal care	1	12 months
Radioisotope technique	1	12 months
Experimental pathology	1	12 months
Bioassay and method development for new biological products	1	12 months
Biochemistry of toxic substances	1	12 months
Research and development of biological control of mosquitoes	1	12 months
Parasitology--invitro cultivation of parasites and test of efficacy of medicinal plants	1	12 months

V. FUTURE PLAN OF ACTIVITIES FOR TECHNICAL COOPERATION

1. Application of monoclonal antibody and oligonucleotide fingerprinting technique in the study of epidemiology of infectious diseases.
2. Epidemiological and etiological studies of gastrointestinal and respiratory (bacteria) infections by the application of new taxonomical method such as DNA-DNA hybridization etc.
3. Study of mode of infection and immunity concerning pathogenicity in term of molecular biology in some bacterial diseases eg. those caused by gram negative bacilli and anaerobic bacteria.
4. Research on new biological products:
 - 1) Development of new vaccines: JE, rabies and rotavirus vaccines,
 - 2) Improvement of pertussis vaccine,
 - 3) Research on live typhoid and cholera vaccines.
5. Research on toxicity and therapeutic evaluation of new antimicrobial drugs and drug resistance of microorganisms and parasites including genetic study.
6. Research and development of biological control of vectors such as mosquitoes.
7. Study on effects of food contaminants on health with special reference to microbial toxins and microorganisms.
8. Research and development of rapid and appropriate diagnosis methods of infectious diseases for using at regional and peripheral laboratories.

9. Application of microbiological method in the study of carcinogenic substances .
10. Study on medicinal plants for using against the infectious diseases and bioassay of some new drugs .

プロジェクト実施計画

実施調査団はタイ国医科学局との協議結果に基づき、技術協力実施計画を作成した。

1. 技術協力の目的

本プロジェクトは、タイ国に蔓延する感染症の予防および治療に必要な研究を向上発展させるために、近代医学の技術を導入して、国立衛生研究所の研究活動を助成することを目的とする。

2. 協力分野と研究課題

2.1 感染症の病因学的研究

消化器系および呼吸器系感染症の研究、日和見感染の研究と新しい細菌分類法の導入、クラミジア、リケッチャおよびマイコプラズマ感染症の研究、微生物および細菌毒素による食中毒症の研究、血清疫学（主としてウイルス性疾患について）感染症診断法の基準化（リファレンス業務として）

2.2 感染症の免疫学的研究

細胞性免疫に関する研究

液体性免疫に関する研究

免疫現象に関連する疾患の研究

2.3 感染症の分子生物学的研究

微生物遺伝学の研究

微生物および寄生虫の薬剤耐性に関する研究

病原性の生化学的研究（とくに細菌毒素について）

分子疫学

微生物を利用する癌原性物質の研究

2.4 医昆虫学の研究

感染症ベクターの生態学的生物学的研究

ベクターの生物学的防除法の研究

2.5 生物学的製剤の改良、開発に関する研究

1) 対象製剤：日本脳炎ワクチン、狂犬病ワクチン、DPTワクチン、ロタウイルスワクチン、免疫グロブリン

2) 生物製剤品質管理法の指導

2.6 その他

2.6 その他

- 1) 生物統計学
- 2) 感染症治療に有効な薬用植物の研究
- 3) その他感染症研究に必要な課題

3. 協力実施要領

前述の目的を果たすために、専門家を派遣し現地における研究指導を行い、日本国内において研修員を訓練し、かつ専門家の現地活動に必要な機材を供与する。

3.1 専門家派遣

1985～1986年については医科学局 Jod-se の施設を利用し得る分野に専門家を派遣する。その人員および期間等は年次別協力実施計画による。

1986年に派遣される動物実験およびRI技術に係わる専門家は、NIHの新建築完了後に現地に到着し、研究室の整備に協力するものとする。

1987年以降の専門家派遣については、タイ国側の要望を調査し、チームリーダーと国内委員会との協議により具体的計画を樹立する。

3.2 日本における研修員の訓練

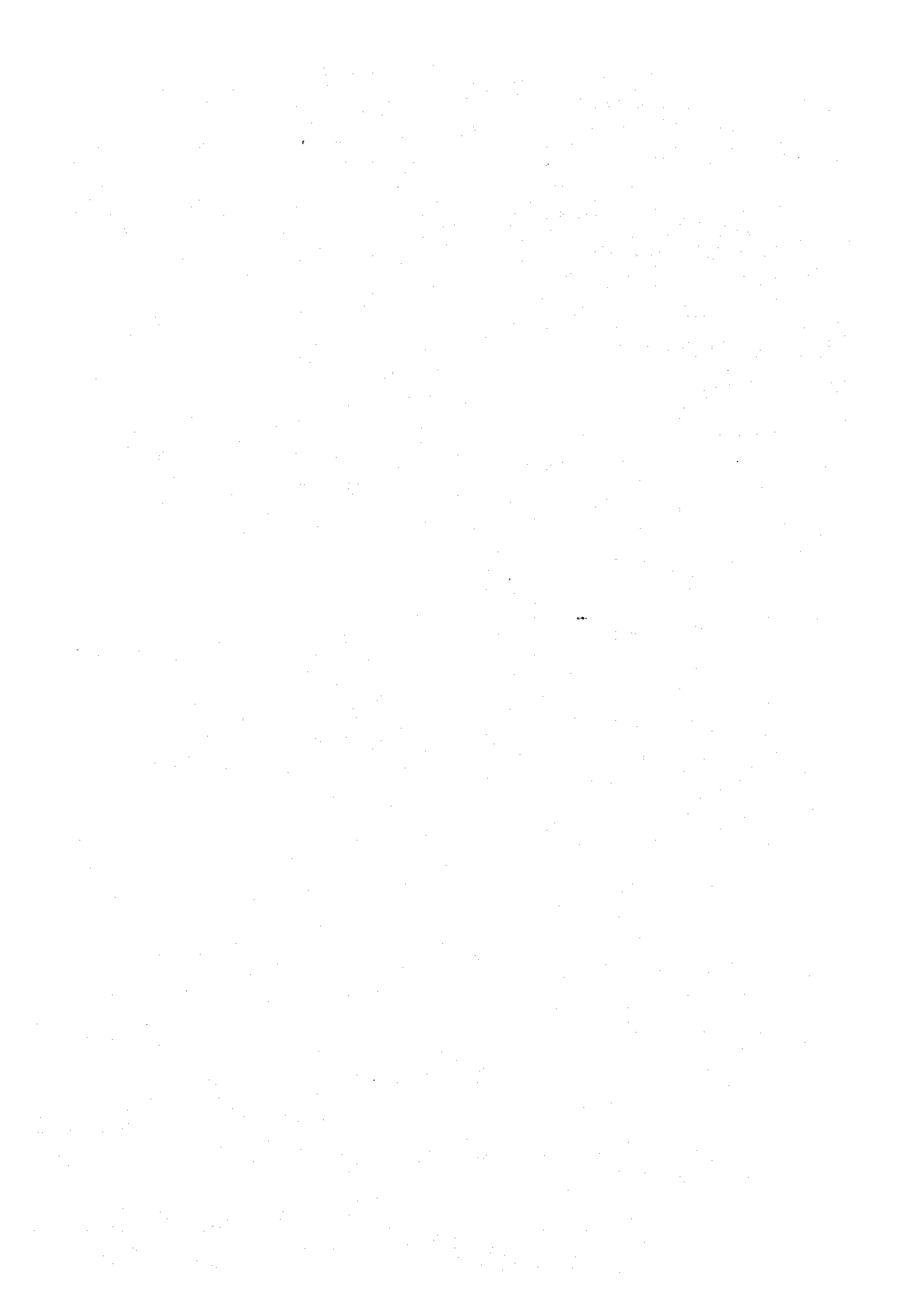
1985～1986年度研修員については、年次別協力実施計画に示す順位により受入れられる。1985年度は5名と内定しているが、本プロジェクトの係わる広汎な範囲とその重要性に鑑み、なるべく多数の研修員を日本において訓練することが望ましい。研修期間は通常12ヶ月と考えられるが、微生物遺伝学の研修員2名については18ヶ月が必要と考えられる。1987年度以降の研修員については、専門家の場合と同じ要領により計画する。

3.3 機材供与

- 1) 専門家の現地指導に必要な機材を供与する。
- 2) 供与機材は無償供与機材および現有機材との過度の重複を避けるように配慮する。
- 3) 派遣すべき専門家が内定した際には、必要機材のリストをなるべく早く作成し、現地調達の可能性を調べることを望ましい。医科学局はこのような調査に協力する準備ができています。

3.4 技術協力計画について

NIHの担当すべき研究分野の技術の進歩は非常に速やかであり、かつ感染症は住民の免疫状態や環境条件の変化に対応して変貌するので、技術協力の運営もまた流動的でなければならない。適切な技術協力を実施するためには、国内委員会とタイ側および現地専門家と緊密な連携のもとに、随時実施計画を検討しなければならない。



資料 2

合 同 評 価 レ ポ ー ト 原 文

JOINT EVALUATION REPORT
ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE RESEARCH PROMOTION PROJECT IN THE NATIONAL INSTITUTE OF HEALTH
IN
THE KINGDOM OF THAILAND

December 22, 1989

Bangkok

The Kingdom of Thailand

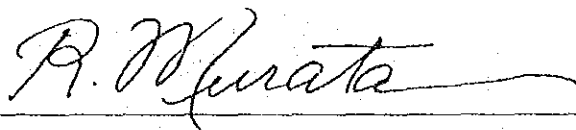
Mutually attested and submitted

to all concerned

December 22, 1989

Bangkok

The Kingdom of Thailand



Dr. Ryosuke Murata
Leader,
Japanese Evaluation Team,
Japan International Cooperation Agency,
Japan



Dr. Preeya Kashemsant
Director General,
Department of Medical Sciences,
Ministry of Public Health,
The Kingdom of Thailand

Discussion meeting between the Evaluation Team of Japan International Cooperation Agency (JICA) and National Institute of Health, Department of Medical Sciences on the evaluation of the Japanese Technical Cooperation for the Research Promotion Project in the National Institute of Health

Date : December 18 - December 22, 1989

Place : National Institute of Health, Department of Medical Sciences, Nonthaburi, The Kingdom of Thailand

Attendance :

JAPANESE PANEL

JAPANESE EVALUATION TEAM

Dr. Ryosuke Murata	Leader
Dr. Sakae Inouye	Member
Dr. Mitsuo Takagi	Member
Dr. Takeo Sasaki	Member

Thailand PANEL

Dr. Preeya Kashemsant	Director General, Department of Medical Sciences, Ministry of Public Health.
Dr. Boonluan Phanthumachinda	Deputy Director General, Department of Medical Sciences, Director of National Institute of Health, Ministry of Public Health
Mr. Vudhisit Viryasiri	Representative from Department of Technical and Economic Cooperation, Office of the Prime Minister
Dr. Nadhirat Sangkawibha	Honorable Consultant of Department of Medical Sciences

I . INTRODUCTION

The Japanese Evaluation Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Ryosuke Murata visited the Kingdom of Thailand from December 18 to December 22, 1989 in order to jointly evaluate with the Thai authorities concerned the past achievements and future prospects of the Japanese Technical Cooperation for the Research Promotion Project in the National Institute of Health (hereinafter referred to as "the Project") on the basis of the Record of Discussions signed on April 18, 1985.

During its stay in the Kingdom of Thailand, the Team discussed and studied together with the Thai counterpart personnel concerned on a number of aspects regarding the progress, performance of commitments and achievements of the Project.

Through careful studies and discussions, both sides summarized their findings and observations as described in the following chapters.

II. METHODOLOGY OF EVALUATION

1. Materials used as reference

In order to evaluate the past performance and achievements both in quantity and in quality, the following materials are used as basis of reference:

- (1) The Record of Discussions
- (2) The Tentative Schedule of Implementation
- (3) The Official requests made by the Government of the Kingdom of Thailand with respect to dispatch of Japanese experts, Thai counterpart personnel training in Japan and provision of equipment by means of Technical Cooperation Forms A-1, A-2, A-3 and A-4, respectively
- (4) The Minutes of Discussions agreed in the course of the implementation of the project
- (5) Annual reports of the project
- (6) Original papers and reviews concerning the project
- (7) Other publications concerning the project

2. Discussion and observation

The Team discussed various aspects of the Project and observed the buildings, machinery, equipment, facilities and utilities made available for the Project.

To recognize the impact and efficiency of the training, discussions were held with counterparts trained in Japan.

III. RESULT OF EVALUATION

1. Facilities

Upon signing of the Record of Discussions on April 18, 1985, the construction of the Institute facilities and installation of equipment which is directly related to the activities of the Project were expected to be completed by the end of October, 1986 by the Japanese Grant Aid Program. Other facilities (including electricity, gas, water, sewerage system, telephone and furniture) necessary for the implementation of the Project were to be provided by the Thai side.

The construction of the Institute was completed and all the necessary facilities were provided in October, 1986. The formal opening ceremony of the NIH was held on April 21, 1987.

(Remarks)

In spite of some difficult conditions, the effort made by the Government of the Kingdom of Thailand for the provision of equipment, offices, laboratories, etc. is highly appreciated.

2. STAFF

Until now, a total of Thai counterpart personnel have been assigned to the Project for the effective implementation and successful transfer of technology.

The list of the Thai counterpart personnel is shown in ANNEX 1.

3. MANAGEMENT AND ADMINISTRATION

All administrative and managerial services are being provided by the Thai counterpart personnel.

The Coordinating Committee which consists of following composition were held at least once a year for smooth implementation of the Project.

Composition

- 1) Chairman: Permanent Secretary, Ministry of Public Health
- 2) Thai side:
 - a. Director-General, DMS
 - b. Deputy Director-General, DMS (Director of NIH)
 - c. Deputy Director, NIH
 - d. Principal medical officials, Ministry of Public Health
 - e. A representative of the University Affairs Office
 - d. A representative of the Department of Technical and Economic Cooperation
- 3) Japanese side
 - a. Team Leader
 - b. Coordinator/Liaison officer
 - c. Other experts and personnel concerned to be dispatched by JICA, if necessary.
 - d. Resident Representative of the Thailand office, JICA

4. JAPANESE EXPERTS

JICA has dispatched five (5) long-term experts and seventy four (74) short-term experts. Their names and specialties covered by them are listed in ANNEX 2.

5. THAI COUNTERPART PERSONNEL TRAINING IN JAPAN

Thirtyone (31) Thai counterpart personnel were sent to Japan for either observation or technical training up to the present. Their names are listed in ANNEX 3.

JICA accepted the Thai counterpart personnel in all fields as agreed in the Record of Discussions.

6. EQUIPMENT

Between 1985 and 1989, the equipment worth about 200,000 thousand yen was donated by the Government of Japan. The main equipment and machinery are listed in ANNEX 4.

(Remarks)

The above mentioned equipment for the Project provided by the Government of Japan has been used efficiently for the activities of the Project. However, it is necessary to provide sufficient spare parts for maintenance and repair of the equipment and machinery which have been sent to the Project.

7. BUDGET

A summary of the Project cost spent by Japanese and Thai sides is shown in ANNEX 5, ANNEX 6 respectively.

(Remarks)

Both sides have made the best effort to secure the budget necessary for the implementation of the Project.

8. SCOPE OF WORK AND ACCOMPLISHMENT

The Project accomplishment based on the Record of Discussions is shown in ANNEX 7 (1) and (2) with the scheduled plans indicated.

The detailed description of accomplishment in each scope of work, Master Plan of the Record of Discussions are given below.

(1) Purpose of the Project

According to the Record of Discussions signed on April 18, 1985, the purpose of the Project is upgrading the level of techniques for laboratory diagnosis and research ability in the fields of infectious diseases in Thailand.

(2) Activities of Japanese Technical Cooperation

In order to accomplish the above-mentioned purpose, the following activities were to be carried out through dispatch of Japanese experts, acceptance of Thai counterpart personnel for technical training in Japan and provision of equipment.

(a) To upgrade the technical levels of diagnosis of infectious diseases by introduction of modern and appropriate technologies.

- (b) To improve the capabilities in research in the fields of infectious diseases and vaccine production according to the national policy.
- (c) To reinforce the activity of the NIH as national reference center and to strengthen Regional Medical Sciences Center as referral centers for infectious diseases.
- (d) To upgrade training of researchers and medical technologists in the fields of infectious diseases.

(Remarks)

In general, most activities of the Project on the Record of Discussions are coming to the stage of their targets.

The Thai side will be able to carry out the above mentioned items 2 (a) and (d). Other items 2 (b) and (c) of the scope of work are not enough to be carried out and it is deemed that JICA's cooperation is still in need in order to attain the project objectives.

IV. CONCLUSION AND RECOMMENDATION

As a result of the joint evaluation work and discussions, both sides reached the following conclusions:

1. In general, most activities of the Project on the Record of Discussions are coming to the stage of their target.
2. In accordance with the above observations, it is deemed that some technical cooperation on following items of the Master Plan of the Record of Discussions should be carried out for two (2) years after July 31, 1990 in order to attain the project objectives.
 - (1) To promote research necessary to control infectious diseases.
 - (2) To cooperate in the research of developing biological products necessary for the control of the infectious diseases prevailing in Thailand.
 - (3) To reinforce the activity of the NIH as national reference center and to strengthen Regional Medical Sciences Center as referral centers for infectious diseases.

(Remarks)

- (1) Japanese mission has much concern to see NIH as a government organization in the near future.
- (2) It is desirable to apply modern technology obtained in this Project to other field of medical sciences in the future.

ANNEX 1

LIST OF THAI COUNTERPART PERSONNEL
(STAFF OF EACH FIELD)

FIELD	NAME	POSITION
1. BACTERIOLOGY		
	Vinita Boriraj	Medical Scientist 8
	Surang Dejsirilert	Medical Scientist 6
	Surachai Tishyadhigama	Medical Scientist 6
	Krongkaew Supawat	Medical Scientist 6
	Natteewan Poonwan	Medical Scientist 6
2. VIROLOGY		
	Chuinrudee Jayavasut	Medical Scientist 8
	Boonsong Pojanagaroon	Medical Scientist 8
	Pranee Thawatsupha	Medical Scientist 7
	Suranga Saguanwongse	Medical Scientist 7
	Suwicha Kupradinun	Medical Scientist 6
	Yaowapa Pongsuwanna	Medical Scientist 6
	Charnchudhi Chanyasanha	Medical Scientist 6
	Porntip Samuthananond	Medical Scientist 6
	Malinee Chittaganpitch	Medical Scientist 4
3. IMMUNOLOGY		
	Wattana Auwanit	Medical Scientist 6
	Kruavon Balachanda	Medical Scientist 5

4. ENTOMOLOGY

Wirat Samutrapong	Medical Scientist 7
Laojana Chowandisai	Medical Scientist 6
Mongkol Chenchittikul	Medical Scientist 6
Nipa Banjaphong	Medical Scientist 6
Usavadee Thavara	Medical Scientist 6
Chitti Chansang	Medical Scientist 5

5. VACCINE PRODUCTION

Sompop Ahandrik	Principal Scientist 9
Kanchana Leelasiri	Medical Scientist 8
Teeranart Jivapaisarnpong	Medical Scientist 6
Prakorb Ruangriratanaroj	Medical Scientist 5

6. COMMON FACILITIES

- Animal Experiment Center

Tanawat Nanthamingcharoen	Medical Scientist 5
---------------------------	---------------------

- RI

Wiyada Charoensiriwatana	Medical Scientist 6
--------------------------	---------------------

- Biohazard

Wattana Auwanit	Medical Scientist 6
-----------------	---------------------

Kruavon Balachanda	Medical Scientist 5
--------------------	---------------------

ANNEX 2

LIST OF JAPANESE EXPERTS DISPATCHED BY JICA

NO.	JAPANESE FISCAL YEAR	NAME	PERIOD	FIELD
(LONG TERM EXPERTS)				
1.	1985 ~ 1990	MR. KOHEI NAKAJIMA	85. 8. 1 ~ 90. 7. 31	COORDINATOR
2.	1985 ~ 1989	DR. MASAMICHI YOSHIDA	85.12.10 ~ 89. 3. 10	VACCINE PRODUCTION (JE)
3.	1987 ~ 1990	DR. KOMI KANAI	87. 4. 20 ~ 90. 7. 31	PROJECT LEADER
4.	1987 ~ 1989	DR. KAZUO TANAKA	87. 8. 7 ~ 89. 1. 6	MEDICAL ENTOMOLOGY
5.	1988 ~ 1989	MR. YASUYUKI YOSHIOKA	88. 6. 7 ~ 89.12.31	VIROLOGY
(SHORT TERM EXPERTS)				
6.	1985 ~ 1986	MRS. KAORU MOMOMURA	85. 9. 5 ~ 85. 9. 26	GENERAL BIOLOGY (RI)
7.		DR. RIICHI SAKAZAKI	85. 9. 5 ~ 85. 9. 30	BACTERIOLOGY
8.		DR. RYOSUKE MURATA	85. 9. 5 ~ 85.10.16	LEADER/ VACCINE CONTROL
9.		DR. TAMOTSU SATO	85.11.20 ~ 86. 2. 19	GENERAL BIOLOGY (BIOCHEMISTRY)
10.		DR. TOSHIO MIWATANI	86. 2. 23 ~ 86. 3. 9	BACTERIOLOGY
11.		DR. TAKESHI HONDA	86. 2. 23 ~ 86. 3. 16	BACTERIOLOGY
12.	1986 ~ 1987	DR. SABUROU IWASA	86. 5. 28 ~ 86. 8. 27	GENERAL BIOLOGY (BIOSTATISTICS)
13.		DR. TATSUO SUZUTA	86. 7. 15 ~ 86. 8. 16	BASIC IMMUNOLOGY
14.		DR. YOSHITO WADA	86. 8. 10 ~ 86. 8. 30	MEDICAL ENTOMOLOGY
15.		DR. YOSHINORI ITO	86. 9. 14 ~ 86.12.13	BACTERIOLOGY (MYCOTOXIN)
16.		DR. MASARO NAKAGAWA	86.12. 1 ~ 87. 1. 31	GENERAL BIOLOGY (ANIMAL CENTER)
17.		DR. KUNIAKI NEROME	86.12. 5 ~ 86.12.26	VIROLOGY
18.		DR. KOICHI YAMANISHI	86.12. 6 ~ 87. 1. 5	VIROLOGY
19.		DR. SEIKI MORIYA	86.12.21 ~ 87. 1. 20	MEDICAL ENTOMOLOGY
20.		DR. RIICHI SAKAZAKI	87. 2. 10 ~ 87. 2. 20	BACTERIOLOGY

21.	DR. SACHIO TOKIYOSHI	87. 2. 16	~	87. 2. 22	VACCINE PRODUCTION (RABIES)
22.	DR. KUNIAKI SAKAMOTO	87. 2. 16	~	87. 2. 22	VACCINE PRODUCTION (RABIES)
23.	DR. SHIGETAKA KATO	87. 2. 18	~	87. 4. 22	GENERAL BIOLOGY (BIOCHEMISTRY, RI)
24.	DR. TOSHIHIKO ASANO	87. 3. 4	~	87. 4. 28	GENERAL BIOLOGY (ANIMAL CENTER)
25. 1987 ~ 1988	DR. KEISAKU HATTORI	87. 5. 8	~	87. 7. 7	MEDICAL ENTOMOLOGY
26.	DR. MASANOBU FUKUI	87. 8. 1	~	87. 8. 8	GENERAL BIOLOGY (ANIMAL CENTER)
27.	DR. TOSHIYUKI OONISHI	87. 9. 9	~	87. 12. 3	VACCINE PRODUCTION (JE)
28.	DR. TAMOTSU SATO	87. 9. 13	~	87. 12. 12	GENERAL BIOLOGY (BIOCHEMISTRY)
29.	DR. MITSUKI KIHARA	87. 10. 16	~	88. 3. 15	BACTERIOLOGY (MYCOPLASMA)
30.	DR. SHUUDO YAMAZAKI	87. 11. 12	~	87. 11. 18	VIROLOG (CONSULTANT) (ROTA VIRUS)
31.	DR. KEIKO HASEGAWA	87. 11. 12	~	88. 3. 18	VIROLOGY (ROTA VIRUS)
32.	DR. EIKO KONDO	87. 11. 16	~	88. 3. 15	GENERAL BIOLOGY (BIOCHEMISTRY)
33.	DR. KUNIAKI NEROME	87. 11. 18	~	87. 12. 12	VIROLOGY
34.	DR. KOUTARO YASUI	88. 1. 2	~	88. 1. 16	VIROLOGY
35.	DR. KEN MUTO	88. 1. 6	~	88. 2. 27	GENERAL BIOLOGY (ANIMAL CENTER)
36.	DR. KOUICHI YAMANISHI	88. 1. 10	~	88. 2. 9	GENERAL BIOLOGY (P ₃ -LABORATORY)
37.	DR. MITSUO TAKAGI	88. 1. 13	~	88. 2. 3	VACCINE PRODUCTION (JE)
38.	DR. TATSUO YABE	88. 1. 27	~	88. 3. 31	MEDICAL ZOOLOGY
39.	DR. MANABU TAMURA	88. 2. 1	~	88. 5. 21	VIROLOGY
40.	DR. RIICHI SAKAZAKI	88. 2. 19	~	88. 3. 5	BACTERIOLOGY

41.	DR. ETSURO YOSHIZAKI	88. 2. 19	~	88. 3. 5	BACTERIOLOGY
42.	DR. HIROTO SHIMOJO	88. 3. 2	~	88. 3. 10	VIROLOGY (TISSUE CULTURE TRAINING COURSE)
43.	DR. MINORU AKAMATSU	88. 3. 2	~	88. 3. 12	VIROLOGY (TISSUE CULTURE TRAINING COURSE)
44.	DR. HIROSHI MIZUSAWA	88. 3. 6	~	88. 3. 10	VIROLOGY (TISSUE CULTURE TRAINING COURSE)
45.	DR. SHOZO URASAWA	88. 3. 16	~	88. 3. 24	VIROLOGY
46. 1988 ~ 1989	DR. HIROSHI KURAHASHI	88. 4. 8	~	88. 7. 8	MEDICAL ENTOMOLOGY
47.	DR. SACHIO TOKIYOSHI	88. 5. 5	~	88. 6. 4	VACCINE PRODUCTION (RABIES)
48.	DR. SHIZUYO SUDOU	88. 8. 1	~	88. 8. 31	BACTERIOLOGY (MUTAGENESIS)
49.	DR. AKIKO NAKAMURA	88. 8. 5	~	88. 10. 4	BACTERIOLOGY
50.	DR. RIICHI SAKAZAKI	88. 8. 18	~	88. 8. 31	BACTERIOLOGY
51.	DR. KATSUHIKO SAWATARI	88. 8. 18	~	88. 11. 17	BACTERIOLOGY
52.	DR. TAKAYUKI EZAKI	88. 9. 18	~	88. 10. 22	BACTERIOLOGY
53.	DR. MOTOYOSHI MOGI	88. 9. 21	~	89. 1. 10	MEDICAL ENTOMOLOGY
54.	DR. IKUKO YUI	88. 10. 17	~	88. 11. 17	VIROLOGY
55.	DR. TAMOTSU SATO	88. 10. 23	~	89. 10. 31	BACTERIOLOGY (TOXIN)
56.	DR. KUNIAKI NEROME	88. 10. 24	~	88. 11. 20	VIROLOGY
57.	DR. KOUKI TANIGUCHI	88. 11. 12	~	89. 2. 10	VIROLOGY
58.	DR. KOUICHI YAMANISHI	88. 11. 20	~	88. 12. 11	VIROLOGY
59.	DR. KUNIAKI SAKAMOTO	88. 11. 22	~	89. 12. 22	VACCINE PRODUCTION (RABIES)
60.	DR. HIDEO ASADA	88. 11. 27	~	89. 1. 26	VIROLOGY
61.	DR. SHIGETAKA KATO	88. 12. 18	~	89. 1. 8	VIROLOGY
62.	DR. HIROFUMI DANBARA	88. 12. 24	~	89. 1. 23	BACTERIOLOGY
63.	DR. RIICHI SAKAZAKI	89. 1. 18	~	89. 1. 31	BACTERIOLOGY
64.	DR. SHIGEHIKO KURAMOCHI	89. 1. 18	~	89. 3. 17	BACTERIOLOGY

65.	1989 ~ 1990	DR. KUNIAKI SAKAMOTO	89. 4. 12	~	89. 5. 24	VACCINE PRODUCTION (RABIS)
66.		DR. EIKO KONDO	89. 6. 1	~	90. 4. 30	BACTERIOLOGY
67.		DR. TATSUO YAMAMOTO	89. 7. 3	~	89. 8. 15	BACTERIOLOGY
68.		DR. TATSURO NAKAGAWA	89. 7. 25	~	89. 9. 8	GENERAL BIOLOGY (ANIMAL CENTER)
69.		DR. MISAO OOTAWARA	89. 9. 1	~	89. 11. 30	BACTERIOLOGY (RICKETTSIA)
70.		DR. HITOSHI SASAKI	89. 10. 25	~	90. 1. 26	MEDICAL ENTOMOLOGY
71.		DR. KUNIAKI NEROME	89. 11. 6	~	89. 12. 4	VIROLOGY
72.		DR. SHIGEYUKI ITAMURA	89. 11. 10	~	89. 12. 20	VIROLOGY
73.		DR. KOUKI TANIGUCHI	89. 11. 14	~	90. 1. 30	VIROLOGY
74.		DR. KOUICHI YAMANISHI	89. 11. 19	~	89. 12. 3	VIROLOGY
75.		DR. KUNIAKI SAKAMOTO	89. 11. 20	~	90. 1. 13	VACCINE PRODUCTION (RABIES)
76.		DR. TAKESHI KURATA	89. 10. 20	~	89. 12. 2	GENERAL BIOLOGY (PATHOLOGY)
77.		DR. EIKO YABUUCHI	89. 12. 4	~	89. 12. 27	BACTERIOLOGY
78.		DR. MASANARI IKEDO	89. 12. 4	~	89. 12. 27	BACTERIOLOGY
79.		DR. HIROFUMI DANBARA	89. 12. 23	~	90. 1. 22	BACTERIOLOGY

ANNEX 3

LIST OF THAI COUNTERPARTS SENT TO JAPAN

JAPANESE FISCAL YEAR	N A M E	TRAINING PERIOD	TRAINING FILED	
1985-1986	1. MRS. PREEYA KASHEMSANTA	85. 7.22~85. 8. 9	ADMINISTRATION	
	2. DR. BOONLUAN PHANTHUMACHINDA	85. 9.18~85.12.18	ADMINISTRATION	
	3. DR. YAOWAPA PONGSUWANNA	85. 9.18~87. 3.31	VIROLOGY	
	4. MS. WALLAPA ISRANGKULNAAAYUTHYA	85.10.29~86.10.28	VIROLOGY	
	5. DR. SURACHAI TISHYADHIGAMA	85.12.11~86. 5.26	BACTERIOLOGY	
	6. MS. NOPPAWAN JANEJAI	86. 3.25~87. 3.20	GENERAL BIOLOGY (RI)	
	7. MRS. SURANG DEJSIRILERT	86. 3.25~87. 3.20	BACTERIOLOGY	
1986-1987	8. DR. TANAVAT NANTAMINGCHARERN	86. 4.27~86.10.31	EXPERIMENTAL ANIMAL	
	9. MRS. THEERANART JIVAPAISARNPONG	86.12. 2~87.12. 1	VACCINE PRODUCTION	
	10. MRS. NATEEWAN POONWAN	86.12. 2~87.12. 1	GENERAL BIOLOGY (PATHOLOGY)	
	11. DR. SOMPOP AHANDRIK	87. 3.10~87. 9. 9	VACCINE PRODUCTION	
	12. MR. ANUSORN MALAINUAL	87. 3.10~88. 3. 9	MEDICAL ENTOMOLOGY	
	13. MS. KRUAUVON BALACHANDRA	87. 3.15~88. 3.15	VIROLOGY	
	14. Dr. ULIT LEEYAVANIJA	87. 7. 7~87. 7.20	ADMINISTRATION	
	1987-1988	15. MS. MALINEE CHITTAGANPITCH	87.10. 6~88.10. 5	VACCINE PRODUCTION
		16. MR. PRAKORB RUENGRAIRA TANAROJN	87.10. 6~88.10. 5	VACCINE PRODUCTION
		17. MR. PRAYUTH BUDDHIRAKUL	87.10. 6~88.10. 5	VACCINE PRODUCTION
		18. MS. WANPEN BOONWANICH	88. 3.22~89. 3.20	VIROLOGY
		19. MS. NUWANCHAWEE WETPRAS	88. 3.22~89. 3.20	BACTERIOLOGY
		20. MS. SANIT PANHIRUN	88. 3.22~89. 3.15	VIROLOGY AND E.M.

1988-1989	21. MRS. SUWANA CHARUNUT	88. 8.26~88. 8.24	GENERAL BIOLOGY (MUTAGENICITY)
	22. MS. JOTIKA BOON-LONG	88.10.18~89.10.17	BACTERIOLOGY (MYCOLOGY)
	23. MRS. NIPA BENJAPHONG	89. 3. 7~90. 3. 4	MEDICAL ENTOMOLOGY
	24. MS. SUMALEE BOONMAR	89. 3.19~90. 3.18	VIROLOGY
	25. MR. PREECHA CHUNGSAMANUKOOL	89. 3. 6~90. 3. 3	BACTERIOLOGY (FOOD POISONING)
	26. MS. SIRIMA PATTAMADILO	89. 3.21~90. 3.19	VIROLOGY
	27. MS. AMNUEYPHORN TANTIVEJAKUL	89. 3. 9~89. 3.24	ADMINISTRATION
1989-1990	28. MS. WANTANA PAVEENKITTIPORN	89.10.17~90.10.15	BACTERIOLOGY
	29. MR. MONGKOL CHENNITTIKUL	89. 6.22~90. 6.21	MEDICAL ZOOLOGY
	30. MS. NAWAPORN ANANTASINKUL	89. 6.19~90. 6.18	GENERAL BIOLOGY (MUTAGENICITY)
	31. MRS. KASAMA SUPANARANOND	89. 6.22~90. 6.21	VIROLOGY

ANNEX 4

PROVISION OF EQUIPMENT

JAPANESE
FISCAL YEAR

ITEMS OF MAIN EQUIPMENT

AMOUNT C. I. F. :YEN

1985-1986	Electrophoresis Aparatous "LKB" Incubator Water Aspirator & Cooling Bath Water Bath for Evaporator Metabolism Cage Refrigerated Centrifuge Station Wagon Micro Bus Medical supplies	¥22,000,000.-
1986-1987	CO ₂ Incubator Electrophoresis Apparatus Equipments for R. I. Lab. Ultrasonic Cell Processor Medical Supplies	¥23,000,000.-
1987-1988	Isorack of Animal Cages Books on Medical Sciences Total N Analyzer Mouse Cage Freeze Dryer Fraction Collector Microcentrifuge Medical Supplies	¥45,000,000.-
1988-1989	Ultra-High Speed centrifuge Deep Freezer Ultrasonic Cell Disruptor Multichannel Analyzer Knife Maker Egg Incubator Spectrofluorometer Fluorescence Microscope Monkey Isolator Inhalation Chamber Toxinometer Medical Supplies	¥60,000,000.-
1989-1990 (Plan)	Ultra-High Speed centrifuge Facsimile Gas Chromatograph CO ₂ incubator Ultrasonic Washer High Performance Liquid Chromatograph Ultrasonic Cleaner Fume Hood Biohazard High-Speed Refrigerated Centrifuge ELISA Reader Medical Supplies	¥50,000,000.-

ANNEX 5

SUMMARY OF THE PROJECT COST

(unit: thousand yen)

JAPANESE FISCAL YEAR	1985/86	1986/87	1987/88	1988/89	1989/90	TOTAL
COST OF DISPATCH OF EXPERTS	33,862	69,669	134,830	129,459	45,056	412,876
COST OF PROVISION OF EQUIPMENT	22,000	23,000	45,000	60,000	50,000	200,000
COST OF DISPATCH OF SURVEY TEAMS	320	0	0	132	0	452
COST FOR MIDDLE LEVEL STAFF TRAINING	0	1,097	10,636	3,540	7,298	28,571
ANOTHER LOCAL RUNNING COST	1,678	1,329	1,576	2,757	1,214	8,554
OTHERS	565	1,553	3,026	1,347	235	6,727
TOTAL	58,425	96,648	195,058	203,235	103,804	657,180

Note: This table is as of December, 1989.

Japanese fiscal year is from April 1 to March 31.

Cost of provision of equipment does not include transport charges

Cost of training of Sudanese counterpart personnel is not included in this table.

ANNEX 6

SOURCE OF NIH FUND 1985-1989

(unit: thousand Baht)

SOURCE OF FUND	YEAR	1985	1986	1987	1988	1989	TOTAL
GOVERNMENT BUDGET		16,714	17,826	20,739	24,201	31,570	111,050
OTHER		1,683	1,333	944	900	1,121	5,981
FOREIGN AIDS		724	947	853	857	2,195	5,576
S U B T O T A L		19,121	20,106	22,536	25,958	34,886	122,607
JICA		7,204	14,622	35,339	38,786	18,570	114,521
TOTAL		26,325	34,728	56,075	64,744	53,456	237,128

Note: 1. Cost of dispatch of Experts and Survey Teams and another miscellaneous expenses are not included in the amount of Fund of JICA.

2. Mean exchange rate : 1985, 1 Baht = 8.11 Yen
 1986, 1 Baht = 6.61 Yen
 1987, 1 Baht = 5.52 Yen
 1988, 1 Baht = 5.24 Yen
 1989, 1 Baht = 5.59 Yen

ANNEX I(1)

TENTATIVE ANNUAL SCHEDULE OF IMPLEMENTATION FOR THE RESEARCH PROMOTION PROJECT IN NIH

	1985	1986	1987	1988	1989	1990
NIH CONSTRUCTION TECHNICAL COOPERATION						
ACTIVITY 1 RESEARCH 1) Etiological Study of Infectious Diseases	E					
2) Molecular Microbiology	E					
3) Medical Entomology		E/F				
4) Others	E/F E/F					
ACTIVITY 2 BIOLOGICAL PRODUCTS						
5) JE Vaccine	E/F					
6) Rabies	E/F					
7) DPT	E/F					
8) Immuno globulin	E/F					
9) Quality Control, Bioassay	E/F		E/F			
ACTIVITY 3 COMMON FACILITIES 1) Animal Experiment Center	F	E				
2) RI Laboratory		F				
3) Biohazard Laboratory		E				
SUPPLY EQUIPMENT						

NOTE: The Government of Thailand is requested to assign the personnel trained in Japan to the Project until the completion of the Project.
 E = Japanese Expert F = Fellowship
 --- Time and duration will be fixed later

ANNUAL SCHEDULE FOR NATIONAL INSTITUTE OF HEALTH PROJECT

	FY1985	FY1986	FY1987	FY1988	FY1989	FY1990	Exp. (No.)	Fel. (No.)
PROJECT LEADER COORDINATOR	MURATA 85.8		87.6			KANAI NAKAJIMA	2	4
GENERAL BIOLOGY								
1. BIOCHEMISTRY, R I	SATOU KOHJURA	NOPPANAN	KATOU SATOU KONDOU				5	1
2. PATHOLOGY : ELECT. MICROSCOPY							1	2
3. QUALITY CONTROL (INCLUDING STATISTICS)	MURATA *	IWASA	NATTEWAN		SANIT (EX. VIRAL)	XURATA	1	1
4. EXPERIMENTAL ANIMAL							5	1
MEDICAL ZOOLOGY								
5. ENTOMOLOGY		WADA	KORIYA	HATTORI YABE KURAMASHIG KOGI TANAKA	SASAKI MIYA		8	3
BACTERIOLOGY								
6. ISOLATION AND IDENTIFICATION OF BACTERIA INCLUDING PHAGE TYPING	SAKAZAKI	SAKAZAKI	SAKAZAKI YOSHIZAKI	SAKAZAKI KURAMASHIG SAMTARI	SAKAZAKI KURAMASHIG KOGI MIYA		9	1
7. ANTIGEN ACTIVITY AND IMMUNOLOGICAL REACTIVITY INCLUDING TOXIN	KAWATANI HONDA	SURANG	SURACBAJ		PRECHA (FOOD TOXIN)		3	2
8. GRAM-NEGATIVE BACTERIA (EXCEPT FOR ENTEROBACTERIA AND VIBRIO)				EZAKI	YABUCHI IKEDO EZAKI		4	4
9. BACTERIAL GENETICS				EZAKI	YAMAKOTO DANBARA	KONDOU	4	2
10. FUNGI		ITOU				WANTANA	1	1
11. MYCOPLASMA, RICKETTSIA			KIHARA (MYCOPLASMA)		JOTIKA	OGTAWARA (RICKETTSIA)	2	2
12. MUTAGENESIS				SUDOU	SUWANA		1	2
VIROLOGY								
13. RESPIRATORY INFECTION (INFLUENZA VIRUS, RS VIRUS)		NEROME	NEROME	NEROME YUI	NEROME	YOSHIOKA TANIGUCHI	5	1
14. ROTA VIRUS	YABARA (POTA V. GENE CLONING)						1	1
15. JE VIRUS, DENGUE FEVER VIRUS							1	1
16. HEPATITIS VIRUSES							3	2
17. HIV-HERES VIRUS INCLUDING (P.LABO.)							7	2
18. OTHERS [FCV, HERPES VIRUS]								
19. IMMUNOLOGY	SUZUTA WALLAPA	YAMANISHI KRUAYON	YAMANISHI TAMURA	YAMANISHI ASUDA	YAMANISHI	SASAKI (HCV) KASAKI (HCV)	7	2
BIOLOGICAL PRODUCTS								
20. JE VACCINE							3	3
21. RABIES VACCINE		TOKIYOSHI SAKAMOTO	GORISHI TAKAGI	TOKIYOSHI SAKAMOTO	SAKAMOTO	SAKAMOTO	6	1
22. RUBELLA VACCINE							1	1
23. PERTUSSIS VACCINE							1	2
SURVEY TEAM	PRELIMINARY 84.7.22 84.7.31	IMPLEMENTATION 85.4.14 85.4.23	PLANNING & CONSULTATION 86.8.29 86.7.5	ADVISORY 86.7.17 86.7.23	EVALUATION 88.12.17 88.12.23	TOTAL	80	31

資料 3

專 門 家 派 遣 實 績

專 門 家 派 遣 実 績

長期専門家

通番	専門家氏名	専門家 区 分	号	指 導 科 目	長短 区分	継続 新規	派 遣 期 間	帰国 赴任 中区分	赴 任 時 現 職
1	中 島 衛 平	一 般	3	業 務 調 整	長期	新規	85. 8. 1~90. 7. 31	中 赴任	無 職
2	吉 田 正 道	”	2-1	日本脳炎ワクチン	”	”	85.12.11~89. 3.10	帰 国 済	(財) 阪大微生物病研究会観音寺研究所 品質管理部 課長補佐
3	金 井 興 美	医	特-1	フコジキトリ-ター	”	”	87. 4. 20~90. 7. 31	中 赴任	元国立予防衛生研究所 副所長 無 職
4	田 中 和 夫	一 般	1-1	衛生昆虫学	”	”	87. 8. 7~89. 1. 6	”	帝装化成(株) 学術研究部 部長
5	吉 岡 靖 之	”	6-1	生 化 学	”	”	90.11.20~61. 2.19	”	無 職

短期専門家

1985年度(昭和60年度)

通番	専門家氏名	専門家 区分	号	指導科目	長短 区分	継続 新規	派遣 期間	帰国 赴任 中区分	赴任 時 現 職
6	有村 薫	一般	5-2	免疫化学	短期	新規	85.9.5~85.9.26	元国立予防衛生研究所	無職
7	阪崎 利一	"	特-2	細菌学	"	"	85.9.5~85.9.30	元国立予防衛生研究所	無職
8	村田 良介	医療	特-1	チームリ-ター ワクチンロール	"	"	85.9.5~85.10.16	元国立予防衛生研究所	所長
9	佐藤 保	一般	1-1	生化学	"	"	85.11.20~86.2.19	国立予防衛生研究所 体液性免疫部 厚生技官	
10	三輪谷 俊夫	医療	特-2	細菌学	"	"	86.2.23~86.3.9	大阪大学微生物病研究所 細菌血清学部門 教授	
11	本田 武司	医療	2-1	細菌学	"	"	61.2.23~61.3.16	大阪大学微生物病研究所 細菌血清学部門 助教授	

1985年度(昭和61年度)

通番	専門家氏名	専門家 区分	号	指導科目	長短 区分	継続 新規	派遣期間	帰国 赴任 中区分	赴任 時 現 職
12	岩佐三郎	一般	特-2	生物統計	短期	新規	86. 5. 28~86. 8. 27	帰国	国立予防衛生研究所 安全発熱試験室
13	鈴木達男	医療	特-2	免疫学	〃	〃	86. 7. 25~86. 8. 26	帰国	東京医科大学 教授
14	和田義人		特-2	昆虫学	〃	〃	86. 8. 10~86. 8. 30	帰国	国立予防衛生研究所 衛生昆虫部長
15	伊藤嘉典		3	真菌毒素	〃	〃	86. 9. 14~86. 12. 13	帰国	国立予防衛生研究所 食品衛生部第二
16	中川雅郎	一般	特-2	昆虫学	〃	〃	86. 12. 1~87. 1. 31	帰国	国立予防衛生研究所 獣疫部実験動物一室長
17	根路銘国昭	一般	1-2	生物製剤	〃	〃	86. 12. 5~86. 12. 26	帰国	国立予防衛生研究所 ウィルスリケア第3
18	山西弘一	医療	1-2	免疫学	〃	〃	86. 12. 6~87. 1. 5	帰国	大阪大学微生物病研究所麻疹部門 助授
19	森谷清樹		特-2	昆虫学	〃	〃	86. 12. 21~87. 1. 20	帰国	神奈川県衛生研究所 生物環境部長
20	阪崎利一	一般	特-2	細菌学	〃	〃	87. 2. 10~87. 2. 20	帰国	無職
21	時吉幸男	一般	2-2	狂犬病ワクチン 計画打合せ	〃	〃	87. 2. 16~87. 2. 22	帰国	財団法人化学及血清療法研究所 研究開発部
22	坂本国昭	一般	2-2	狂犬病ワクチン 計画打合せ	〃	〃	87. 2. 16~87. 2. 22	帰国	財団法人化学及血清療法研究所 第一製造部
23	加藤茂孝	一般	1-2	ラットアイソトープ	〃	〃	87. 2. 18~87. 4. 22	帰国	国立予防衛生研究所 主任研究官
24	浅野敏彦		2-1	実験動物	〃	〃	87. 3. 4~87. 4. 28	赴任	国立予防衛生研究所 獣疫部主任研究官

62年度

通番	専門家氏名	専門家 区分	号	指導科目	長短 区分	継続 新規	派遣 期間	帰国 赴任 中区分	赴任 時 現 職
25	服部 睦作	一般	特-2	衛生昆虫学	短期	新規	87. 5. 8~87. 7. 7	帰国 済	北海道立衛生研究所疫学部衛生動物科専門 研究員
27	大西 敏之	一般	5-1	日本脳炎ワクチン	〃	〃	87. 9. 9~87.12. 3	帰国 済	(財) 阪大微生物病研究会不活化ウイルス部門 係長
28	佐藤 保	医療	1-1	細菌ワクチン製造の生 化学	〃	〃	87. 9.13~87.12.12	帰国 済	国立予防衛生研究所 体液性免疫部 厚生技官
29	木原 光城	一般	特-2	マイコプラズマ	〃	〃	87.10.16~88. 3.15	帰国 済	無職
30	山崎 修道	医療	特-2	ウイルス病の分子疫学	〃	〃	87.11.12~87.11.18	帰国 済	国立予防衛生研究所ウイルス中央検査部部長
31	長谷川 斐子	一般	2-1	ウイルス病の分子疫学	〃	〃	87.11.12~88. 3.18	帰国 済	国立予防衛生研究所ウイルス中央検査部 主任研究官
32	近藤 瑩子	医療	特-2	ワクチン開発に必要な 生化学	〃	〃	87.11.16~88. 3.15	帰国 済	国立予防衛生研究所細菌免疫部結核室長
33	根路 銘国 昭	一般	1-2	ウイルス病の分子疫学	〃	〃	87.11.18~88.12.12	帰国 済	国立予防衛生研究所 ウイルスリケッタ第3室長
34	保・井 孝太郎	一般	1-2	日本脳炎ウイルス の分子疫学	〃	〃	87.11.18~88.12.12	帰国 済	
35	武藤 健	一般	特-2	実験動物	〃	〃	88. 1. 6~88. 2.27	帰国 済	国立予防衛生研究所獣疫部実験動物第二室長
36	山西 弘一	医療	1-2	モノクローナル	〃	〃	88. 1.10~88. 2. 9	帰国 済	大阪大学微生物病研究所麻疹部門 助授
37	高木 光生	一般	1-2	日本脳炎ワクチン	〃	〃	88. 1.13~88. 2. 3	帰国 済	(財) 阪大微生物病研究会 技術部 次長

38	矢部辰男	一般	1-2	衛生昆虫学	短期	新規	88. 1.27~88. 3.31	帰国	神奈川県衛生研究所生活環境部環境生物課長
39	田村学	医療	5-2	モノクロナール	〃	〃	88. 2. 1~88. 5.21	帰国	大阪大学微生物研究所
40	阪利一	一般	特-2	病原細菌の原則と 制度管理	〃	〃	88. 2.19~88. 3. 5	帰国	無職
41	吉崎悦郎	一般	3	病原細菌の原則と 制度管理	〃	〃	88. 2.19~88. 3. 5	帰国	国立篠山病院臨床検査技師長
42	下条寛人	医療	特-1	培養細胞の収集・ 保持	〃	〃	88. 3. 2~88. 3.10	帰国	無職
43	赤松穰	一般	特-2	細胞膜の生化学的 性状	〃	〃	88. 3. 2~88. 3.12	帰国	国立予防衛生研究所化学部長
44	水沢博	一般	3	ウイルス感染による細胞 変異性効果と細胞 変異	〃	〃	88. 3. 6~88. 3.10	帰国	国立衛生試験場変異原性部細胞開発研究室長
45	浦沢正三	医療	1-1	ロタウイルス	〃	〃	88. 3.16~88. 3.24	帰国	札幌医科大学教授

63年度

通番	専門家氏名	専門区分	号	指導科目	長短区分	継続新規	派遣期間	帰国赴任中区分	赴任時現職
46	倉橋 弘	一般	1-1	衛生昆虫学	短期	新規	88. 4. 8~88. 6. 18	帰国済	国立予防衛生研究所衛生昆虫部室長
47	時吉 幸男	一般	2-1	狂犬病ワクチン	〃	〃	88. 5. 5~88. 6. 14	帰国済	(財) 阪大微生物病研究会不活化ワクチン部門係長
48	須藤 鎮世	医療	1-2	変異原性	〃	〃	88. 8. 1~88. 8. 31	帰国済	伊藤ハム株式会社 中央研究所
49	中村 明子	医療	特-2	77-γ型別	〃	〃	88. 8. 5~88. 10. 4	帰国済	国立予防衛生研究所 細菌部77-γ型別室室長
50	阪崎 利一	一般	特-2	細菌学	〃	〃	88. 8. 18~88. 8. 31	帰国済	無職
51	猿渡 勝彦	一般	2-1	細菌学	〃	〃	88. 8. 18~88. 11. 17	帰国済	佐世保市立総合病院 検査部
52	江崎 孝行	医療	3	細菌学	〃	〃	88. 9. 18~88. 10. 22	帰国済	岐阜大学 医学部 微生物学講座 講師
53	茂木 幹義	一般	1-2	蚊の生態学	〃	〃	88. 9. 21~88. 12. 21	帰国済	佐賀医科大学 医学部微生物学教室 助教授
54	由井 郁子	医療	2-2	RSウイルス	〃	〃	88. 10. 17~88. 11. 17	帰国済	恩賜財団) 済生会神奈川県病院小児科医長
55	佐藤 保	医療	特-2	細菌毒素	〃	〃	88. 10. 23~89. 10. 31	帰国済	国立予防衛生研究所 体液性免疫部 厚生技官
56	根路 銘昭	一般	1-2	ウイルス病の分子疫学	〃	〃	88. 10. 24~88. 11. 20	帰国済	国立予防衛生研究所 ウィルスリゲッア第3室長
57	谷口 孝喜	一般	3	ウイルス分子疫学	〃	〃	88. 11. 12~89. 2. 10	帰国済	(財) 阪大微生物病研究会 技術部 次長

58	山 西 弘	一	医 療	1-2	ウ イ ル ス 学	短期	新規	88.11.20~88.12.11	帰 国 済	大阪大学微生物研究所麻疹部門 助授
59	坂 本 昭	一	一 般	2-1	狂 犬 病 ワ ク チ ン	〃	〃	88.11.21~88.12.22	帰 国 済	財団法人化学及血清療法研究所 第一製造部
60	浅 田 秀	夫	医 療	5-2	免 疫 学	〃	〃	88.11.27~89. 1.26	帰 国 済	大阪大学微生物研究所麻疹部門
61	加 藤 茂	孝	一 般	1-2	風 疹 ワ ク チ ン	〃	〃	88.12.18~89. 1. 8	帰 国 済	国立予防衛生研究所麻疹ウイルス部
62	檀 原 宏	文	一 般	1-2	細菌分子疫学	〃	〃	88.12.24~89. 1.23	帰 国 済	(社団法人) 北里研究所研究部細菌2室室長
63	阪 崎 利	一	一 般	特-2	臨床細菌学	〃	〃	89. 1.18~89. 1.31	帰 国 済	無 職
64	倉 持 重	彦	一 般	4	臨床細菌学	〃	〃	89. 1.18~89. 3.17	帰 国 済	アスカ純薬株式会社 開発部

1989年度(平成元年度)

通番	専門家氏名	専門家区分	号	指導科目	長短区分	継続新規	派遣期間	帰国済赴任中区分	赴任時現職
65	坂本国昭	一般	2-1	狂犬病ワクチン	短期	新規	89. 4.12~89. 5.24	帰国済	財団法人化学及血清療法研究所 第一製造部
66	近藤瑩子	医療	特-2	細菌学	〃	〃	89. 6. 1~90. 4.30	派遣中	無職
67	山本達男	医療	1-2	細菌学	〃	〃	89. 7. 3~89. 8.15	帰国済	順天堂大学 医学部細菌学教室 講師
68	中川雅郎	一般	特-2	実験動物学	〃	〃	89. 7.25~89. 9. 8	帰国済	国立予防衛生研究所 獣疫部実験動物一室長
69	大田原美作雄	医療	特-2	リケッチア学	〃	〃	89. 9. 1~89.11.30	〃	無職
70	佐々木均	一般	2-2	衛生昆虫学	〃	〃	89.10.25~90. 1.19	〃	酪農学園大学酪農科 助教授
71	根路路国昭	一般	1-1	ウイルス分子疫学	〃	〃	89.11. 6~89.12. 4	帰国済	国立予防衛生研究所ウイルス・ワクチン第3室室長
72	板村繁之	一般	4	ウイルス学	〃	〃	89.11.10~89.12.20	帰国済	国立予防衛生研究所ウイルス・ワクチン第3室研究員
73	谷口孝喜	一般	2-2	ウイルス分子疫学	〃	〃	89.11.14~90. 1.31	帰国済	札幌医科大学衛生学教室 講師
74	山西弘一	医療	1-2	ウイルス学	〃	〃	89.11.19~89.12. 3	帰国済	大阪大学微生物病研究所麻疹部門 助教授
75	坂本国昭	一般	2-1	狂犬病ワクチン	〃	〃	89. 4.12~89. 5.24	帰国済	財団法人)化学及血清療法研究所品質管理課
76	倉田毅	医療	1-2	病理学	〃	〃	89.11.20~89.12. 2	帰国済	国立予防衛生研究所病理部部长
77	藪内英子	医療	特-2	細菌学	〃	〃	89.12. 4~89.12.27	帰国済	岐阜大学医学部 微生物学講座 教授
78	池戸正成	一般	2-2	細菌学	〃	〃	89.12. 4~89.12.27	帰国済	栄研化学株式会社研究開発本部研究企画室主任
79	檀原宏文	一般	1-2	細菌分子疫学	〃	〃	89.12.23~90. 1.22	帰国済	(社団法人)北里研究所研究部細菌2室室長

資料 4

研 修 員 受 入 れ 実 績

研 修 員 受 け 入 れ 実 績

昭和60年度

通番	研修員氏名	研修期間	研修科目	研修機関
1	MRS. PREEYA KASHEMSANTA	85. 7.22~85. 8. 9	研究所経営管理	国立予防衛生研究所 (財) 阪大微生物病研究会
2	DR. BOONLUAN PHANTHUMACHINDA	85. 9.18~85.12.18	研究所経営・計画	国立予防衛生研究所 (財) 阪大微生物病研究会
3	DR. YAOWAPA PONGSUWANNA	85. 9.18~86. 3.31	ウイルス遺伝学	国立予防衛生研究所他
4	MS. WALLAPA ISRANGKULNAAYUTHYA	85.10.29~86.10.28	ウイルス免疫化学	大阪大学微生物研究所
5	DR. SURACHAI TISHYADHIGAMA	85.12.11~86. 5.26	細胞遺伝学	東京医科歯科大・北里研究所
6	MS. NOPPAWAN JANEJAI	86. 3.25~87. 3.20	R I の取り扱い	国立予防衛生研究所他
7	MRS. SURANG DEJSIRILERT	86. 3.25~87. 3.20	細菌学	国立予防衛生研究所、都立衛生研究所、群馬大

昭和61年度

通番	研修員氏名	研修期間	研修科目	研修機関
8	DR. TANAVAT NANTAMINGCHARERN	86. 3.25~87. 3.20	実験動物飼育管理	国立予防衛生研究所
9	MRS. THEERANART JIVAPAISARNPONG	86.12. 2~87.12. 1	ワクチン開発	(財) 阪大微生物病研究会
10	MRS. NATEEWAN POONWAN	86.12. 2~87.12. 1	病理学	大阪大学微生物研究所
11	DR. SOMPOP AHANDRIK	87. 3.10~87. 9. 9	ワクチン管理・開発	(財) 阪大微生物病研究会 国立予防衛生研究所
12	MR. ANUSORN MALAINUAL	87. 3.10~88. 3. 9	蚊の生物学的防除	東京農工大
13	MS. KRUVON BALACHANDRA	87. 3.15~88. 3.15	ウイルス免疫学	大阪大学微生物研究所
14	DR. ULIT LEEYAVANIJA	87. 7. 7~87. 7.20	研究所経営管理	国立予防衛生研究所 (財) 阪大微生物病研究会

昭和62年度

通番	研修員氏名	研修期間	研修科目	研修機関
15	MR. MALINEE CHITTAPANPITCH	87.10. 6~88.10. 5	風疹ワクチン	(財) 阪大微生物病研究会
16	MR. PRAKORB RUENGRAIRA TANAROJN	87.10. 6~88.10. 5	狂犬病ワクチン	(財) 化学及血清療法研究所
17	MRS. PRAYUTH BUDHIRAKUL	87.10. 6~88.10. 5	百日咳ワクチン	(財) 阪大微生物病研究会
18	MS. WANPEN BOONWANICH	88. 3.22~89. 3.20	J.E. GENE CLOING	(財) 阪大微生物病研究会
19	MS. NUWANCHAWEE WETPRAS	88. 3.22~89. 3.20	細菌毒素	大阪大学微生物研究所
20	MS. SANIT PANHIRUN	88. 3.22~89. 3.15	ウイルス分子生物学	国立予防衛生研究所

昭和63年度

通番	研修員氏名	研修期間	研修科目	研修機関
2 1	MRS. SUWANA CHARJUNUT	88. 8.26~89. 8.24	毒物学・発癌物 質	国立予防衛生研究所
2 2	MS. JOTIKA BOON-LONG	88.10.18~89.10.17	細菌分類学	東北薬科大学
2 3	MRS. NIPA BENJAPHONG	89. 3. 7~90. 3. 4	昆虫分類学	国立予防衛生研究所、 都立衛生研究所
2 4	MS. SUMALEE BOONMAR	89. 3.19~90. 3.18	ウイルス性肝炎	国立予防衛生研究所
2 5	MR. PREECHA CHUNGSAMANUKOOL	89. 3. 6~90. 3. 8	食中毒菌の同定	都立衛生研究所
2 6	MS. SIRIMA PATTAMADILLO	89. 3.21~90. 3.19	ゾーングロモニグ	札幌医科大学
2 7	MS. AMNUEYPHORN TANTIVEJAKUL	89. 3. 6~90. 3. 8	研究所経営管理	国立予防衛生研究所 (財) 阪大微生物病研究会

平成元年度

通番	研修員氏名	研修期間	研修科目	研修機関
28	MS. WANTANA PAVEENKITTIPORN	89.10.17~90.10.15	毒物学・発癌物 質	順天堂大学医学部 微生物学教室
29	MR. MONGKOL CHENNITTIKUL	89. 6.22~90. 6.21	細菌分類学	神奈川県衛生研究所
30	MS. NAWAPORN ANANTASINKUL	89. 6.19~90. 6.18	昆虫分類学	静岡大学薬学部
31	MRS. KASAMA SUPANARANOND	89. 6.22~90. 6.21	ウイルス性肝炎	国立予防衛生研究所

資料 5

発 表 論 文 リ ス ト

資料 5 研究業績

タイ国で開催された国際学会発表論文

First International Conference on the Impact of Viral Diseases on the
Development of Asian Countries

Bangkok, December 7-13, 1986

1. Prevalence of Anti-HAV and Anti-HBV in personnels of Department
of Medical Sciences, Bangkok 1985
Jayavasu, C. et al, Virus Res. Institute
2. Characteristics of A/Hong Kong (H₃N₂) Influenza Virus Isolated in
Thailand and Japan
Ponysuwanna, Y. et al, Virus Res. Institute, with cooperation
by Yoshioka et al of NIH, Japan
3. A Prospective Epidemiological Study of Dengue Haemorrhagic Fever
in Thailand, 1980-84
Sangkawibha et al., Virus Res. Institute
4. Dengue Shock Syndrome Associated with Secondary Infections of
Dengue Virus
Rojanasuphot, S. and Sangkawibha, N., Virus Res. Institute
5. IgG-ELISA Antibody Titers against
Japanese Encephalitis (JE) and Dengue Virus Type 1 among
Healthy People in JE-endemic Ares in Japan and Thailand
Chanyasanha, C, Bundo K., and Igarashi A., Virus Res. Institute
and Nagasaki University
6. Local Production of Rubella HA Antigen: Kupradinun et al.,
Virus Res. Institute

研修生の日本における発表論文

The Meeting of Western Japan Association of Virologist, Takamatsu, Japan,
16 May, 1987

1. Investigation for Development of Determination Method of Neutraliz Antibody Titer against Japanese Encephalitis Virus
Jivapaisarnpong, T., Section of Biological Product
2. Comparison of Sensitivity between Fluorescent Antibody Staining and Enzyme Antibody Staining for Detection of Measles Virus Antigens in Tissue Sections Poonwan, N.

タイ国内ワークショップ等における発表論文

The 6th Workshop on Diarrhoea Diseases, Apr. 15, 1987

1. Studies on Rotavirus as a Cause of Diarrhoea in Pigs. Choontanom, Mand Pongsuwanna, Y. Kasetsat University and Virus Res. Institute
2. Enterotoxin and Cytotoxin of Clostridium Difficile in Faecal Specimens.
Wongwanich, S. et al., Clinical Pathology Div.

Report, National Research Council, 5 August, 1987

1. Production of Hepatitis B Vaccine Chatiyononda

The 5th National Seminar on Epidemiology

Bangkok, Aug. 18, 1987

1. Molecular Epidemiology of Human Rotavirus in 1986/1987.
Pongsuwanna, Y., Virus Res. Institute
2. Study on Rotavirus by IAHA Test and RNA Migration Pattern Analysis on PAGE.
Pongsuwanna, Y., Virus Res. Institute

3. Rapid and Simplified Colorimetric Identification Method of Legionella Species by Photo-biotin Labelled DNA-DNA Dot Hybridization.

Ezaki, T., Dejsirilert, S., Yamamoto H. et al., Clinical Pathology Div.

4. Chlamydical Urethritis and Cervicitis in Male and Female Patients.

Soontornchai, S. et al., Clinical Pathology Div.

Table of Content of The First Research Seminar

	<u>Page</u>
<u>Oral Presentation</u>	
Immunofluorescence, Enzyme-linked Immunosorbent Assay, Particle Agglutination and Western Blot for Human Immunodeficiency Virus Antibodies Detection	0-1
Application of cellular fatty acid profile as determined by GLC to the identification of glucose-nonfermentative gram-negative rod bacteria	0-2
Prevalence rates of antibody to Human Herpesvirus-6 in women and children	0-3
Study on the enterovirulence factors of <u>E.coli</u>	0-4
A study on the enterotoxigenic factors in <u>Vibrio cholera</u> infection	0-5
Comparison of sensitivity between fluorescent antibody staining and enzyme antibody staining for detection of measles virus antigen in tissue sections	0-6
Detection of Malaria sporozoites in Anopheline Vectors by enzyme Linked Immuno Sorbent Assay	0-7
Surveillance of pesticide poisoning in Thailand 1988	0-8
Biotoxin in Thai Aquatic Animals	0-9
การรบกวนของวัคซีนเสียต่อการหาปริมาณแอนติเจน ไซโตโครคลอไรด์ ในยีสต์หมักโดยวิธีทำให้เกิดสีกับ 4-อะมีโนแอนติพิรีน	0-10
Sulfur dioxide contents in vegetables, fruits and preserved fruits	0-11

	<u>Page</u>
Cesium-137 in imported whole milk powder following the nuclear accident at Chernobyl	0-12
การศึกษาเภสัชจลนศาสตร์ของยา Theophylline ในเด็กไทยโรคหืด	0-13
การใช้เครื่องสูบลมยางรถยนต์ดัดแปลงเพื่อพ่นยาขยายหลอดลมในเด็กหืด	0-14
Cost-benefit analysis of idiopathic vitamin K deficiency prophylaxis with vitamin K in new born, Bangkok, 1988	0-15
The development of solid phase coated antibody for digoxin using 1,1'-carbonyldiimidazole activation method	0-16
Development of $^{125}\text{I-T}_3$ and $^{125}\text{I-T}_4$ purification technique for RIA using HPLC	0-17
Investigation for development of determination method for neutralizing antibody titer against JE virus	0-18
Production of inactivated mouse brain of JE Vaccine	0-19
The detection of human Rotavirus by electrophoresis of Genome RNA and Immune Adherence Haemagglutination Test	0-20
Outbreak investigation of Exanthematous fever in Surin, August 1988	0-21
An epidemic of hepatitis A in a rural village in Lumphun Province 1987-1988	0-22
Antigenic and genetic characteristics of Russia (H_1N_1) viruses prevalent in Thailand	0-23
Study of risk factors of chronic by ulcer at Kung Nam Won, Muang District, Ratchaburi July 19-September 14, 1988	0-24

	<u>Page</u>
Radiotherapy treatment planning using microcomputer	0-25
Survey of pesticides usage and serum Cholinesterase activity of vegetable agriculturists in Songkhla 1987	0-26
A developed rapid method for the emergency analysis of serum paraquat in poisoned patients	0-27
Gentamicin dosage regimens in Thai cancer	0-28
การสำรวจโรคพยาธิในจังหวัดลำพูนและลำปาง 2531	0-29
การใช้ Ofloxacin รับประทานครั้งเดียวรักษาผู้ป่วยโรคชิกเกิลลา	0-30
การศึกษาความถี่ของการนำดีโรทอนพยาธิในนักเรียนชั้นประถมศึกษาตอนต้นควยยามิเนคาโซลในจังหวัดเลยและกระบี่	0-31
Acute febrile illness in Ronpiboon District Nakhon Si Thammarat Province, October 3-7, 1987	0-32
การศึกษาเภสัชจลนศาสตร์ของสารสำคัญในยาไหล	0-33
การศึกษาคุณสมบัติการต้านเชื้อราของสมุนไพรชาลิ้ง	0-34
 <u>Poster Presentation</u>	
ชนิดของยุงคาง ๆ ในพื้นที่ที่มีการขุดผู้ป่วยโรคชิลาเรียในจังหวัดตาก 2531	P-1
ชักชวนประชาชนให้ควบคุมยุงลายที่สู่งเนิน	P-2
Diagnosis of cytomegalovirus infection by ELISA	P-3
Rabies in animals in southern part of Thailand	P-4
Production of diagnostic Salmonella Polyvalent H antiserum	P-5
Prevention and Control Program for intestinal parasites in primary school of Bangkok Metropolitan	P-6

	<u>Page</u>
Program on immunization	P-7
Production and characterization of rabbit Anti-T ₃ serum	P-8
Determination of curcuminoids by HPLC	P-9
Stability of Oral Suspension of antibiotics	P-10
การศึกษาการละลายตัวของยาเตตราซัยคลิน	P-11
การสำรวจคุณภาพยาเม็ดคุมกำเนิดชนิดฮอร์โมนรวมที่มีจำหน่ายในประเทศไทย	P-12
Rice noodle coating oils	P-13
Nicotinamide determination by microbiological method	P-14
Heavy metal content in Thai food	P-15
Bacteriological quality of ice-cream, ice and drinking water from small restaurants and foodstalls in Khon Kaen area	P-15
Study on Arsenic in well water from Nakornsri thamarat Province	P-17
Quantities of lead in raw surface water in Songkhla vegetable growing area	P-18
Serum cholinesterase level in two different groups exposed to anticholinesterase agents	P-19

Project Title	Duration	Source of Fund	Progress
1. Virology	Annual Report, NIH, No.2, Aug. 1986 ~ July 1987		
1.1 Clinical Trial of Plasma-derived Hepatitis B Vaccine (Dr. Kanai Chaiyanonda)	2 ½ years (Oct. 85 - April, 88)	The Chemo-Sero Therapeutic Research Institute, Japan and DMS	- Immunization of newborns (210) have been conducted, 4 of them were dead which was the mortality rate of Asian babies. - The study of the effectiveness of vaccine in preventing development of HBV carrier in infants is in progress.
1.2 Production of RPHA reagent (Dr. Sumalee Boonmar)	1 year (Oct. 86 - Sept. 87)	DMS	- Immunization of guinea pigs with purified HB _s Ag and adjuvant has been conducted. - Anti HB _s guinea pig serum was collected, purified and being used to sensitized fixed sheep red blood cell as to be RPHA cell. - 250 kits of lyophilized RPHA reagent are prepared.
1.3 Production of HI kit for Rubella (Dr. Suwicha Kupradinun)	2 years (Sept. 85 - Aug. 87)	National Research Council, Thailand	- Production and testing of rubella kit have been accomplished. - The kits are now being distributed to Regional Medical Centers and other laboratories.
1.4 Production of Dengue Test kits (Ms. Suntharee Rojansuphot)	1 year (Jan, 87 - Dec. 87)	WHO	- Hemagglutination antigen (HA) were prepared and used for immunization in mice. Immune ascitic fluids were collected. Checker-board titrations were done.
1.5 Production of Monoclonal Antibodies to Arbovirus Virus (type 2) (Ms. Wallapa Israngkul Na Ayuthaya)	1 year (Jan, 87 - Dec. 87)	DMS	- A few hybridoma were isolated and cloning is performed. Crude antigen was used for primary and booster immunization. Purified viral antigen is used for booster. - Purification step is in progress.
1.6 Hemadsorption Immunosorbent Technique (HIT) for the Detection of Japanese Encephalitis (JE) specific IgM Antibody (Ms. Kruavon Balachandra)	6 months (Oct, 86 - Mar, 87)	DMS	- The whole project is finished - HIT seems to be less sensitive than MAC ELISA but it is simpler, cheaper and is more specific than MAC ELISA. Therefore, it is suitable for serodiagnosis of JE.

Project Title	Duration	Source of Fund	Progress
1.7 Development of Dengue Type 1 Antigen Preparation by Tissue Culture Method for Serodiagnosis of Dengue Hemorrhagic Fever (Dr. Charnchudhi Chanyasanha)	1 ½ year (Mar, 86 - Dec, 87)	WHO	<ul style="list-style-type: none"> - Dengue virus was propagated in suckling mouse brain for 3 passages. - Dengue type 1 Antigen was prepared, and purified. - The stability of the prepared antigen is now studied.
1.8 IgM Antibodies Detected by ELISA in the Diagnosis of Cytomegalovirus (CMV) Infection in Pregnant Women and Newborns. (Dr. Suwicha and Dr. Boondee)	1 year (Jan, 87 - Dec, 87)	DMS	<ul style="list-style-type: none"> - The preparation and extraction of CMV antigen have been accomplished. - Standardization of ELISA using the antigens prepared is just finished.
1.9 Double-stranded RNA electrophoretotyping of human rotavirus infection in Thailand (Dr. Chuirudee Jayavasu)	1 year (Nov, 86 - Oct, 87)	DMS	<ul style="list-style-type: none"> - Epidemiological study of rotavirus infection was performed in 55 children with acute gastroenteritis and diarrhea. - The results showed that the incidence of human rotavirus infection was highest at age 7-12 months old. No difference in incidence were found between sex.
1.10 Virological Surveillance of Dengue Virus in Mahasarakram (Ms. Suntharee Rojanasuphot)	1 year (Sept, 86 - Sept, 87)	DMS	<ul style="list-style-type: none"> - Out of 196 from 340 cases collected from patients 22 strains of dengue virus were isolated. - Samples are tested for anti-dengue antibody by HI test and found that only 13 cases were confirmed as primary dengue infection and 110 cases as secondary dengue infection.
1.11 Herbs Extract in the Treatment of Genital Herpes Simplex Virus (HSV) Infection (Dr. Chuirudee Jayavasu)	1 year (Oct, 86 - Sept, 87)	DMS	<ul style="list-style-type: none"> - Herb extracts have been prepared and mixed with cream base. - Herb extracts cream have been study for the stability.
1.12 Scanning Electron Microscopy of Various Stages of <i>Aedes aegypti</i> (Mrs. Surang Saguanwongse)	1 year (Jan, 87 - Dec, 87)	DMS	<ul style="list-style-type: none"> - Fine structure of eggs, hatching larvae and larvae were completely studied by SEM technique.
1.13 Pilot Production of Inactivated Chick Embryo Fibroblast Rabies vaccine (Dr. Pornthip Samuthanonit)	1 year (July 87 - Sept, 88)	DMS	<ul style="list-style-type: none"> - The project hasn't started yet.

Project Title/Principle investigator	Duration	Source of Fund	Progress
1. Virology Annual Report, NIH, Aug. 1987 ~ July 1988			
1.1 Development of Dengue Type 1 Antigen Preparation by Tissue Culture Method for Serodiagnosis of Dengue Hemorrhagic Fever. (Dr. Charnchudhi Chanyasahna)	1 yr. 10 mos.	WHO	<ul style="list-style-type: none"> - Dengue virus type 1 was propagated in suckling mouse brain. - Dengue type 1 antigen was prepared, purified and compared the antigen from mouse with tissue culture antigen. - The prepared antigen was tested for stability and compared HI titers of antigen from mouse with tissue culture antigen by using patient's sera. - Tissue culture antigen was produced for pilot production. The product was distributed to the regional medical centers and is now studied.
1.2 Virological Surveillance of Dengue Virus in Maharakarn. (Miss Suntharee Rojanasuphot)	5 yrs. (May 87-Sep. 92)	VRI	<ul style="list-style-type: none"> - 44 sera were collected for virus isolation and serological diagnosis. - Out of 32 sera, 4 cases showed primary dengue antibody, 8 cases showed secondary antibody response. - Another 12 sera are being undertaken.
1.3 Field Trial of Japanese Encephalitis. (Miss Suntharee Rojanasuphot)	1 yr. 4 mos. (May 88-Dec. 88)	WHO	<ul style="list-style-type: none"> - 1,158 Children from 5 public schools in Ratchaburi Province were bled before vaccination. - First vaccination was performed in 3 group A, B, C using vaccine produced in Thailand, in Japan (Nakayama) and in China (Beijing) respectively. - Second vaccination was given as for scheduled. - No serious side effects were detected from all vaccinated student.
1.4 Herb Extract in the Treatment of Genital Herpes Simplex Virus (HSV) Infection. (Dr. Chuirudee Jayavasu)	2 yrs. (Apr. 88-Mar. 90)	DMS	<ul style="list-style-type: none"> - Herb extracts have been prepared and studied for the stability. - T cell lymphocyte isolation and T lymphocyte subpopulation is being studied.

Project Title/Principle investigator	Duration	Source of Fund	Progress
1.5 Scanning Electron Microscopic Study on the Mosquito Infected with JE Viruses. (Mrs. Surangs Saganwongse)	1 yr. (Jan. 88-Dec. 88)	DMS	<ul style="list-style-type: none"> - JE Virus was subjected to infect the thorax of <i>Toxorhynchites splendens</i> mosquitoes. - Heads and thoraxes of infected mosquitoes are studied under Scanning Electron Microscope.
1.6 Life Cycle of Japanese Encephalitis Vector, <i>Cx. tritaeniorhynchus</i> by SEM. (Mrs. Surangs Saganwongse)	1 yr	DMS	<ul style="list-style-type: none"> - Fine structure of eggs, larvae, pupae of <i>Cx. tritaeniorhynchus</i> were studied by SEM.
1.7 Mechanism of Herpes Simplex Virus Infection in Cell Culture by TEM. (Mrs. Surangs Saganwongse)	2 yrs. (Jan. 88-Dec. 88)	DMS	<ul style="list-style-type: none"> - Herpes Simplex Virus type II isolated from patients in Bangkok was infected in BHK cell. The cells were prepared and studied under TEM.
1.8 Preparation of Rabbit Hyperimmune Sera of Rabies Virus for Antibody Detection. (Mrs. Pomthip Samuttananont)	1 yr. (Jan. 88-Dec. 88)	DMS	<ul style="list-style-type: none"> - Immunizing antigen were prepared by inoculation of suckling mice with CVS rabbits virus. - Ten rabbits were immunized, and sera were obtained after receiving booster injection. - Antibody titer were compared with WHO International Standard Immune Serum.
1.9 Epidemiology of Sporadic Acute Viral Hepatitis. (Dr. Prayura Kurasol)	1 yr. (Apr. 88-Mar. 89)	WHO	<ul style="list-style-type: none"> - Eighty four specimens of acute viral hepatitis patients were studied. - Twenty-five specimens were positive to Anti HBc IgM, 32 specimens were positive to Anti HAV IgM and 27 specimens were suspected to be non-A - non B hepatitis.
1.10 Severe Acute Respiratory Tract Infection in Children Aged Under 5 years, Etiology and Clinical Studies. (Mrs. Pranee Thawatsupha)	1 yr. 3 mos. (Jan. 88-Mar. 89)	WHO VRI	<ul style="list-style-type: none"> - 87 Nasopharyngeal Secretion specimens were prepared and studied. - 9.19% of the specimens were positive.

Project title/ Principle investigator	Duration	Source of Fund	Progress
1.11 Comparative Immunogenicity of Combined Passive-Active and Active Immunization of Yeast Derived HB Vaccine. (Dr. Sumalee Boonmar)	1 yr 9 mos. (May 88-Feb. 90)	The Chemo-Sero-Therapeutic Research Institute, Japan	<ul style="list-style-type: none"> - 2,354 pregnant women were screened for HBs Ag by RPHA. - 6.1% were further tested for the presence of HBe Ag by RPHA while 33.33% HBe Ag positive mothers were selected for the trial.
1.12 Production of PHA reagent for detection of Antibody to HBs Ag.	2 yrs (Oct. 87-Sept. 89)	DMS	<ul style="list-style-type: none"> - Purification of carriers' plasma (positive HBs Ag) by ion exchange chromatography, Affinity chromatography and Zonal ultracentrifugation.
1.13 Prevalence Rates of Antibody to Human Herpesvirus 6 (HHV6) in Women and Children. (Ms. Kruavon Balachandra)	8 Mos. (Mar. 88-Nov. 88)	JICA DMS	<ul style="list-style-type: none"> - Sera from women were detected antibody titers by ACIF test. - Seropositive rate and the geometric mean titer (GMT) were similar among three groups of women, single, married and pregnant. - Detection of antibody in children are in progress.
1.14 Role of T cell subsets in Dengue Infection (Ms. Kruavon Balachandra)	2 yrs. (July 88-Jul 90)	DMS	<ul style="list-style-type: none"> - Target cells system was trying by using dengue virus infected macrophages in vitro. - Infected macrophages were checked for the infectivity by immunofluorescence test.
1.15 Production of Monoclonal Antibody to Dengue virus Type 1. (Ms. Panasda Israngkul Na Ayuthaya)	2 yrs. (Jan. 87-Dec. 88)	DMS	<ul style="list-style-type: none"> - Four clones of hybridomas showed significantly high titer to dengue virus type 1. - Purified viral antigen was used for booster immunization. - The confirmation of the specificity of isolated clones with dengue type III is in progress.

Virology

Progress Report, NIH, No.2/1988

Development of Dengue Type 1 Antigen Preparation by Tissue Culture Method for Sero-Diagnosis of Dengue Hemorrhagic Fever.....	18
Virological Surveillance of Dengue Virus in Mahasarakarn.....	21
Herbs Extract in the Treatment of Genital Herpes Simplex Virus (HSV) Infection.....	23
Scanning Electron Microscopic Study on the Mosquito Infected with JE Virus.....	24
Preparation of Rabbit Hyperimmune Sera of Rabies Virus for Antibody Detection.....	25
Severe Acute Respiratory Tract Infection in Children Aged under 5 Years, Etiology and Clinical Studies.....	27
Mechanism of Herpes Simplex Virus Infection in Cell Culture by TEM.....	29
Production of FHA reagent for Detection of Antibody to HBsAg.....	31
Comparative Immunogenicity of Combined Passive-Active and Active Immunization on Yeast Derived HB Vaccine.....	32
Epidemiology of Sporadic Acute Viral Hepatitis.....	34
Detection of IgG to Epstein Barr Virus (EBV) by ELISA.....	37
Prevalance Rates of Antibody to Human Herpes Virus 6 (HHV6) in Women and Children.....	39
Study on Genetic Differences of Japanese Encephalitis in Northern Thailand, as Determined by Oligonucleotide Fingerprinting Analysis.....	41
Field Trial of Japanese Encephalitis Vaccines Produced in Thailand.....	43
Role of T Cell Subsets in Dengue Infection.....	50

Virology

Progress Report, NIH, No.1/1989

Severe acute respiratory tract infection in children aged under 5 years Etiology and clinical studies.....	16
Development of Dengue Type 1 Antigen Preparation by Tissue Culture Method for Sero-Diagnosis of Dengue Hemorrhagic Fever.....	18
Mechanism of Herpes Simplex Virus Infection in cell culture by TEM.....	21
Production of PHA reagent for detection of antibody to HBsAg.....	23
Preparation of Rabbit Hyperimmune Sera of Rabies Virus for Antibody Detection.....	24
Study on genetic differences of Japanese Encephalitis in northern Thailand, as determined by oligonucleotide fingerprinting analysis.....	26
Epidemiology of Sporadic acute viral hepatitis.....	28
Detection of IgM to Epstein Barr Virus (EBV) by ELISA.....	31
Field Trial of Japanese Encephalitis Vaccines produced in Thailand.....	32
Comparative immunogenicity of combine passive-active and active immunization of yeast-derived HB vaccine.....	36
Virological Surveillance of Dengue Virus in Mahasarakarm Province.....	38
Developed technique to study of cell culture infected with Herpes Simplex Virus by SEM.....	40
The antiviral activities of <u>Barleria lupulina</u> and <u>Clinacanthus Nutans</u> leaves to Herpes Simplex Virus (HSV).....	42

Virology

Progress Report, NIH, No.2/1989

Severe Acute Respiratory Tract Infection in Children Aged under 5 Years, Etiology and Clinical Studies.....	19
Mechanism of Herpes Simplex Virus Infection in Cell Culture by TEM.....	20
Production of PHA Reagent for Detection of Antibody to HBsAg.....	22
Study on Genetic Differences of Japanese Encephalitis in Northern Thailand, as Determined by Oligonucleotide Fingerprinting Analysis.....	23
Epidemiology of Sporadic Acute Viral Hepatitis.....	24
Comparative immunogenicity of combine passive-active and active immunization of yeast-derived HB vaccine.....	25
Development technique to study of cell culture infected with Herpes Simplex Virus by SEM.....	27
Molecular Epidemiology of Influenza.....	29
Development of Rubella Vaccine (Live).....	31

Immunology

Production of Monoclonal Antibody to Dengue Virus type 1.....	Progress Report, NIH, No.1/1989	45
Prevalence rates of Antibody to Human Herpesvirus 6 (HHV6) in women and children.....		50
Herb extracts in the treatment of genital Herpes Simplex Virus (HSV) infection.....		53
Role of T cell subsets in Dengue infection.....		56
Human Herpes Virus 6 (HHV6) in Exanthem Subitum by mean of clinical and laboratory diagnosis.....		59

Project Title	Duration	Source of Fund	Progress
2. Bacteriology, Mycology and Parasitology			
Annual Report, NIH, No.2, Aug. 1986 ~ July 1987			
2.1 The Enterovirulence Factors of <i>E. Coli</i> (Ms. Renu Sunthadvanich)	3 years (Oct, 86 - Sept, 89)	DMS	<ul style="list-style-type: none"> - More than 400 strains of <i>E. Coli</i> has been isolated from human feces. - Specimens will be collected from patients in Bangkok Chest Clinic. - The principle investigator is now trained in serological diagnosis for mycoplasma. - Expert in mycoplasma cultivation is needed.
2.2 Mycoplasma Related Acute Respiratory Tract Infection (Ms. Prapawadee Booncharoen)	3 years (Jan, 87 - Dec, 89)	DMS	<ul style="list-style-type: none"> - Collection of urethral and cervical swabs from non-gonococcal and asymptomatic male and female from 3 provinces is finished. - Detection of <i>Chlamydia trachomatis</i> in samples is in progress.
2.3 Study of Chlamydial Infection in Urethritis and Cervicitis by Direct Immunofluorescent Technique, Tissue Culture and Enzyme Immunoassay (Mr. Sarisak Soontornchai) Joint-project with AFRIMS, and Mahidol University	7 months (Oct, 86 - April, 87)	DMS	<ul style="list-style-type: none"> - Detection of pathogenic bacteria in wastes treated with different doses of γ-radiation is conducted. - The result indicates that the higher the dose of radiation is, the lower number of pathogenic bacteria is found in the treated waste.
2.4 Sterilization of Sewage and Waste Water by γ Radiation (Mrs. Aroon daingthraquinon) Joint project with Office of Atomic Energy for Peace, Department of Agriculture, and Chulalongkorn University.	8 months (Feb, 87 - Sept, 87)	Office of Atomic Energy for Peace	<ul style="list-style-type: none"> - Standard strains of <i>C. albicans</i>, <i>A. fumigatus</i>, <i>A. flavus</i>, and <i>A. niger</i> are obtained from C.D.C., U.S.A. - Several apparatus and materials required for the project have been obtained.
2.5 The Production of Antisera and Antisera for Mycological Diagnosis of Candidiasis and Aspergillosis. (Dr. Vinita Boriraj)	3 years (Jan, 87 - Dec, 89)	DMS	<ul style="list-style-type: none"> - 91 Samples of bat guanos and soil were collected from 8 provinces of central region of Thailand. - Out of 40 samples examined, none were positive for <i>Histoplasma capsulatum</i>.
2.6 A survey of the Occurrence of <i>Histoplasma capsulatum</i> from Guano of Bats and the Incidence of Histoplasmosis in Thailand (Dr. Vinita Boriraj)	1 year and 2 months (Oct, 86 - Dec, 87)	DMS	

Project Title	Duration	Source of Fund	Progress
2.7 A Survey of Prevalence and Severity of Helminthic Infections in Schoolage Children (Mr. Preecha Panyarukkit)	1 year (Jan, 87 - Dec, 87)	DMS	<ul style="list-style-type: none"> - Collection and examination of 2,000 specimens from Pratomuksatammasart and Tammasartklonghung Vittayakom-School are conducted. - Follow-up cases after treatments is in progress.
2.8 Study on the Effect of Medicinal Plant on <i>Plasmodium falciparum</i> (Ms. Nuanchawee Wetprasit)	1 year (1987 - 1988)	DMS	
2.9 Production of Diagnostic Salmonella Polyvalent H. antiserum (Mr. Suwat Bangtragulnonth)	1 year (Jan, 87 - Dec, 87)	DMS	<ul style="list-style-type: none"> - Vaccine have been selected and prepared. - Immunization and Bleeding are performed. - Antiserum obtained will be tested.
2.10 Lipid Profile in Diabetes Mellitus (Mrs. Preeya Suwankiri)	1 year (Oct, 86 - Sept, 87)	DMS	<ul style="list-style-type: none"> - 160 blood samples from diabetic patients have been collected. - The levels of total cholesterol and lipoprotein profile for -lipoprotein, pre-α-lipoprotein by electrophoresis techniques are now being performed.

Project Title/Principle investigator	Duration	Source of Fund	Progress
2. Bacteriology, Mycology and Parasitology			
Annual Report, NIH, No.3, Aug. 1987 ~ July 1988			
2.1 Production of Anti-LT toxin sensitized with Latex or Staphylococcal Protein A. (Miss Krongkaew Supawat)	2 yrs. (Oct. 87-Sept. 89)	JICA DMS	- Crude enterotoxin was prepared from <i>E. Coli</i> - Purification is in progress.
2.2 Production of Diagnostic Enterotoxigenic <i>Escherichia coli</i> Antisera. (Mr. Suwat Bangtrakulnonth)	2 yrs. (Jan. 88-Dec. 89)	DMS	- Selection of standard strains of Enterotoxigenic <i>E. Coli</i> was performed. - Preparation and standardization of antigens is in progress.
2.3 Identification of Bacterial Culture by non-radioactive Labeled DNA-DNA Hybridization (Mrs. Surang Dejsirilert)	2 yrs. (Oct. 87-Sept. 89)	JICA DMS	- The genetic identification of bacteria was set up. - Twenty-one strains of Glucose-nonfermentative gram negative rod were identified by DNA-DNA hybridization.
2.4 Study on Virulence Factor of <i>Pseudomonas pseudomallei</i> . (Mrs. Surang Dejsirilert)	2 yrs. (Oct. 88-Sept. 90)	JICA	- Fifty-four strains of <i>P. pseudomallei</i> were analyzed for plasmid profile. - Outer membrane protein from 16 strains of <i>P. pseudomallei</i> were analyzed. - Sensitive animal for virulence test and for toxin were determined. - Optimal Temperature for toxin production were also been studied.
2.5 Phosphatase Activity of <i>Pseudomonas pseudomallei</i> . (Mrs. Surang Dejsirilert)	1 yr. (Mar. 88-Mar. 89)	JICA DMS	- pH optimal of phosphatase production by 6 species of <i>Pseudomonas</i> were determined. - Heat stability test of phosphatase activity from the above species was performed.
2.6 Cellular Fatty Acid Analysis of 37 Species of Glucose Nonfermentative Gram Negative (Mrs. Surang Dejsirilert)	2 yrs. (Nov. 87-Dec. 89)	JICA DMS	- Determination of fatty acid profile on GLC was conducted. - Nineteen species of glucose nonfermentative gram negative rod were analysed to obtained the type cellular fatty acid profiles.
2.7 Enterotoxin of <i>Clostridium difficile</i> in Faecal Specimens. (Mrs. Siripan Wongwanich)	3 yrs. (Oct. 87-Sept. 90)	DMS	- Prevalence of <i>C. difficile</i> from diarrheal patients have been surveyed. - Eight out of 148 specimens were enterotoxin positive
2.8 A Survey of the Occurrence of <i>Histoplasma capsulatum</i> in the Bat Guanos and Soil and the Incidence of Histoplasmosis. (Dr. Vinita Boriraj)	3 yrs. (Jan. 87-89)	DMS	- Samples of bat guanos was collected from central and northern regions, none were positive for <i>H. capsulatum</i> . - Mycoserological study was performed.

Project Title / Principle Investigator	Duration	Source of Fund	Progress
2.9 The Production of Antigens and Antisera for Mycserological Diagnosis of <i>Pulmonary candidiasis</i> and <i>Pulmonary aspergilosis</i> . (Dr. Vinita Buiraj)	3 yrs. (Dec. 87-Dec. 90)	DMS	<ul style="list-style-type: none"> - <i>Candida albicans</i> antigen were prepared and standardized against antigen of C. D. C., USA. - The <i>candida</i> antiserum was produced from rabbits and revealed no reaction in immunodiffusion test to standard <i>candida</i> antigen. - <i>Aspergillus fumigatus</i> antigen possessed low amount of protein content.
2.10 The Research Cooperation between OAEP and DMS on Sludge Pasturization by Radiation. (Miss Paradee Mamechai)	1 yrs. 7 mos. (May 88-Dec. 89)	DMS	<ul style="list-style-type: none"> - 69 cases from the industrial areas households and hospitals in upcountry were examined for the intestinal parasites. - Intestinal parasites in sludge was found 57.97% (23.19, 20.29, 7.25, and 7.25% of mixed parasites, <i>Ascaris lumbricoides</i>, hookworms and <i>Trichiuris trichura</i> respectively)
2.11 Prevention and Control Program of Intestinal Parasites in the School Children in Primary School in Bangkok Metropolitan. (Miss Paradee Mamechai)	1 yr. (Oct. 87-Sept. 88)	DMS	<ul style="list-style-type: none"> - 5,417 cases from 24 primary school of Bangkok Metropolitan were examined for the presence of intestinal parasites. - 10.67% have been found helminthiasis and protozoasis. - After treatment with Albendazole, hundred percent cured was found in the treatment of ascariasis and other helminthiasis except hookworms and whipworms
2.12 Survey of Sand Fly Density and its Role as a Potential Vectors. (Mr. Preecha Panyaraggi)	2 yrs. (Oct. 87-Sept. 89)	DMS	<ul style="list-style-type: none"> - 133 cases were examined and found that all cases were negative for Leishmania.
2.13 The Hematologic Finding in the Heavy Metal Workers. (Mr. Pijit Ratanavilaisakul)	1 yr. (Sept. 87-Oct. 88)	DMS	<ul style="list-style-type: none"> - 569 samples from 8 industrial factories were collected. - None were found with basophilic stippling while Leucopenia was found 16.34%, anemia 28.29%, toxic granules WBC 43.94%
2.14 Evaluation of Reagent Strip with Tests, for Tests, for Protein and Glucose in Urine. (Dr. Charin Chantachaya)	5 mos. (May 88-Sept. 88)	DMS	<ul style="list-style-type: none"> - Reagent strips from 4 companies were tested with the aqueous standard solution of protein and glucose for 100 determination. - Urine specimens from diabetic patients will be tested by these reagent strips.

Bacteriology, Mycology & Parasitology

Progress Report, NIH, No.2/1988

The Enterovirulence Factors of <u>E.coli</u>	60
The Production of Antigens and Antisera for Mycoserological Diagnosis of Candidiasis and Aspergillosis.....	62
A Survey of the Occurrence of <u>Histoplasma capsulatum</u> in the Bat Quanos and Soil and the Incidence of Histoplasmosis.....	64
Surveys of Sand Fly Density and Its Role as a Potential Vector.....	66
Production of Anti-LT Toxin Sensitized with Latex or Staphylococcal Protein A.....	67
Production of Diagnostic Enterotoxigenic <u>Escherichia coli</u> Antisera.....	69
Identification of Bacterial Culture by Nonradioactive Labeled DNA-DNA Hybridization.....	70
Phosphatase Acitivity of <u>Pseudomonas pseudomallei</u>	71
Enterotoxin of <u>Clostridium difficile</u> in Feecal Specimens.....	72
Prevention and Control Program for Intestinal Parasites in the School Children in Primary School of Bangkok Metropolitan.....	73
The Hematologic Finding in the Heavy Metal Workers.....	74
The Research Cooperation between O&EP and DMS on Sludge Pasteurization by Radiation.....	75
Evaluation of Reagent Strip with Tests for Protein, and Glucose in Urine.....	76

Bacteriology, Mycology & Parasitology

Progress Report, NIH, No.1/1989

Study on Enteric Pathogens in the Workers of Exported Sea Food Factory.....	64
The production of antigens and antisera for mycoserological diagnosis of pulmonary candidiasis and pulmonary aspergillosis.....	66
A survey of the occurrence of <u>Histoplasma capsulatum</u> in the bat guanos and soil and the incidence of histoplasmosis.....	68
Studies on a production of cholera toxin by <u>Vibrio cholerae</u> , O-1 isolated from patients and environment.....	69
The enterovirulence factors of <u>Escherichia coli</u>	72
Production of Diagnostic Enterotoxigenic <u>Escherichia coli</u> Antisera.....	74
Study on Virulence Factor of <u>Pseudomonas pseudomallei</u>	75
Cellular Fatty Acid Analysis of Glucose-Nonfermentative Gram-Negative Rod Bacteria (GNF).....	76
Identification of Glucose Nonfermentative Gram-Negative Rod Bacteria (GNF) by Nonradioactive labeled DNA-DNA Hybridization.....	78
High Acid Phosphatase Activity of <u>Pseudomonas pseudomallei</u> as a Possible Attribute to Their Pathogenicity.....	79
Serotyping of <u>Pseudomonas cepacia</u> and <u>Achromobacter xylosoxidans</u>	80
Miniature Test Kit for Identification of Glucose-Nonfermentative Gram-Negative Rod Bacteria.....	81
Preparation of Quality Control Strains of Bacteria in the form of Gelatin Discs.....	82

Survey on Prevalence of Liver fluke in the Northern and North-east of Thailand.....	83
Phage types of <u>Staphylococcus aureus</u> in Thailand.....	85
Phage types of <u>Salmonella Typhi</u> and <u>S. Paratyphi A</u> in Thailand. (from oct. 1988 to Mar. 1989).....	87
Mycoplasma-Related Acute Respiratory Tract Infection.....	89
Surveillance of <u>Escherichia coli</u> isolated from diarrheal cases in Thailand.....	91
Study of Serotypes of Shigella in Thailand in 1989.....	93
Study of Serovars of Salmonella in Thailand in 1989.....	94
Types of Lipoprotein in Normal and Diabetic patients.....	95
Incidence of Soil-Transmitted Helthminth in Vegetables Sold in the Market of Nonthaburi Province.....	96
The research cooperation between Department of Medical Sciences and Organization of Atomic Energy for Peace on sludge pasteurization by radiation.....	104

Bacteriology, Mycology & Parasitology

Progress Report, NIH, No.2/1989

The Production of Antigens and Antisera for Mycoserological Diagnosis of Candidiasis and Aspergillosis.....	39
Study on a production of cholera toxin by <u>Vibro cholerae</u> , O-1 isolated from patients and enviroment.....	40
Production of Diagnostic Enterotoxigenic <u>Escherichia coli</u> Antisera.....	42
Mycoplasma-Related Acute Respiratory Tract infection Phase I Established mycoplasma laboratory Phase II Study on incidence of <u>Mycoplasma pneumoniae</u> in atypical pneumonia patients.....	43
Establishment of DNA-DNA Hybridization Techniques for Diagnosis of Enterotoxigenic, Enteroinvasive <u>Escherichia coli</u>	44
Incidence of Soil-Transmitted Helthminth in Vegetables Sold in the Market of Nonthaburi Provinec.....	45
The Production of Fluorescein-Labelled Antiglobulin for the Diagnosis of Aspergillosis by the Fluorescent Antibody Technique	53
Study on Pathogenic Enteric Bacteria in the Workers of Factories of Exported Frozen Sea Food	54
Types of Lipoprotein in Normal and Diametic patients.....	55

Project Title/Principle investigator	Duration	Source of Fund	Progress
3. Development and Quality Control of Biological Products.			
(Annual Report, NIH, No.2, Aug. 1986 ~ July 1987)			
3.1 Production of Japanese Encephalitis Vaccine (Ms. Kanchana Leelasiri)	2 years (Jun, 85 - May, 87)	National Research Council Thailand	- 80% of the project has been accomplished. - Quality control of final bulk vaccine meets the minimum requirement of NIH (Japan).
(Annual Report, NIH, No.3 (Aug. 1987 ~ July 1988))			
3. Development of Quality Control of Biological Products			
3.1 Pilot study on Production of Purified Antirabies Serum from Rabbit. (Dr. Sompop Ahandrik)	3 yrs. (Oct. 87-Oct. 88)	DMS	- The purification of antirabies serum is being performed and the purity of purified antirabies serum was checked by gel electrophoresis in each step of purification
3.2 Preparation of Freeze-dried National Standard for Pertussis Vaccine (Mrs. Teeranart Jivapaisarnpong)	1 yr. (Nov. 87-Oct. 88)	DMS	- The freeze-dried pertussis vaccine is being calibrated against International Standard for Pertussis Vaccine.
3.3 Preparation of Freeze-dried National Standard for Tetanus Antitoxin. (Mrs. Teeranart Jivapaisarnpong)	1 yr. (Nov. 87-Oct. 88)	DMS	- The freeze-dried tetanus antitoxin is being calibrated against International Standard for Tetanus Antitoxin.
3.4 Preparation of Freeze-dried National Standard for Diphtheria Antitoxin. (Mrs. Teeranart Jivapaisarnpong)	1 yr. (Nov. 87-Oct. 88)	DMS	- The freeze-dried diphtheria antitoxin is being calibrated against International Standard for Diphtheria Antitoxin.
3.5 Research on Development of Pertussis Component Vaccine. (Dr. Sompop Ahandrik)	2 yrs. (Aug. 88-July. 90)	WHO	- Selection of <i>B. pertussis</i> production strain is being performed.

Biological Products

Progress Report, NIH, No.2/1988

Pilot Study on Production Purified Antirabies Serum from Rabbit.....	79
Preparation of Freeze - Dried National Standard Pertussis Vaccine.....	80
Preparation of Freeze - Dried National Standard Tetanus Antitoxin.....	81
Preparation of Freeze - Dried National Standard Diphtheria Antitoxin.....	82
Research for Development of Pertussis Component Vaccine.....	83

Biological Products

Progress Report, NIH, No.1/1989

Pilot Sudy on Production of Purified Antirabies Serum from Rabit.....	106
Research for Development of Pertussis Component Vaccine.....	108
Preparation of Freeze-dried National Standard Pertussis Vaccine.....	110
Preparation of Freeze-dried National Standard Diphtheria Antitoxin.....	112
Preparation of Freeze-dried National Standard Tetanus Antitoxin.....	114
Production of Purified Chick Embryo Cell Rabies Vaccine.....	115

Biological Products

Progress Report, NIH, No.2/1989

Production of Purified Chick Embryo Cell Rabies Vaccine.....	57
Pilot Study on Production Purified Antirabies Serum from Rabbit.....	59
Preparation of Freeze - Dried National Standard Diphtheria Antitoxin.....	61
Research for Development of Pertussis Component Vaccine.....	63
Preparation of Freeze - Dried National Standard Reference Typhoid Vaccine.....	66

Project Title	Duration	Source of Fund	Progress
8. RI Laboratory			
Annual Report, NIH, No.2, Aug. 1986 ~ July 1987			
8.1 RIA Kit Production (Digoxin RIA Kit) (Ms. Wiyada Charoensirawatana)	5 years (Jan, 87 - Dec, 91)	DMS	<ul style="list-style-type: none"> - Antiserum of Digoxin has been immunized in rabbits and sheep. - Iodination of I-125 digoxin-histamine tracer is in progress. - Quality control reagents are now being tested.
8.2 Thyroid Function Hormone RIA Kit (Ms. Wiyada Charoensirawatana)	5 years (Jan, 87 - Dec, 91)	DMS	<ul style="list-style-type: none"> - The initial dose for thyroid hormone-HSA conjugate has been immunized in the rabbits. - Iodination of thyroid function hormone is now developed. - The assay optimization is in progress.
8.3 Research on Digoxin Heart Disease Patients in Thailand (Ms. Wiyada Charoensirawatana)	1 1/2 year (Feb, 87 - Sept, 88)	DMS	<ul style="list-style-type: none"> - Blood samples from patients treated with digoxin at Chulalongkorn, Rajvithee and Siriraj Hospitals have been collected. - Chiangmai and Khon Khaen regional laboratories are now setting up digoxin RI assay.
9. RI Laboratory			
Annual Report, NIH, No.3, Aug. 1987 ~ July 1988			
9.1 RIA Kit Production (Digoxin Kit) (Miss Wiyada Charoensirawatana)	5 yrs. (Jan. 87-Dec. 91)	DMS	<ul style="list-style-type: none"> - Immunization, iodination and quality control sera (liquid forms) have been successfully performed. - Standardization of assay protocols is in progress.
9.2 Study the Possibility of the Application of RIA for Hepatitis B Research. (Miss Wiyada Charoensirawatana)	2 yrs. (Jan. 87-Dec. 88)	DMS	<ul style="list-style-type: none"> - Purification and labelling of Hepatitis B antigen with I-125 is studied. - Monoclonal concept will be applied to the work.
9.3 Research on Digoxin Heart Disease Patients in Thailand. (Miss Wiyada Charoensirawatana)	1 yr. 6 mos. (Feb. 87-Sept. 88)	DMS	<ul style="list-style-type: none"> - Specimens were collected from hospitals and two regional medical laboratories. - Monitoring of digoxin patients will be performed. - Four refrigerated centrifuges are needed for another four regional medical centers.

Radio-Isotope Laboratory

NIH, Progress Report, No.2.1988

RIA kit production	184
Development of Computer programme for RIA Work	192

NIH, Progress Report No.1, 1989

RIA Kit Production.....	163
Development of the computer programme for RIA work.....	166
Quality Control Programme for RIA laboratories.....	167

Project Title	Duration	Source of Fund	Progress
4. Medical Entomology			
4.1 Studies on the Population Dynamics of JE Vector After Long Operation of Light Traps (Mr. Prakong Phan-Urai)	3 years (May, 86 - Apr, 89)	DMS	- In 1987, the evaluation was carried out twice in Kamphangphet. It was found that after long operation of light traps, the egg rafts of JE vectors in breeding places decreased about 50%.
4.2 Survey of Resting Places of JE-vectors (Mr. Anusorn Malinaun)	2 years (May, 86 - May, 88)	DMS	- In 1986, the studies in Khampangphet show that JE vectors were found near pig-sites such as clumps, bushes paddy plants and the wall of pig-sties. - In June and August 1987, the highest number of mosquito vectors were around the house with 122.5 number/10 mins and 3.33 number/10 mins respectively.
4.3 The Studies of <i>Aedes aegypti</i> Distribution in Rural Areas in Thailand (Mr. Prakong Phan-Urai)	5 years (Oct, 86 - Sept, 91)	DMS	- The survey was conducted in Lamphoon province in October to December, 1986 and August 1987. The average larval indices were determined
4.4 The Density Level Survey of <i>Aedes aegypti</i> in Bangkok (Mr. Banyong Matcum)	2 years (Oct, 86 - Sept, 88)	DMS	- The studies were carried out in Bangkok. The average landing rates and average larval indices were determined. May 87 - Aug, 87 the average landing rates was 8.2 no. of mosquito per man hour and average larval indices (HI, CI, BI) were 70.0, 28.6, 171.1 respectively.
4.5 The Study on Resistance of <i>Aedes aegypti</i> to <i>Bacillus thuringiensis israelensis</i> (B.t.i.) and <i>Culex quinquefasciatus</i> to <i>Bacillus sphaericus</i> (B.S.) 2362 (Ms. Seranchit Krairiksh)	2 years (Oct, 85 - Sept, 87)	DMS	- Susceptibility test of <i>Aedes aegypti</i> larvae to B.t.i. indicates that the progenies are as sensitive to B.t.i. as their parents. The results are comparable to the sensitivity of <i>Culex quinquefasciatus</i> to B.S.

Project Title	Duration	Source of Fund	Progress
4.6 Field Trials of <i>C. quinquefasciatus</i> , <i>C. gelidus</i> and <i>Anopheles</i> by <i>B. Sphaericus</i> 2362 (Mrs. Laojana Chowanadisai)	3-4 years (started in Oct, 85)	WHO/TDR and DMS	- Field trial of bacterial agent against <i>Cx. quinquefasciatus</i> was carried out in 1985/86. - Field trials on <i>Cx. gelidus</i> and <i>An. sundiacus</i> is being investigated.
4.7 Survey and Development of Local Pathogenic Bacteria for Mosquito Control (Mr. Anusorn Malainaun)	4 years (Jan, 87 - Dec, 90)	DMS	- Survey and collection of infected larvae and snail samples have been done.
4.8 A Field Trial of Alphacypermethrin (Larvicide oil) Against <i>Cx. quinquefasciatus</i> Larvae in Breeding Habitat. (Mr. Banyong Matcum)	1 1/2 years (Aug, 86 - Dec, 87)	DMS	- Larvicide oil was applied to breeding habitats of the mosquitoes. Reduction of larval number was observed up to 1 week after application. The population density was recovered within 2-3 weeks. Confirmed study was conducted in 1987, the results showed that the average percent reduction of dipped larvae were still over 80 percent for 3 weeks.
4.9 A Study on Environmental Manipulation for Controlling of <i>Cx. quinquefasciatus</i> . (Mr. Thumrong Phonchevin)	1 year (June, 86 - May, 87)	DMS	- The numbers of larvae significantly decreased within 3 weeks after the disposal of wastes of breeding habitats. - The numbers of larvae decreased from 67.45 to 16.45 larvae per dip. After 42 weeks the larval reduced their fluctuation to 11.25 larval per dip.
4.10 Studies on Efficacy of Selected Plants of Thailand as Insecticides or Repellants to Mosquitoes (Mr. Somkiat Boonyabantha)	3 years (Jan, 87 - Dec, 89)	DMS	- Extraction of selected plants is in progress.
4.11 The Bio-Efficacy Test of Household Pesticide Products (Mr. Kasin Suphathom)	5 years (Oct, 86 - Sept, 91)	DMS	- The efficacy test of household pesticide products have been carried out. So far, 102 samples of various products have been tested.
4.12 The Study on Pediculosis Among School Children in the Rural Areas After Treatment with Permethrin 0.5% powder (Ms. Usavadee Thavara)	4 years (Jan, 87 - Dec, 90)	DMS	- In 1987, 326 school child with headlice in Northern part of Thailand were treated with 0.5% Permethrin powder. After the application, 100% of the children were free of lice.

Project Title	Duration	Source of Fund	Progress
4.13 A Survey and Study on Biology of Natural Enemies of housefly (Mrs. Nipa Benjaphong)	3 years (Oct, 86 - Sept, 89)	DMS	<ul style="list-style-type: none"> - Survey and collection of natural enemies of housefly from various breeding place were conducted. <i>Spalangia cameroni</i> was found at Wat Pracharabuaatham. - Colonization of isolated parasites was done. - The interaction of parasites and pupae of housefly is being investigated.
4.14 Trial with α -Cypermethrin for Cockroach Control (Mr. Somkiat Boonyancha)	1 year (Jan, 87 - Dec, 87)	DMS	<ul style="list-style-type: none"> - The effects of various concentrations of α-cypermethrin on cockroach was investigated. The mortality rate increased as the dose of α-cypermethrin increased (0.05-0.2 gm ai/m²).
4.15 Study on Small Mammals in Thai-Burma Border, Thailand with Special Reference to Vectors of Plaque and Scrub Typhus (Mr. Mongkol Chenchittikul)	1 year (Oct, 86 - Sept, 87)	DMS	<ul style="list-style-type: none"> - 900 trapping of house rat were carried out in Chiangmai and Chiangrai. The vectors that collected from the rats were oriental rat flea, <i>Xenophylla Cheopis</i>, and chiggers.
4.16 Study on House Dust Mite at Bangkok Railway Residential Village, Bangkok (Mr. Mongkol Chenchittikul)	1 year (Oct, 86 - Sept, 87)	DMS	<ul style="list-style-type: none"> - 271 samples of dust have been collected monthly (Dec, 86 - Aug, 87) and mites from the dust were identified and studied for population density. - Dust mite was found in every sample, especially in samples from bed sheath and bed floor.
4.17 Study on Reproductive Rate of House Rats (Mr. Mongkol Chenchittikul)	1 year and 2 months (Oct, 86 - Dec, 87)	DMS	<ul style="list-style-type: none"> - 450 mouse rats were trapped and vectors living on rats such as chiggers and fleas were collected. Rat blood was also collected for parasitological studies. - All vectors collected are being identified.
4.18 Evaluation of Pesticide Application Equipment (Mr. Somkiat Boonyabancha)	1 year (Dec, 86 - Nov, 87)	DMS	<ul style="list-style-type: none"> - IGEBA ULV knapsack sprayer is evaluated for the numbers and sizes of droplets at various distances. The results show that highest no. of droplets are collected at 5-10 meters, and the droplet sizes are 23.5-48.0 U. - Questionnaires have been sent to survey the pesticide application equipment and their condition in provincial health and municipal Office.

Project Title/Principle investigator	Duration	Source of Fund	Progress
4. Medical Entomology			
4.1 Studies on the Population Dynamics of JE Vector After Long Operation of Light Traps. (Mr. Prakong Phan-Urai)	3 yrs. (May, 86-Apr. 89)	DMS	<ul style="list-style-type: none"> - In 1987, the evaluation was carried out twice in Kampongphet - Thirty light traps have been set up at pig-sites and cow-sheds. A large number of mosquito vectors is expected to be destroyed. - The studies in Khampangphet show that JE vectors were found near pig-sites such as clumps, bushes paddy plants and the wall of pig-sites. - 70 JE vectors were collected. - The more distance away from house, the less number of mosquito.
4.2 Survey of Resting Places of JE-vectors. (Mr. Anusorn Malainaun)	2 yrs. (May, 86-May, 88)	DMS	<ul style="list-style-type: none"> - The survey was conducted in different parts of the country. - The average larval indices and Aedes biting rate were calculated. - All collected data were stored in the computer.
4.3 The Studies of Aedes aegypti Distribution in Rural Areas in Thailand. (Mr. Prakong Phan-Urai)	5 yrs. (Oct. 86-Sept. 91)	DMS	<ul style="list-style-type: none"> - The studies were carried out in Bangkok. The average landing rates and average larval indices were determined. - Adult collection and larval survey index are still in the same high level all over the year.
4.4 The Density Level Survey of Aedes aegypti in Bangkok. (Mr. Banyong Matcum)	2 yrs. (Oct. 86-Sept. 88)	DMS	<ul style="list-style-type: none"> - Susceptibility test of Aedes aegypti larvae to B.t.i. and Culex quinquefasciatus to B.S. 2362 were detected. - Progenies of the tested larvae were continuously evaluated.
4.5 The Study on Resistance of Aedes aegypti to Bacillus thuringiensis israelensis (B.t.i.) and Culex quinquefasciatus to Bacillus sphaericus 2362. (Ms. Saranchit Krairiksh)	2 yrs. (Oct. 85-Sept. 87)	DMS	<ul style="list-style-type: none"> - Population densities of larval and adult stage of An. sudaicus before B.sphaericus application have been observed twice a month since October 1987. - Evaluation of B.sphaericus 2362 against Cx gelidus were conducted.
4.6 Field Trials of C. quinquefasciatus, C.gelidus and Anopheles by B.Sphaericus 2362. (Mrs. Lajana Chuwanadisai)	3 yrs (Oct. 85-Sept. 88)	WHO/TDR and DMS	<ul style="list-style-type: none"> - 250 bacterial strains have been tested for mosquito larval toxicity. - Toxic properties have been found in five samples.
4.7 Survey and Development of Local Pathogenic Bacteria for Mosquito Control. (Mr. Anusorn Malainaun)	4 yrs. (Jan. 87-Dec. 90)	DMS	

Project Title/ Principle investigator	Duration	Source of Fund	Progress
4.8 A Field Trial of Alphacypermethrin (Larvicide oil Against <i>Cx. quinquefasciatus</i> Larvae) in Breeding Habitat. (Mr. Banyong Matcum)	1 1/2 yrs. (Aug. 86-Dec. 87)	DMS	<ul style="list-style-type: none"> - Field trial of Alphacypermethrin in oil has been tested for the control of <i>Cx. quinquefasciatus</i> larvae in breeding habitat. - 0.05% have been proven a good control result.
4.9 A Study on Environment Manipulation for Controlling of <i>Cx. quinquefasciatus</i> . (Mr. Thumrong Phonchevin)	1 yr. (June, 86-May, 87)	DMS	<ul style="list-style-type: none"> - The numbers of larvae significantly decreased within 3 weeks after the disposal of wastes of breeding habitats - The numbers of larvae decreased from 67.45 to 16.45 larvae per dip. After 58 weeks the larval density was 8.20 and 57.60 larvae/dip in experimental plot and check plot respectively.
4.10 Studies on Efficacy of Selected Plants of Thailand as Insecticides or Repellants to Mosquitoes. (Mr. Somkiat Boonyabancha)	3 yrs. (Jan. 87-Dec. 89)	DMS	<ul style="list-style-type: none"> - Crude water extract from selected plant has been tested with larval adult <i>Aedes aegypti</i>. - Repellency and toxicity have been evaluated.
4.11 The Bio-Efficacy Test of Household Pesticide Products. (Mr. kasin Suphathom)	1 yr. (Oct. 87-Sept. 88)	DMS	<ul style="list-style-type: none"> - Bioefficacy test of household pesticide products eg. aerosol spray, bait, coil stick mat have been carried out.
4.12 The Study on Pediculosis Among School Children in the Rural Areas After Treatment with Permethrin 0.5% powder. (Ms. Usavadee Thavara)	4 yrs. (Jan. 87-Dec. 90)	DMS	<ul style="list-style-type: none"> - In 1987, 326 school children with headlice in Northern part of Thailand were treated with 0.5% Permethrin powder. After the application, 100% of the children were free of lice.
4.13 Trial with L-Cypermethrin for Cockroach Control. (Mr. Somkiat Boonbancha)	1 yr. (Jan. 87-Dec. 87)	DMS	<ul style="list-style-type: none"> - The effects of various concentrations of L-cypermethrin on cockroach was investigated. The mortality rate increased as the dose of L-cypermethrin increased (0.05 to 2 gm ai/m²).
4.14 Study on Small Mammals in Thai-Burma Border, Thailand with Special Reference to Vectors of Plaque and Scrub Typhus. (Mr. Mongkol Chenchittikul)	1 yr. (Oct. 87-Sept. 88)	DMS	<ul style="list-style-type: none"> - 3602 trapping of house rats were carried out in Chiangmai, Chiangrai and Tak. The vectors that collected from the rats were oriental rat flea, and chiggers. Many groups of chiggers were the vector of scrub typhus.

Project Title/ Principle investigator	Duration	Source of Fund	Progress
4.15 Study on House Dust Mite at Bangkok Railway Residential Village, Bangkok. (Mr. Mongkol Chenchittikul)	1 yr. (Oct. 86-Sept. 87)	DMS	<ul style="list-style-type: none"> - Samples of dust have been collected monthly (Dec. 86-Aug. 87) and mites from the dust were identified and studied for population density. - Dust mite was found in every sample, especially in samples from bed sheath and bed floor. - Distribution of house dust mites will be studied. - IGEBA ULV knapsack sprayer is evaluated for the numbers and sizes of droplets at various distances. The results show that highest no. of droplets are collected at 5-10 meters, and the droplet sizes are 23.5-48.0 µ. - Questionnaires have been sent to survey the pesticide application equipment and their condition in provincial health and municipal Offices. - 13.3% has no pesticide application equipment used.
4.16 Evaluation of Pesticide Application Equipment. (Mr. Somkiat Boonyabantha)	1 yr. (Dec. 86-Nov. 87)	DMS	

Medical Entomology

Progress Report, NIH, No.2/1988

Studies on the Population Dynamics of JE Vector after Long Operation of Light Traps.....	86
The Studies of <u>Aedes aegypti</u> Distribution in the Rural Areas of Thailand.....	87
The Density Level Survey of <u>Aedes aegypti</u> in Bangkok.....	89
The Population Density Level of <u>Aedes aegypti</u> in Bangkok.....	103
The Study on Resistance of <u>Aedes aegypti</u> to <u>Bacillus thuringiensis israelensis</u> and <u>Culex quinquefasciatus</u> to <u>B. sphaerucus</u> 2362.....	104
Field Trials of <u>Culex quinquefasciatus</u> , <u>Cules gelidus</u> and <u>Anopheles sundaicus</u> by <u>Bacillus sphaericus</u> 2362.....	108
Survey and Development of Local Pathogenic Bacterial for Mosquito Control.....	112
Efficacy Study on Selected Plants of Thailand as Insecticides or Repellants Against Mosquito.....	114
The Studies on Pediculosis among School Children in the Rural Areas after Treated with Permethrin 0.5% Powder.....	116
Trial with Alpha Methrin for Cockroach Control.....	118
A Study of Small Mammals in Thai-Burma Border, Thailand with Special Reference to Vectors of Plague and Scrub Typhus.....	120
Evaluation of Pesticide Application Equipment	125
A Study of Density of House Dust Mites in Any Types of the Houses.....	127
A Survey and Determination of the Species of Mosquitoes in Bangkok Metropolitan.....	131
Field Surveys of Medically Important Arthropoda in Thailand 1987-1988.....	133

Field Trial of Juvenile Hormone Mimic (Code No. S-31183) for the Control of <u>Culex quinquefasciatus</u> Say.....	136
The Study on the Persistence of Juvenile Hormone Mimic (Code No. S-31183) against <u>Culex quinquefasciatus</u> Used Water from Natural Habitat and Observed in the Laboratory.....	139
The Study on the Efficiency and Persistence of Juvenile Hormone Mimic (Code No. S-31183) against <u>Culex quinquefasciatus</u> Say by Simulated Field.....	145
The Study of the Effect of Juvenile Hormone Mimic (Code No. S-31183) on Non-Target Organism.....	150
The Study on the Effect and Potency of Juvenile Hormone Mimic (Code No. S-31183) on the Fourth Stage Larvae of <u>Culex</u> <u>quinquefasciatus</u> , <u>Aedes aegypti</u> and <u>Toxorhynchitis Splendens</u> in the Laboratory.....	152
The Study on the Longevity from the Resistance Level of Malathion, Fenitrothion and Propoxur until Susceptible to These Insecticides of House-Fly.....	157
The Study on the Effect and Potency of Juvenile Hormone Mimic (Code NO. S-31183) on the Fourth Stage Larvae of <u>Culex quinquefasciatus</u> <u>Aedes aegypti</u> and <u>Toxorhynchitis Splendens</u> after Exposed to Sun Light for 3 and 7 Days.....	160
The Evaluation of ICON (OMS-3021) as a Thermal Fog for the Control of Adult <u>Aedes aegypti</u>	168
A Field Trial of Electric Vaporizing Mats against Mosquito Inside House.....	172
A Village Scale Field Trial of Residual Spray of the Synthetic Pyrethroid Compound for the Control of a Domiciliary Cockroaches (<u>Periplaneta americana</u>).....	173

Medical Entomology

Progress Report, NIH, No.1/1989

Ecology of Filariasis Vector Mosquitoes.....	118
Surveys of Sandfly and its Role as Potential Vector in Thailand.....	119
Toxicity of bacterial larvicide toward <u>Aedes aegypti</u>	120
The studies on Biology and Ecology of JE vector.....	122
A Study of Small Mammals in Thai-Burma Border, Thailand with Special Reference to Vectors of Plague and Scrub Typhus.....	123
Geographical distribution of house dust mites in Thailand.....	128
The studies of <u>Aedes aegypti</u> distribution in the rural areas of Thailand.....	130
Evaluation of Pesticide Application Equipment.....	132
Trial with Alpha Methrin for cockroach control.....	140
Efficacy Study on Selected Plants of Thailand as Insecticides or Repellents against Mosquito.....	142
Observations on <u>Aedes aegypti</u> density level in Bangkhen Area, Bangkok.....	144
A village scale trial of the guppy fish, <u>Poecilia reticulata</u> in control of <u>Aedes aegypti</u> larvae.....	146
A village scale field trial of residual spray of the synthetic pyrethroid compound for the control of a domiciliary cockroach (<u>Periplaneta americanas</u>).....	148
Surveys of <u>Anopheles</u> larval habitats in the Pakchong district.....	150
A field trial of Icon (OMS-3021) ULV applied by Fontan R12 for the control of <u>Aedes aegypti</u>	151

Medical Entomology

Progress Report, NIH, No.2, 1989

Surveillance of JE vectors in Endemic Area.....	69
Ecology of Filariasis Vector Mosquitoes.....	70
The Study on Biology of JE Vector in Laboratory.....	71
A Village Scale Trail of the Guppy Fish, <u>Poecilia reticulata</u> in Control of <u>Aedes aegypti</u>	72
Surveys of <u>Anopheles</u> Larval Habitats in the Pakchong District.....	73
Surveys of Sandflies and its Role as Potential Vector in Thailand.....	74
Toxicity of bacterial larvicide toward <u>Aedes aegypti</u>	75
A Study of Small Mammals in Thai-Burma Border, Thailand with Special Reference to Vectors of Plague and Scrub Typhus.....	77
The study of house dust mites density (Acarina: Pyroglyphidae) in various parts of Thailand.....	83
The studies of seasonal fluctuation of adult by trap.....	88
The evaluation of Bendiocarb 80% WP. for residue control of vectors of Japanese encephalitis.....	89
The evaluation of Etofenprox (OMS 3002) 5% ULV for the control of <u>Aedes aegypti</u>	93
A village scale field trial of residual spray of the synthetic pyrethroid compound for the control of a domiciliary cockroach (<u>Periplaneta americanas</u>).....	97
Observations on <u>Aedes aegypti</u> density level in Bangkhen Area, Bangkok.....	99

資料 6

Coordinating Committee 及び
Steering Committee (原文)

資料 6 (A)

Report of the Fifth Meeting of
Coordinating Committee for the Research Promotion Project in NIH

10:00 A.M., 22 December 1989

Conference Room A-203, National Institute of Health

Attending Committee

1. Dr. Preeya Kashemsant Chairman
Representative of Permanent Secretary
and Director-General of Department
of Medical Sciences
2. Dr. Nadhirat Sangkawibha Honorable Consultant
3. Mr. Vudhisit Viryasiri Member
Representative of Department
of Technical and Economic
Cooperation
4. Mr. Hideo Miyamoto Member
Assistant Resident Representative from JICA,
Thailand Office
5. Dr. Komi Kanai Member
Japanese Team Leader, NIH Project
6. Mr. Kohei Nakajima Member
Coordinator, NIH Project
7. Dr. Boonluan Phanthumachinda Member and Secretary
Deputy Director-General
Department of Medical Sciences

- | | | |
|----|---|--------------------------------|
| 3. | Mrs. Wantana Ngam-Wat
Principal Medical Scientist,
Department of Medical Sciences | Member |
| 4. | Miss Amara Vongbuddhapitak
Principal Medical Scientist
Department of Medical Sciences | Member |
| 5. | Dr. Renu Koysooko
Deputy Director-General,
Department of Medical Sciences | Member and Assistant Secretary |

Invited Participants

1. Mr. Masashi Iwano
Secretary, Embassy of Japan
2. Dr. Chongdee Wongpinairat
Secretary of Steering Committee
3. Dr. Boondee Atikij
Assistant Secretary of Steering Committee

1. Information from Chairman

The meeting was chaired by Dr. Preeya Kashemsant, the Director-General of Department of Medical Sciences and representative of Permanent Secretary, Ministry of Public Health. The Chairman briefly informed the Committee that Evaluation Team was at the NIH to evaluate the achievement of Research Promotion Project in NIH. The Team would also discuss with Thai authorities on the extension of NIH Project. The Team members consisted of Dr. Ryosuke Murata as the Team Leader, Dr. Sakae Inouye, Dr. Mitsuo Takagi and Dr. Takeo Sasaki.

2. Adoption of the 4th Meeting report

The committee adopted the report of the 4th Coordinating Committee Meeting held on JULY 21, 1988 without any amendment.

3. Report and discussion

Report on administrative aspect of Technical Cooperation 1985-1989

Dr. Kanai summarized the project activities from the beginning (1984) until present as appeared in attached sheet 2 distributed in the meeting.

Several Japanese Missions have been dispatched to survey, planning, follow-up and finally evaluate the NIH project. The Technical Cooperation has gradually developed from provision of equipment to technological transfer through experts. It is expected that the techniques or knowledge obtained will be further transferred to scientists in other developing countries through Third Country Training Program. The provision of annual budget, equipment, fellowships as well as the dispatch of experts were also summarized. Achievement of vaccine development activities as well as the highlight of technical transfer in various activities were also presented. Most research outputs were published in local and international journals. Summary of research activities and list of published articles were presented in attached sheets 3 and 4 distributed in the meeting.

Report on achievement and progress of research activities, Common Laboratory activities and Middle Level Staff Training Program

Dr. Boonluan Phanthumachinda briefed the achievement and progress of research activities, Common Laboratory activities and Middle Level Staff Training Program as appeared in attached sheet 4 distributed in the meeting. It has been suggested that more cooperation within and between Divisions be strengthened for better and more efficient research output.

Mr. Vudhisit Viryasiri, DTEC representative, expressed his satisfaction on the overall achievement of the project and encouraged the consideration of Third Country Training Program. Following the discussion on the matter, it is agreeable that the Evaluation Team convey the message to JICA whether it is feasible to set up such program at NIH. In connection to the establishment of the program, other supports such as facilities and budget must be taken into consideration.

Dr. Nadhirat Sangkawibha, honorable consultant commented that the appointment of Scientific Board as suggested by Dr. Praves Wasi be considered by DMS. The structure and functions of the Board should be carefully formulated so that the objective of Research Promotion Project in NIH can be achieved.

Future prospects and plans

The future plans of research activities as appeared in attached sheet 4 were approved by the Committee. Briefly, the application of modern technologies on the development of diagnostic techniques, production of biological products, molecular epidemiology as well as molecular studies of microorganisms will be promoted.

National Reference System in Clinical and Public Health Microbiology as well as Insect Reference Museum will be strengthened. Studies on integrated vector control and insect vector surveillance system will be emphasized. In addition, research on environmental health related to infectious diseases will also be conducted.

4. Approval of Joint Evaluation Report

The Evaluation Report prepared by Japanese Evaluation Team and Thai authorities concerned was presented, discussed and approved by the Committee.

The content consisted of summary of progress, performance and achievement of the Project based on the discussion with Thai counterpart personnel concerned. It has been proposed that the Technical Cooperation be carried out for 2 more years after July, 31, 1990 to attain the project objectives which emphasize mainly on infectious diseases. Following the extensive discussion, both sides agreed to include additional remark as appeared in appendix 1.

The Chairman expressed her appreciation for the cooperation of the Evaluation Team before the meeting was adjourned at 12.50 P.M.

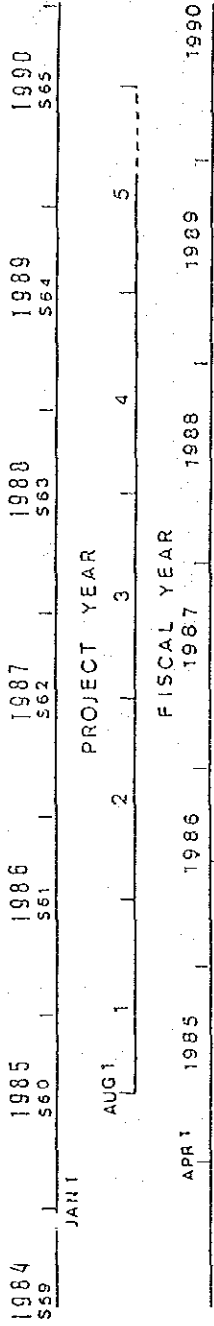
SUMMARY OF PROJECT ACTIVITIES

1985 -- 1989

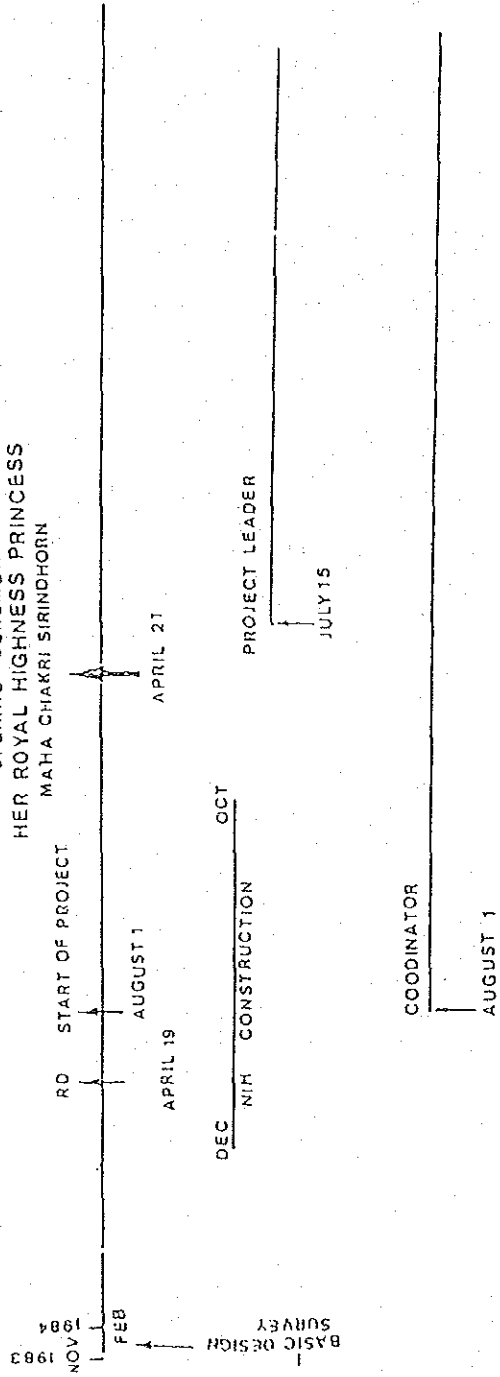
REPORT FROM PROJECT LEADER
IN THE MEETING WITH EVALUATION MISSION

PROJECT HISTORY

CALENDER YEAR
















NIH
OPENING CEREMONY
HER ROYAL HIGHNESS PRINCESS
MAHA CHAKRI SIRINDHORN



MISSION FOR SURVEY AND PLANNING

EVALUATION

-  DR. MURATA
-  DR. KATO
-  DR. FUKAI
-  DR. KANAI
-  DR. YAMANAKA
-  DR. MURATA
-  DR. INOUE
-  DR. TAKAHASHI
-  DR. KURATA
-  DR. KANAI
-  DR. WATANABE
-  DR. TANAKA
-  MR. SASAKI

CALENDER YEAR

1984	1985	1986	1987	1988	1989	1990
S60	S61	S62	S63	S64	S65	S65

PROJECT YEAR

1 2 3 4 5

FISCAL YEAR

1985 1986 1987 1988 1989 1990

Dr. Nadiurat Sangkawibha
 Dr. Somsak Varakamin
 Dr. Ulit Leeyavanija
 Mrs. Preeya Kashemsant

DG:DMS

Mrs. Preeya Kashemsant
 Director NIH

Dr. Ratanasuda Phan-Urai
 Director DCP

Dr. Kanai Chatyanonda
 Director VI

Dr. Boonluan Phanthumachinda
 Director DE

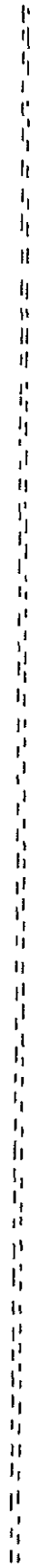
Dr. Dumrong Chiewsilp
 Director DE

Dr. Pailboon Sa-Ngobwachar
 Director VI

Dr. Chumnong Chimapun
 Director DE

Dr. Chuinrudee Jayavasu
 Director DE

Mr. Prakong Phan-Urai
 Director DE



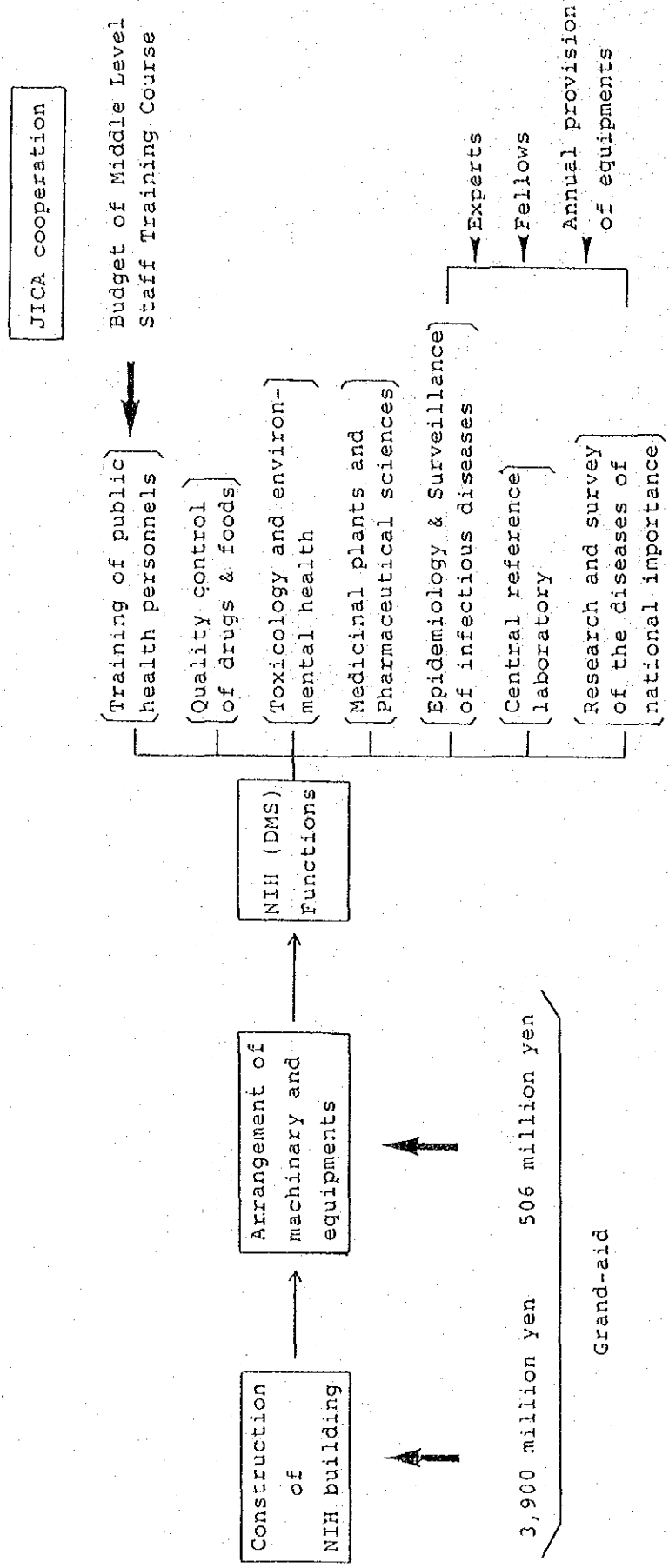
LIAISON
SECRETARIATE

Dr. Renu Koysooko

Miss Annueyporn Tantivejakul Dr. Chongdee Wongpinairat

Dr. Boondee Atikij

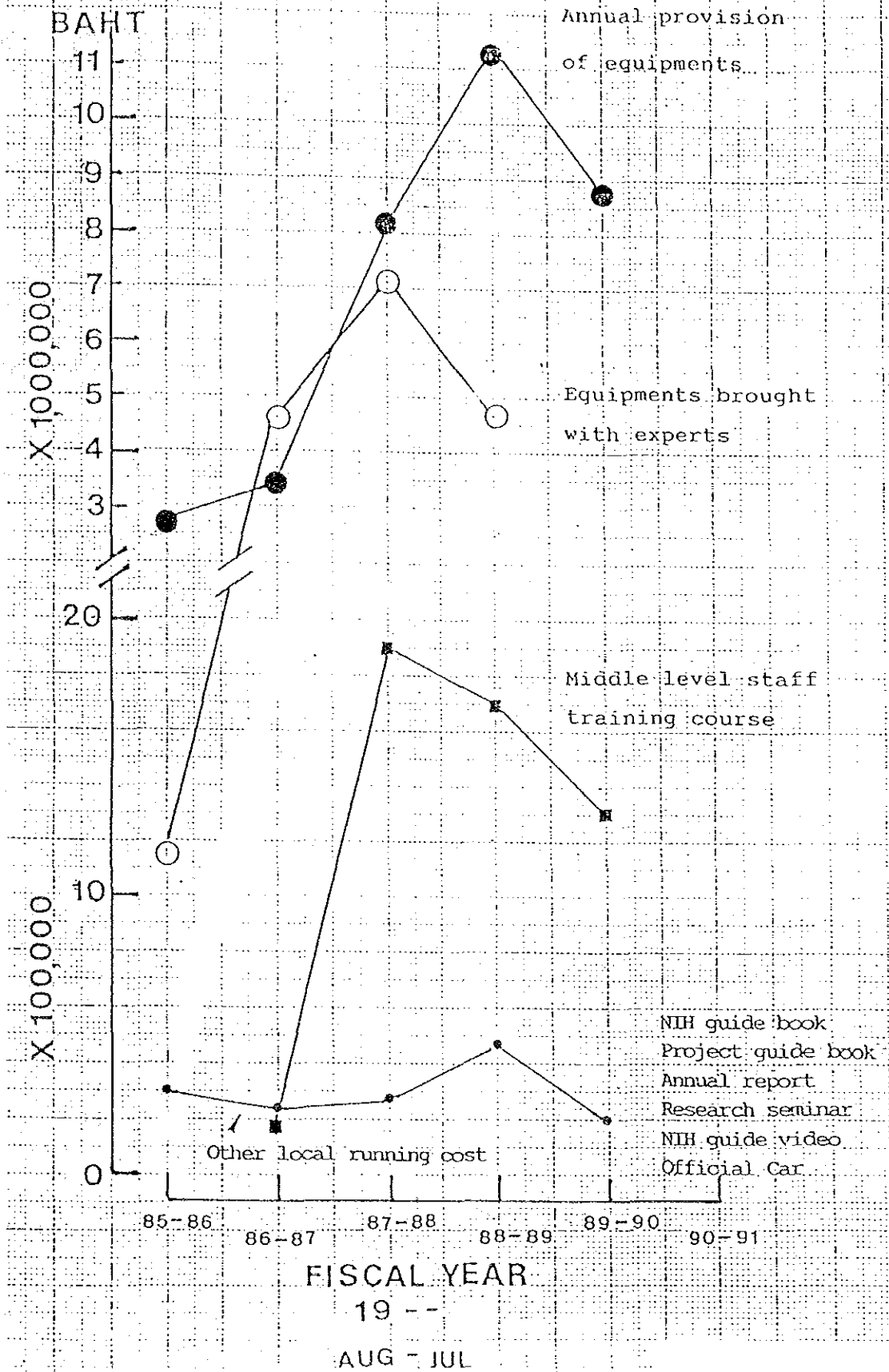
JICA COOPERATION FOR FACILITIES AND FUNCTIONS OF NIH (DMS)



3,900 million yen 506 million yen

Grand-aid

BUDGETARY PROVISION FOR PROJECT FROM JICA



BAHT

DISTRIBUTION OF ANNUAL PROVISION OF
EQUIPMENT TO EACH DIVISION OF NIH
(TOTAL OF 1985-1990)

