NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH

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My Ref. No NC.4/VOL.

4th July, 1996

Your Ref. No:

Dear Sir/Madam,

CO-ORDINATING COMMITTEE MEETING

Please find enclosed, a copy of the minutes of the Co-ordinating Committee Meeting held on 27th June 1996 at the Noguchi Memorial Institute for Medical Research. They form the basis of the report of the Advisory Team.

Yours faithfully,

S.W. Opoku-Agyakwa
Administrative Secretary.

Distribution

Members, Co-ordinating Committee
Members, Advisory Board, NMIMR
Unit Heads.

cc: The Vice-Chancellor,
Legon

The Pro-Vice-Chancellor,
Legon

The Registrar, Legon

Encl.

SWO-A/io

MINUTES OF THE CO-ORDINATING COMMITTEE MEETING HELD ON 27TH JUNE 1996 AT THE CONFERENCE ROOM 102 IN THE NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH

PRESENT:

Prof. F. K. Nkrumah	-	Director, NMIMR	- Chairman
Prof. I. Addae-Mensah	-	Dean, Faculty of Science	
Dr. Kofi Ahmed	-	Ministry of Health Headquarters	
Ms. Juliana Yartey	-	Nutrition, NMIMR	
Dr. K. A. Koram	-	Epidemiology, NMIMR	
Mr. J.A.M. Brandful	-	Virology, NMIMR	
Dr. N. K. Ayisi	-	" NMIMR	
Dr. K.M. Bosompem	-	Parasitology, NMIMR	
Dr. Mary E. Aryeetey	-	" NMIMR	
Dr. M. Armar-Klemesu	-	Nutrition, NMIMR	
Dr. Patience Akpedonu	-	Bacteriology, NMIMR	
Mr. S.W. Opoku-Agyakwa	-	Admin. Secretary, NMIMR	
Dr. T. Kamiya	-	JICA Team Leader, NMIMR	
Mr. Koji Kanemaru	-	JICA Co-ordinator, NMIMR	
Dr. Shudo Yamazaki	-	Leader, JICA Evaluation Team [Virology]	
Dr. Hitoshi Kamiya	-	Member, " [Epidemiology]	
Prof. Kyoichi Kishi	-	" " [Nutrition]	
Dr. Tetsutaro Sata	-	" " [Virology]	
Prof. Somei Kojima	-	" " [Parasitology]	

Mr. Toshimichi Aaki	-	" " JICA Headquarters
Mr. Kimio Abe	-	Asst. Resident Rep., JICA Ghana Office
Mr. Hajime Senoo	-	First Secretary, Embassy of Japan [Observer]

ABSENT:

Prof. J. Anquandah	-	Rep. from Faculty of Social Studies
Prof. S.K. Owusu	-	" " University of Ghana Medical School
Dr. J. O. Otoo	-	" " Director, Medical Services
Mr. Kwasi Poku	-	" of Ministry of Finance & Economic Planning.

OPENING:

The Chairman welcomed members to the meeting. He introduced the Team, and explained that as the Noguchi Memorial Institute Project Phase II was drawing to a close, JICA had dispatched the team for evaluation as envisaged in the Record of Discussions [R.D] signed in 1991 between Ghana and Japan.

He explained further that since the team arrived in the country for its assignment, it had held consultations with authorities in the University and in the relevant Ministries. It had also held technical meetings with Principal Investigators of the various studies in the Institute. Finally on Wednesday 26th June [a day before the Co-ordinating Committee meetings] the Team participated in a seminar organised by the Institute on the Diarrhoeal diseases study of the project. All those preliminaries were to aid the Team in the evaluation exercise.

PRESENTATION OF REPORTS:

Papers before the meeting indicated that in all there were thirty-two research activities undertaken under the four research programmes envisaged in the Record of Discussions. It was noted that most of the studies had been completed and final reports issued already. Progress reports were submitted on studies that were on-going. The meeting was informed that the results of some of the studies had been published in journals or were in press.

JOINT EVALUATION REPORT:

The meeting was informed that arising from the technical meetings, Principal Investigators with the relevant specialists in the Evaluation Team had discussed and assessed each of the four research programmes under the project. Principal Investigators with their Japanese experts were invited to present their joint reports under the following headings:

- **achievements**
- **evaluation**
- **recommendation/future**

In discussing the reports, the meeting concluded that most of the research activities initiated under the project had successfully been carried out. The general recommendation was that the Institute should consolidate experience gained in skills and knowledge on the project by going into related but unresearched fields in the various research programmes.

SPECIAL RECOMMENDATION/OBSERVATIONS:

The Committee considered and endorsed the observations and suggestions made by the Evaluation team in respect of the underlisted research programmes:

Vaccine Preventable Diseases

Work on comparison of Vaccines from the Connaught and the Kitasoto Institutes should be considered. Work should also be done on comparison of AIK-C and Schwarz vaccines administered at the same age. Furthermore, Immunological status of Ghanaian children at the time of measles should be made clear. Finally, the Ministry of Health should be encouraged to use the Institute on a more regular basis.

Diarrhoeal Diseases:

Expert statistician would be required for the volume and detailed analysis needed to be done on data collected during the study.

Schistosomiasis:

The project should be extended because of what remainded to be done to arrive at definite conclusions. In a related development, Principal Investigators were reminded that some studies had been done by the Volta River Authority and published results could aid the group.

AIDS Research:

The Team observed that the HIV/AIDS research could make more progress given more effective leadership that would enhance co-operation and collaboration among staff of the Unit. It advised that the comment should be taken in good faith and determined efforts made to resolve the problems to enhance cooperation and collaboration in the Unit.

GENERAL DISCUSSION ON PHASE II PROJECT AND FUTURE COLLABORATION:

The meeting agreed that while work had been carried out successfully on all fronts of the project, some research activities in Diarrhoeal Diseases, AIDS and Schistosomiasis would need a longer period to conclude than the end of September 1996. Extension of time would therefore be necessary for those activities.

The Team advised that the issue of extension needed to be discussed in relation to the application of Japan Grant Aid submitted by the Institute for physical development.

Briefing the meeting on the future plans of the Institute in relation to collaboration with JICA, the Director intimated that in addition to extension of the Phase II project, the Institute intended to negotiate for another Record of Discussion with the Japan Government. He conceded that the Institute had depended on JICA for what would normally be considered, too long. However, JICA support would be indispensable for sometime to come in order to maintain the integrity of the Institute for the time being. After a long discussion on supplementary funding for the Institute, the meeting agreed that a follow-up lasting 2 years at the end of the Phase II Project should be negotiated. The normal quinquennial co-operation agreement should also be negotiated at the end of the follow-up period.

In response, the Team made it clear that it lacked the power to comment on the proposal as it did not know what the reaction of the Japan Government to the proposal would be. It would however report the views of the Committee to Japan for the necessary decisions to be made.

CONCLUSION:

The Chairman expressed his gratitude to members for attending the meeting. He extended special thanks to the Evaluation Team members for working so hard in order to accomplish their mission on schedule. He congratulated them on their thoroughness and objectivity; and wished them safe journey back home.

SWO-A/bdk#

4 評価ワーキングシート

EVALUATION WORKING SHEET OF NOGUCHI MEMORIAL INSTITUTE PROJECT II ETI/6/91-96
(1)VACCINE PREVENTABLE DISEASES a.

1.OBJECTIVES To evaluate the quality, effectiveness of vaccine and immune response to vaccine of the EPI	ITEMS FOR TECHNICAL TRANSFER		
	ACHIVEMENTS	EVALUATION	RECOMMENDATIONS/FUTURE
2.RESEARCH ACTIVITIES (Target of project) 2-1.DPT vaccines To evaluate the effectiveness of DPT vaccines by epidemiologic and immunologic methods. 2-2.Measles vaccine To investigate the effectiveness of various measles vaccine and to determine the appropriate timing of vaccination. 2-3.Immunology To evaluate the acquisition of immunity after administration of EPI vaccines in malnourished and immunocompromised children, and to determine the appropriate schedule of vaccination among both healthy and immuno-compromised hosts. 2-4.Quality control To advise on the development of vaccine quality control system.	(1) Established that the results of the two component ADDT vaccine were as immunogenic as the whole cell DOT vaccine. The Acellular vaccines were less reactogenic than the WCDDT vaccine. Two papers have been published on the results up to 12 months follow-up 24 and 36 months post vaccination follow-up has been done. (2) The purpose of the study has so far been achieved. It has been established that AIK-C vaccine given at 6 months is as immunogenic as Schwarz vaccine given at 9 months. AIK-C vaccine is able to elicit a strong response in infants with pre-existing Abs. It is possible to us AIK-C vaccine at 6 months in Ghanaian children. (3) It was able to determine immunological responses in natural measles infection. Transfer of FACScan flow cytometer technology has also been done. (4) Quality control tecvology is available in the Institute in respect of measles, polio and yellow fever vaccines.	(1) Good work has been done, which has the potential to contribute to health needs of Ghanaian children. The programme achieved the objectives set out at the beginning. (2) Good work has been done. Results are clear and important for children for EPI. (3) The study has been successful and useful. Transfer of flow cytometer technology very useful. (4) Quality control of EPI vaccines can easily be done on routine basis in the Institute.	(1) Current work could be terminated here. The results of the 24 and 36 months follow-up should be communicated. Secondly, future work could be considered to address the question of booster dose and may be protective levels of Abs. (2) The results of 3 and 6 months follow-up and 18 and 36 months follow-up should be published. Work on comparison of Connaught and Kitasato Institute of the vaccine should be considered as well as comparison of AIK-C and Schwarz at the same age (3) The paper for publication purposes should be pursued. Also optimum time for vaccination should be determined. (4)Ministry of Health should be encouraged to use the facility on a regular basis. (5)Work on Rubella as part of EPI studies should be considered eg. Seroepidemiological studies in susceptible gps.
3.APPROPRIATENESS OF INITIAL PLAN 3-1.Dispatch of Japanese experts 3-2.Counterpart training in Japan 3-3.Provision of equipment 3-4.Seminar	Dr.H. Mori Team Leader/Epi 31.Oct.91-06.Jan.92 Dr.Y.Kamiya Epidemiology 05.Mar.92-30.Apr.94 Dr.K.Taniguchi Team Leader/Epi 10.Nov.92-31.Mar.95 Dr.Y. Tada Immunology 29.Jan.94-26.Feb.94 Dr.K. Kamiya Epidemiology 04.Jan.95-14.Jan.95 Dr.T. Kamiya Team Leader/Epi 20.Feb.95-03.Oct.96 Dr.T. Ihara Immunology 30.Nov.95-20.Dec.95 Mr.M. Addae Immunology 22.Mar.93-14.Oct.93 Ms.E. Owusu Immunology 05.Oct.93-30.Aug.94 Necessary equipments are provided for the project. Seminar on Schistosomiasis and EPI Vaccine Trial was held on 10th of January, 1995.		1.Prof.F.K.Nkrumah Director 2.Dr.P.Akpedonu Bact.Unit Head.Snr.R.Fellow 3.Dr.E.A. Afari Epi.Unit Head,Res.Fellow 4.Dr.S.K. Dunyo Epi.Unit,Research Fellow 5.Dr.E.Koram,Epi.Unit,R.Fello 6.Dr.M.Owusi-Kwasi Vir.Unit,Research Fellow 7.Mr.M.M.Addae Clin. Path.Unit,Chief Tech.

EVALUATION WORKING SHEET OF NOGUCHI MEMORIAL INSTITUTE PROJECTII ET2/6/91-96

(2)DIARRHOEAL DISEASES a.

1.OBJECTIVES To establish the appropriate measures for the control of diarrhoeal diseases with special reference to persistent diarrhoea in childhood in Ghana	ITEMS FOR TECHNICAL TRANSFER		
	ACHIEVEMENTS	EVALUATION	RECOMMENDATIONS/FUTURE
2.RESEARCH ACTIVITIES (Target of project) 2-1.To investigate the aetiology of persistent diarrhoea in childhood (bacterial, viral and intestinal parasitic agents 2-2.To evaluate contamination of water, weaning food and makers of personal hygiene in relation to diarrhoeal diseases. 2-3.To observe infant feeding practice in relation to incidence of diarrhoeal diseases. 2-4.To examine the relationship between persistent diarrhoeal diseases, nutritional and immunological status. 2-5.To formulate and evaluate cereal based-ORS, and dietary management using fermented and non-fermented weaning foods.	Part A: Persistent Diarrhoea in childhood: Aetiology, risk factors and outcome. (1) The overall incidence of diarrhoea was 78/100 child years for acute diarrhoea 46/100 child years and for persistent diarrhoea 9.8/100 child years. Persistent diarrhoea peaked early in life at around four months. (2) A number of viruses, parasites and bacteria were isolated but none was paraticularly associated with persistent diarrhoea. (3) Food, water and hand washing were contaminated with unacceptable levels of bacteria. In some cases the same bacteria enteropathogen was isolated from these samples as well as stool, confirming possible transmission through these routes. (4) An evaluation of risk factors for diarrhoea showed mother's unemployment and lack of education, presence of animals in the home and feeding of purchased foods as predisposing factors. (5) Mother's lack of education, presence of animals in the home and contamination of food with E. coli and Staphylococcus were risk factors for persistent diarrhoea. Part B: Nutrition and persistent diarrhoea: Study on interactions and outcomes. (1) The study has extensively described feeding practices and the relationship to diarrhoea incidence and outcome. (2) Practices that predisposed to diarrhoea were low frequency of breastfeeding (<3 times/day), offering of water to exclusivlely breastfed infants too early, and feeding of purchased foods. (3) Practices that ensured a positive outcome of persistent diarrhoea disease by protecting food intake, weight gain and nutritional status were high frequency of breastfeeding and feeding of the traditional fermented porridge.	(1) On the whole the study has gone very well along the lines of the objectives stated. (2) Aetiological studies have been undertaken but work on E. coli and viruses still continue. (3) Risk factor for diarrhoea and persistent diarrhoea have been identified but more data analysis is yet to be done. (4) Techniques have been acquired in especially molecular biology as a tool for diagnosis in bacteriology. (1) The objectives specified under the diarrhoeal diseases project relating to feeding practices and incidence of diarrhoea and the relationship between persistent diarrhoea and nutritional status have to a large extent been fulfilled. Further data analysis is yet to be carried out to explore, in depth, relationship and associations.	(1) In order to obtain maximum information from the data collected, more time must be allowed for analysis. (2) Studies on the microbial quality and nutrients of street foods are required. (3) Studies on the effect of education on diarrhoea morbidity are also indicated. (1) There is a need to redefine current educational message on exclusive breastfeeding. Messages should be more explicit about the use of water and other fluids. Future research should focus on 'one-on-one' educational intervention on exclusive breastfeeding. (2) Use of the traditional fermented porridge for diarrhoea management should be actively promoted. (3) Purchased foods are predominant in the diets of older children, however there is an obvious risk of diarrhoea associated with such foods and they may not be

	ACHIEVEMENTS	EVALUATION	RECOMMENDATIONS/FUTURE
			readily acceptable to younger children. The idea of contracting food vendors to prepare adult foods for sale, which are suitable and acceptable for younger children, should be re-visited. A system that will monitor the nutritional and microbial quality of such foods should be established alongside appropriate education and effective enforcement of regulations on food hygiene in the communities.
	Part C: Persistent diarrhoea and immune dysfunction (1) Persistent diarrhoea did not affect the nutritional status of the children who visited PML hospital as assessed by blood biochemistry and anthropometry. (2) Persistent diarrhoea had no impact on serum immunoglobulin subclass and complement level. (3) CD19 lymphocyte percentage and CD4/CD8 ratio was lower and CD25 expression was reduced in persistent diarrhoea indication impaired celular immunity.	(1) Clinical study of persistent diarrhoea was successfully completed giving new results.	(1) In future studies number of subjects should be increased. (2) Serum IgE and HIV antibody should also be measured. (3) Mucosal immunity will be investigated by examining sIgA in saliva, tears and faeces of children.
	Part D: Immuno-competence in protein-energy malnutrition (1) The subpopulation of T lymphocyte and phagocytosis by macrophage in malnourished children was not different from normal children. (2) Serum IgA and C3 levels were found to be lower in malnourished children. (3) Technical transfer in the field of immunology was completed.	(1) The study on the relation between nutrition and immune function has been successfully completed.	(1) To investigate further in this field the relation between immunocapacity and specific maro-nutrients such as zinc, should be examined. (2) It will be interesting to examine the alteration of immune function with the improvement of nutritional status.
	Part E: Cereal based ORT studies Phase 1. Formulation and laboratory evaluation (1) Formulation of cereal-based ORS using locally available fermented and unfermented maize flour as the carbohydrate source and common salt (NaCl) as the eletrolyte source. The outcome of these series of experiments was a rehydration fluid that was similar to the traditional maize, gruel, fermented and unfermented, with appropriate carbohydrate and electrolyte levels for oral rehydration therapy, and simulating the WHO ORS. (2) Analyses of some common home-available fluids		

(2) DIARRHOEA - c.

	ACHIEVEMENTS	EVALUATION	RECOMMENDATIONS/FUTURE
	used for ORT done revealed that kenkey water was suitable for oral rehydration considering its carbohydrate and electrolyte levels. However, coconut milk was found to have a high potassium content, and was not recommended for oral rehydration therapy. Phase 2. Clinical-based evaluation (1) A clinical trial of the fermented and unfermented maize-based oral rehydration solutions showed that the solutions were as effective as the WHO ORS for oral rehydration therapy. Also, fermented maize solution was more readily accepted by the children than the unfermented solution. Phase 3. Community-based evaluation (1) An educational intervention mounted was effective in improving diarrhoea management at the household level. An assessment of diarrhoea management post intervention, revealed changes in diarrhoea management practices and perceptions, increased foods and fluid intakes, less drug use and increased recognition of symptoms. (2) Appropriate use of fermented maize gruel for diarrhoea management resulted in sigficant increase in fluid intake, energy and protein intakes and weight gain in children with acute diarrhoea. (3) An evaluation of the community's perception of the feasibility of using fermented maize gruel for diarrhoea management at the household level, indicated that it was feasible and acceptable to being readily available in the community and affordable. (4) Fermented maize gruel is recommended as an appropriate home-available fluid for the first-line management of acute diarrhoea at the household level, to reduce the incidence of diarrhoeal mortality, particularly among children in Ghana.	(1) Studies on the formulation and evaluation of cereal-based ORS were executed on schedule as planned, and successfully completed in April 1995. Reports on all 3 phases of the studies have been submitted to the Institute and the outcome of the first and second studies were published in the J.Trop.Paediat. and Ann. Trop.Paediat. The outcome of the third phase is being prepared for publication. (2) The objectives of the studies were achieved and the outcome is expected to contribute immensely to reducing diarrhoeal mortality in Ghana.	(1) The findings of these studies should be disseminated to relevant institutions and organizations in order to aid appropriate policy formulation towards diarrhoeal disease control in Ghana.
2.APPROPRIATENESS OF INITIAL PLAN 3-1.Dispatch of Japanese experts 3-2.Counterpart training in Japan 3-3.Provision of equipment 3-4.Seminar	Dr.T.Rikimaru Nutrition 07.Dec.92-30.Dec.92 Dr.T.Rikimaru Nutrition 04.Mar.93-03.Jul.95 Dr.K.Rokutan Nutrition 09.Aug.93-25.Sep.93 Prof.K.Kishi Nutrition 08.Jan.93-14.Jan.95 Dr.Y.Kido Nutrition 15.Jul.95-01-Sep.95 Dr.M.Higashitsutsumi Bacteriology 08.Feb.96-11.Apr.96 Mr.O. O. Kennedy Nutrition 29.Mar.92-22.Mar.93 Mr.H.E. Longmatey Bacteriology 22.Mar.93-28.Mar.94 Dr.M.A.Armah-Klemesu Nutrition 17.Mar.94-15.Jun.94 Mr.A.S.Y.Ablordey Bacteriology 20.Nov.94-24.Nov.95 Ms.D.K.Yeboah-Manu Bacteriology 04.Mar.96-21.Dec.96 Mr.S.A.Addo Nutrition 22.Jan.96-29.Mar.96 Dr.P.Akpedonu Bacteriology Requested Jul.96 Necessary equipments are provided for the project. Sem. on Child Nutrition & Survival was held in Dec.93 Pers.Diar.& Immune Dysfunc. in Ghana held on 26/6/96		NAME OF COUNTERPART 1.Dr.P. Akpedonu, Bact Unit Head, Snr. Research Fellow 2.Dr.M.A.Armar-Klemesu, Nut. Unit Head, Research Fellow 3.Dr.G.Armah, E.Microscopy/ Histo.Unit Head,Res.Fellow 4.Dr.M.E.Aryeetey, Para.Unit. Research Fellow 5.Ms. Juliana Yertey, Nut. Unit. Research Fellow

EVALUATION WORKING SHEET OF NOGUCHI MEMORIAL INSTITUTE PROJECT(I) ET2/6/91-96

(3)AIDS

1.OBJECTIVES To establish and develop appropriate techniques for HIV-1 2 (and HTLV-1) and to study the epidemiology of these infections.	ITEMS FOR TECHNICAL TRANSFER ACHIEVEMENTS	EVALUATION	RECOMMENDATIONS/FUTURE
2.RESEARCH ACTIVITIES (Target of project) 2-1.To transfer diagnostic techniques for determination of HIV-1,2 (and HTLV-1) infections (ELISA, Western blot). 2-2.Research on the epidemiology and transmission on HIV infections. 2-3.Virus isolation in Cell Culture and characterization of the isolation Viruses.	(1) Use of locally isolated HIV strains as antigens in HIV serology.About 30 indigenous isolates were available to be used as candidate antigens for the improvement of serological test. To be completed September 199%. (2) Prenatral tramission of HIV infections. Over 2200 pregnant women were screened for HIV-1 & 2, HCV, HBV, HTLV-1 and TP(syphillis) in high and low risk areas in Ghana. Recruitment of mothers and children over a 3-year period was, however, very limited. Perinatal transmission studies were not achieved. To be completed in October, 1996. (3) Isolation and characterisation of HIV strains from Ghana. Virus isolation was successful. Two isolates were molecularly characterized in the env region of the genome using PCR-based techniques after cloning and sequencing. (4) Clinical, immunological and virological status of AIDS and ARC patients and their seronegative partners as well as seropositive non-progressors. Major opportunistic infections in Ghana were identified in clinical and autopsy cases, in which tuberculosis was noticed as a re-emerging disease among AIDS patients. Normal values of CD4 and CD8 count in Ghanaians were estimated. HIV negative AIDS-like disease was identified in Ghana.	(1)Tehnical transfer of PA, ELISA, IFA, Western blot and PCR for diagnosis of HIV-1 and HIV-2 infection was mostly completed. These techniques can be extensively employed for routine diagnosis of HIV-1 and HIV-2. Technical skills of the unit staff who received training in Japan are high. PCR technology is being transferred to new staff members. PCR-based diagnosis of HIV-1 and HIV-2 needs to be perfomed on a large number of samples. (2)The number of examined cases by serological techniques was enough to know the current status of HIV/AIDS in Ghana; higher incidence of HIV-1 infection over HIV-2 and the presence of dual infection. These baseline data on the incidence and prevalence of understanding new trends of retroviral infection in Ghana, thus providing valuable information for the prevention and control of HIV/AIDS infection. (3)The techniques of viral isolation	(1)More progress would be made in HIV/AIDS research if provided with more appropriat leadership and collaboration of staff members. (2)Epidemiological survey of HIV-1 & HIV-2 infection in various population in Ghana should be expanded using a well established, constant assay system. Expansion of survey will contribute to HIV-AIDS control in Ghana. (3)To strengthen its status and function as a reference lab. for HIV/AIDS, collaboration with clinics, pub.health ref.lab. at Korle-bu hospital & WHO, especially by introducing new technology will be important. (4) Introduction of more refined molecular analysis on HIV-1 and HIV-2 will be profitable to the HIV/AIDS epidemiology in Ghana.

3.APPROPRIATENESS OF INITIAL PLAN					NAME OF COUNTERPART
3-1.Dispatch of Japanese experts	Dr.T. Sata	Virology	10.Jul.93-23.Jul.93	in cell culture was effectively transferred to the Virology Unit, but a well standardized, sensitive method has not been fully established yet. Greater familiarization with seronegative PBMCs is expected with continuing virus isolation activities. Limited number of isolates was was characterized at the molecular level. (4)Identification of major opportunistic infections including TB may contribute to understanding AIDS and AIDS-like disease in Ghana. Normal value of CD4 and CD8 number determine contribute to follow-up of HIV/AIDS patients. More detailed studies are needed to conclude if HIV-negative AIDS-like dise.is truly pres.in Ghana	1.Dr.M. Osei-Kwasi Virology Unit Head, Research Fellow
	Dr.K.Ishikawa	Virology	10.Jul.93-23.Jul.93		
	Dr.S.Inoue	Virology	08.Jan.95-14.Jan.95		
	Dr.K.Ishikawa	Virology	17.Feb.95-16.Mar.95		
	Dr.K.Ishikawa	Virology	11.Jan.96-31.Jan.96		
	Dr.T.Komatsu	Biosafety	08.Jan.96-29.Jan.96		
	Dr.T.Asano	Lab.Animal	08.Jan.96-29.Jan.96		
3-2.Counterpart training in Japan	Mr.S. Aidoo	Virology	04.Jan.93-03.Dec.94		2.Dr.N.K. Ayisi Virology Unit, Research Fellow
	Mr.J.A.Arthur-Quarm	Virology	07.Nov.94-02.Nov.95		
	Mr.J.A.M.Brandful	Virology	28.Mar.95-30.Jun.95		3.Mr.J.A.M. Brandful Virology Unit, Research Fellow
	Mr.J.A.M.Brandful	Virology	Requested Jul.96		
3-3.Provision of equipment	Necessary equipments are provided for the project.				
3-4.Seminar	Seminar on AIDS was not held.				

EVALUATION WORKING SHEET OF NOGUCHI MEMORIAL INSTITUTE PROJECTII

(4)SCHISTOSOMIASIS - a.

1.OBJECTIVES To establish the most effective and feasible measure to control schistosomiasis in Ghana	ST2/6/91-96 ACHIEVEMENTS	ITEMS FOR TECHNICAL TRANSFER EVALUATION	RECOMMENDATIONS/FUTURE
2.RESEARCH ACTIVITIES Field Research 2-1.To analyze the present status of schistosomiasis prevalence in Ghana in collaboration with Ministry of Health 2-2.To examine basic epidemiological, socio-cultural, economic and behaviour factors associated with schistosomiasis in defined communities. 2-3.To examine effectiveness of combined control measures of schistosomiasis. Laboratory Research 2-4.To develop effective molluciciden To study different strains of S. haemotobium. To develop immunodiagnosis.	Field research A. Status of Urinary Schistosomiasis (1) A census was conducted in 8 villages with a population of 4636. Urinary schistosomiasis was found to be endemic in the study areas, individuals under 19 years of age being identified as the high risk group. *Schistosoma mansoni* infection was not found although hookworm was found to be the predominant intestinal parasite. Indirect and direct morbidty studies (2) Microhaematuria was found t be favourably as sensitive and specific as microscopy. Ultrasonography revealed that 52.7% of 1,202 infected subjects had pathology ranging from mild to severe changes of the urinary tract. Severe cases with kidney pathology were resolved within 18months of praziquantel treatment; whereas there were no changes in severe pathological cases. Snail survey (3) a survey of 77 water contact sites for schisto host snails revealed a high infection rate at site 1 in Ayikai Doblo which needs to be followed up. B. Factors associated with urinary schistosomiasis (1) Questionaire based KABP and focus group discussions involving 428 adults and 406 children showed that schistosomiasis infected people bad knowledge about the disease. Water contact observation study (2) Water contact observational study was conducted in all the 8 villages for 30 days in a total of 70 sites. Data analysis is in progress. C. Control (1) The 8 villages were grouped into 3 Areas for the control programme. One area received chemotherapy only; the second chemotherapy and passive health education in conjunction with community mobilization. (2) Modified selective chemotherapy with praziquantel was done for 1,612, children of school going age and *S. haematobium* egg positive adults. (3) Health education: (1) One hundred and twenty flip charts were prepared with illustrations on rural community activities relating to sanitation and schisto-	(1) The status of urinary schistosomiasis has been considerably determined for southern Ghana. (2) Data revealing the interactive importance of epidemiological, socio-cultural, economic and behaviour factors associated with shistosomiasis has been compiled and used as basis for formulating the control strategies used in the study areas. (3) The study has revealed that the degree of success achievable with any of the control measures (chemotherapy alone, chemotherapy + passive health education + community mobilization) used appeared to be highly dependent on available existing structures for safe water supply, organized groups and the time of introduction of the control measure. (4) Interestingly, the study has identified *B. aegyptiaca* to have potential molluscicidal properties. (5) This study has demonstrated mixing and possible hybridization of the *S. haematobium* strains in Ghana. The establishment of the life-cycle is necessary to confirm and facilitate studies with the different strains. (6) A new immunodiagnostic assay (a monclonal antibody-based dipstick) has been developed as an alternative to microscopy. This assay will be helpful in rapid assessment of schistosomiasis in the field. Some of the information and experiences gathered with the project have worldwide applicability and would be quite useful to the Ministry of Health of Ghana in formulating control strategies for urinary schistosomiasis. Seven papers have been produced from the studies, two of which are in press. Six Abstracts have been presented at International Congresses.	(1) The control of urinary schistosomiasis should now be targeted at the identified high risk group (school going age). There is the need to extend follow-up studies on the different control measures being tested. (2) Since the molluscicidal study has so far looked at only the fruits of the candidate plants, there is the need to determine the potency of other plants parts (leaves, bark, roots etc.) before identification of the active ingredient. (3) To clarify the *S. haematobium* strain differences, more work is needed at the molecular level. (4) The newly developed immunodiagnostic assay is highly field applicable. There is therefore the need to fully exploit its potentials, i.e., determination of drug efficacy and the intensity of infection and pathology. (5) The identified target molecules recognized by monoclonal antibodies should be studied further using molecular technology. Judging from the amount and quality of work and the future implications of the findings from both t he field and laboratory researchers it is highly recommended that the project should be extended.

	ACHIEVEMENTS	EVALUATION	RECOMMENDATIONS/FUTURE
	somiasis control measures. (2) two video productions each in 2 local languages and English were made. (3) 15 health education volunteers were trained by the project team and used in house-to-house teaching in their communities. (4) Communities were mobilized by: (1) Organization of 56 durbars in all the 8 villages, (2) Formation of town development committees, (3) Staging a quiz programme on schistosomiasis for school children, (4) Provision of 5 hang-dug-wells, (5) Provision of two KVIP toilets in two schools; and six household-toilets in Area 3. Cure and re-infection rates were monitored for 24 months after treatment and a high rate of re-infection was observed in Area 3. Re-treatment of individuals aged 6-19 yrs was, therefore, carried out 24 months after the first treatment. Follow-up studies are ongoing. Unlike the first treatment exercise infected adults requested for tablets thereby indicating a change in attitude. Laboratory Research (A) Molluscicides (1) The fruits of three saponifying plants (*Balanites aegyptiaca, Blighia unijugata and Blighia sapida*) were studies and *B. aegyptiaca* was found to be most toxic. Adult schistosomiasis hosts snails were more susceptible. (B) To study different strains of *S. haematobium*. (1) Laboratory breeding colonies of the two snail vectors (*Bulinus globous and Bulinus truncatus*) have been established, and mixing of the two *S.haematobium* strains in Ghana has been confirmed in some infected individuals and communities. (2) The first batch of hamsters and mice have been infected with suspected strains of .haematobium and adult worms recovered.Meanwhile, *S.haematobium* strain specific monoclonal antibodies have bean shown to offer an alternative approach to identification of the parasite strains in Ghana. (C) Immunodiagnosis (1) We have demonstrated that *S. haematobium* antigens in infected human urine are in the form of immune-complexes and introduced new methods for extraction and purification of the antigens. (2) We have produced monclonal antibodies including: (a) an *S. haematobium* species-specific antibody, (b) potentially diagnostic monoclonal antibodies to the *Schistosoma* genus and (c) *S. haematobium* strain spefific monoclonal antibodies. (3) We have developed, standardized and introduced a highly sensitive and specific field applicable urine-based dipstick assay and evaluated it in the field using a population of 229.		

(4) SCHISTOSOMIASIS - c.

	ACHIEVEMENT	EVALUATION	RECOMMENDATIONS/FUTURE
	Serology (4) Sero-epidemiology studies on uriary schistosomiasis have revealed that very few iafected individuals had serum antibodies (mainly IgA) to paramyosin an antigen which is currently being investigated for use as a vaccine against schistosomiasis. (5) Interactive analysis of epidemiological data on parasitological, malacology and water contact has shown that some individuals in the study population may be resistant to reinfection.		
3.APPROPRIATENESS OF INITAL PLAN 3-1.Dispatch of Japanese experts	Dr.Y.Wagatsuma Parasitology 26.Oct.91-30.Nov.91 Prof.S.Kojima Parasitology 26.Oct.91-11.Nov.91 Dr.Y.Wagatsuma Parasitology 03.May.92-02.Sep.95 Prof.H.Hata Parasitology 20.Jul.92-30.Aug.92 Dr.Y.Orido Parasitology 20.Jul.92.09.Sep.92 Prof.S.Kojima Parasitology 10.Aug.92-09.Sep.92 Dr.T.Arishima Parasitology 01.May.93-30.Apr.95 Dr.T.Yamashita Parasitology 09.Aug.93-14.Nov.93 Prof.S.Kojima Parasitology 20.Nov.93-02.Dec.93 Dr.H.Kamiya Parasitology 20.Nov.93-02.Dec.93 Dr.T.Yamashita Parasitology 23.Aug.94-07.Oct.94 Prof.S.Kojima Parasitology 08.Jan.95-14.Jan.95 Prof.S.Kojima Parasitology 05.Aug.95-26.Aug.95 Dr.A.Kokaze Parasitology 09.Mar.96-30.Mar.96 Requested Parasitology Requested Jun.96 Requested Parasitology Requested Jul.96		NAME OF COUNTERPART 1. Dr.M.E. Aryeetey Parasitology Unit, Research Fellow 2. Dr.K.M. Bosompem Parasitology Unit, Research Fellow
3-2.Counterpart training in Japan	Ms.I.Gyambiby Parasitology 22.Mar.93-10.Mar.94 Mr.J.R.K.Aaigbe Para/Third country program/RITM Mr.M.Abdul Para/Third country program/RITM Mr.K.Harrison Kpo Para/Third country program/RITM Dr.K.M. Bosompem Para/Third country program/RITM		
3-3.Provision of equipment	Necessary equipments are provided for the project.		
3-4.Seminar	Seminar on Schistosomiasis and EIF vaccine trial in Ghana was held on 10th January, 1995		

5 野口記念医学研究所の組織について

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH

ORGANISATION

The Institute is managed by the Director with the assistance of a number of committees and boards. The organisational structure and links are shown in the diagram attached.

1. The Management Committee: formulates the policies and guides the management of the Institute. It approves research programmes and makes recommendations on the development of the Institute to the Academic board of the University, which is presided over by the Vice-Chancellor. The Committee consists of:
   - The Director, NMIMR (Chairman);
   - Deputy Director of NMIMR;
   - Two members elected by Heads of Unit;
   - Two members elected by the Senior Members of the Institute;
   - Two members elected by the Board of the Medical School;
   - One member elected by the Research Committee of the Medical School;
   - One member each elected by the following Boards:

     Board of the Faculty of Agriculture;
     Board of the Faculty of Science;
     Board of the Faculty of Social Studies;
     Board of the Institute of Statistical Social and Economic Research (I.S.S.E.R.).

2. The Advisory Board: provides liaison with other governmental and private agencies and advises and makes recommendations to the Management Committee on matters of national policy relating to medical research relevant to national and international health needs. It is composed of:
   - The Pro-Vice-Chancellor (Chairman);
   - The Director, NMIMR;
   - The Dean of the University of Ghana Medical School;
   - Two members elected by Senior Members of the Institute;
   - Chairman of the research Committee of the University;

- Three non-medical members appointed by the vice-Chancellor on the recommendation of the Management Committee to represent the interest of the general public;

- One member of the Council for Scientific and Industrial Research;

- One member appointed by the Ministry of Finance and Economic Planning;

- One member representing the Ghana Medical Association;

- One member representing the Volta River Authority;

- The Director of Medical Services;

- The Resident Programmes Co-ordinator of WHO.

3. The Co-ordinating Committee: supervises the implementation of the Ghana-Japan Medical Co-operation Programme and ensures effective use and co-ordination of the Japanese contribution with the activities of the Institute. The members include:

- The Director of NMIMR (Chairman);

- Vice-Dean of the University of Ghana Medical School;

- Team Leader of the Japanese Scientists;

- Japanese Scientists;

- Ghanaian counterparts to the Japanese scientists;

- Dean, Faculty of Science;

- Dean, Faculty of Social Studies;

- Representative, Ministry of Finance and Economic Planning;

- Director of Medical Services;

4. The Finance Board: supervises the financial administration of the Institute within the framework of the general financial regulations of the University. It consists of:

- The Director, NMIMR (Chairman);

- The Deputy Director;

- Two Heads of Units elected by the Heads of Units of the Institute;

- Two members elected by the Senior members of the Institute;

- One member representing the Finance Committee of the Medical School;

- The Finance Officer, University of Ghana;

- One member representing the Senior Staff Association of the Institute;

- One member representing the Teachers and Educational Workers' Union of the Institute.

5. The Appointments Committee: deals with matters relating to the appointment of staff below the grade of Senior Member of the Institute:

It comprises:

- The Director, (Chairman);

- Two representative of the Management;

- The Secretary, NMIMR;

- A representative of the Unit considering the candidate;

- A representative of a cognate Unit.

6. The Scientific and Technical Committee: examines the objectives, relevance, scientific quality and budgets of all research projects proposed to it, and reviews the progress of execution. It is also required to serve as a conference committee of the Institute. It is composed of:

- The Director, NMIMR (Chairman);

- All Heads of Units;

- JICA Team Leader.

- Representatives from 5 cognate Departments of:

  i. Department of Animal Science, Faculty of Agriculture;

  ii. Department of Community Health, University of Ghana Medical School;

  iii. Department of Nutrition and Food Science, Faculty of Science;

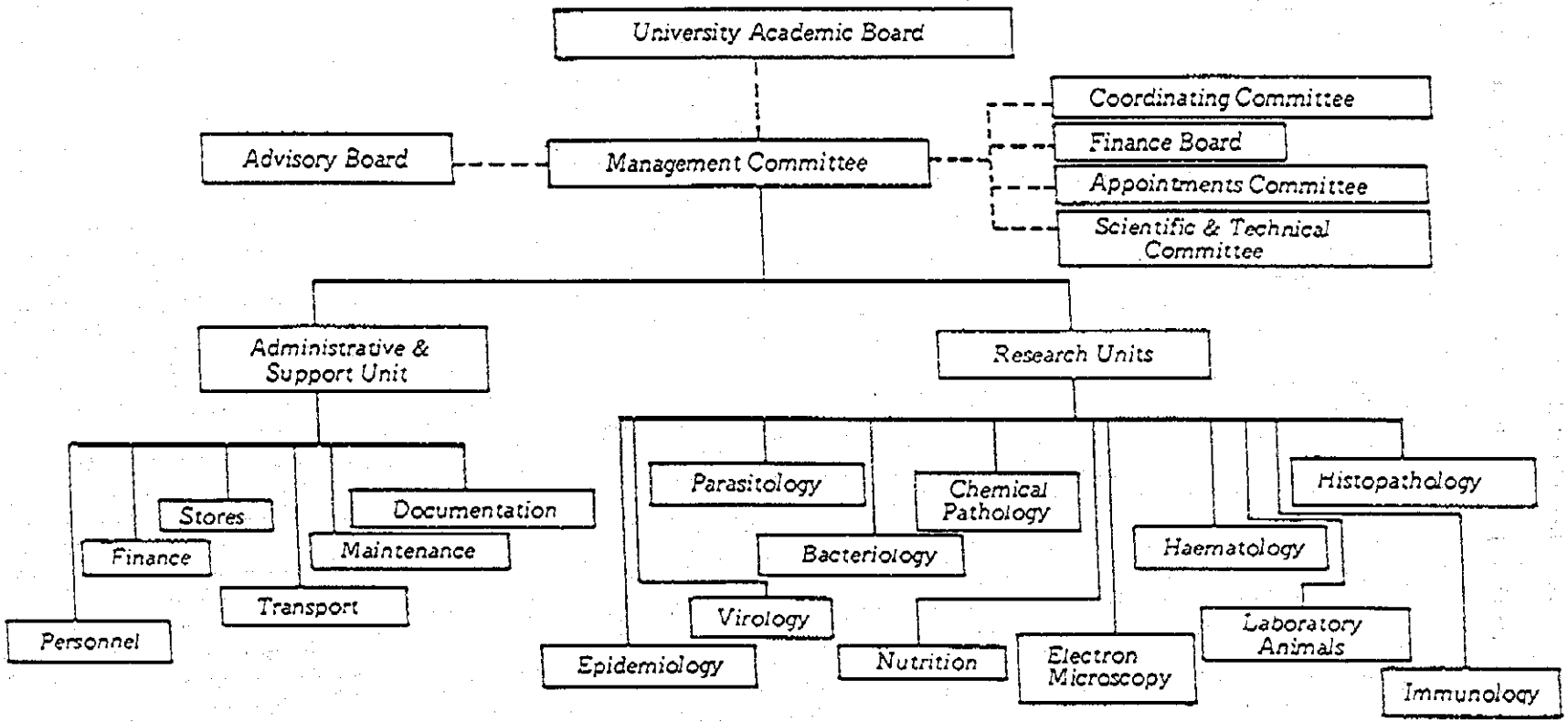
  iv. Institute of Scientific Social & Economic Research;

v. Department of Biochemistry.

- Principal Investigators (on invitation).

6 組 織 図

ORGANISATIONAL CHART



NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH
JICA SUPPORTED PROJECTS 1991 - 1996

Area: Vaccine Preventable Diseases

	PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
1.	Randomised controlled trial of acellular pertussis-diptheria-tetanus vaccines in southern Ghana. (Epidemiology/Immunology Units)	E.A. Afari, S.K. Kamiya, S.K. Dunyo,F.K. Nkrumah, P. Akpedonu, P. Kamiya	September 1992	Completed	Final report	Annals of Tropical Paediatrics 16: 39 - 48, 1996.
2.	A randomised controlled trial of two acellular pertussis-diptheria-tetanus vaccines in Ghana. (Epidemiology/Immunology Units)	H. Hori, E.A. Afari, B. Akanmori *et al.*	May 1991	Completed	Final report	Annals of Tropical Paediatrics 14: 91 - 96, 1994.
3.	Clinical and bacteriological study of pertussis in Accra. (Epidemiology/Bacteriology Units)	Y. Kamiya, P. Akpedonu, E.A. Afari, H. Hori *et al.*	August 1992	Completed	Final report	Manuscript submitted for publication.
4.	Randomised trial of AIK-C measles vaccine in infants at 6 months compared to Shwarz vaccine at 9 months in Ghana. (Virology and Epidemiology Units)	M. Osei-Kwasi, E.A. Afari, S.K. Dunyo, F.K. Nkrumah	January 1993	Long term follow-up on-going till mid '97	Progress report	Manuscript in preparation. Interim results presented at NMIMR Seminar on Schistosomiasis and EPI Vaccine Trials in Ghana 10 January 1995 and WHO Informal Consultation on the use of AIK-C Strain of Measles Vaccine before nine months of age. Geneva, 22 - 23 may 1995.
5.	Surface marker patterns of T lymphocytes and expression of CD 25 during measles infection. (Clinical Pathology/Immunology)	M.M. Addae, K. Taniguchi *et al.*	January 1994	May 1995	Final report	

Area: Diarrhoea Diseases

	PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
1.	**Studies on persistent diarrhoea disease in Ghana**					
Part A	Persistent diarrhoea in childhood: Aetiology, risk factors and outcome. (Bacteriology/Nutrition Units)	P. Akpedonu, M.A. Armar-Klemesu	June 1993	On-going; field work to be completed in June 1996	Progress report	African J. Health Science 2: 277-281, 1995
Part B	Nutrition and persistent diarrhoea in childhood: A prospective study of interactions and outcomes. (Nutrition/Bacteriology Units)	M.A. Armar-Klemesu, P. Akpedonu, T. Rikimaru	June 1993	On-going; field work to be completed in June 1996	Progress report	
2.	Persistent diarrhoea and immune dysfunction. (Immunology/Nutrition Units)	K. Taniguchi, T. Rikimaru, P. Akpedonu, M.A Armar-Klemesu, J. Yartey	July 1994	Completed	Final report	Manuscript in preparation
3.	Immuno-competence in protein-energy malnutrition (Nutrition/Immunology Units)	T. Rikimaru, J. Yartey, K. Taniguchi	June 1993	Completed	Final report	
4.	**Cereal based ORT studies**					
Part I:	Carbohydrate and electrolyte content of some home made available fluids used for oral rehydration. (Nutrition Unit)	J. Yartey, E.K. Harrison, L.A. Brakohiapa	June 1991	Completed	Final report	J. Tropical Paediatrics 39; 234-237, 1993
Part II:	Clinical trial of fermented maize based ORS in the management of acute diarrhoea in children. (Nutrition Unit)	J. Yartey, F.K. Nkrumah, H. Hori	Sept. 1992	Completed	Final report	Annals of Tropical Paediatrics 15: 61-68, 1995

Area: Diarrboea Diseases cont.

PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
Part III Feasibility of using fermented maize gruel for the management of acute diarrhoea at the community level in Ghana. (Nutrition Unit)	J. Yartey, F.K. Nkrumah, T. Rikimaru	April 1994	Completed	Final report	Manuscript in preparation

Area: HIV/AIDS

	PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
1.	Use of locally isolated HIV strains as antigens in HIV serology. (Virology Unit)	M. Osei-Kwasi, J. Branful	1994	To be completed September 1996	Progress report	Draft manuscript on serology completed.
2.	Perinatal transmission of HIV infections. (Virology Unit)	M. Osei-Kwasi, K. Ishikawa	1993	To be completed October 1996	Progress report	
3.	Isolation and characterization of HIV strains from Ghana. (Virology Unit)	M. Osei-Kwasi, K. Ishikawa, J. Brandful	1992	On-going	Progress report	
4.	Clinical, Immunological and Virological status of AIDS and ARC patients and their sero negative partners as well as seropositive non-progressors. (Virology Unit/UGMS)	N.K. Ayisi, D.R. Tsiagbe, E.K. Wiredu, T. Sata, I. Ishikawa	January 1995	Partly completed	Progress report	

Area: Schistosomiasis

PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
1. **Epidemiology and control of urinary schistosomiasis in three defined rural areas in Southern Ghana. (Parasitology Unit)**					
Part I & II					
i. Epidemiological studies on urinary schistosomiasis in the three defined areas in Southern Ghana.	M. Aryeetey, Y. Wagatsuma	Sept. 1992	Completed	Final report	Manuscript ready for submission. Presented at NMIMR Seminar, January 1995.
ii. Questionnaire survey of socio-demographic factors and knowledge, attitudes, beliefs and practices with respect to urinary schistosomiasis	Y. Wagatsuma, M. Aryeetey, G. Bentil	May 1992	Completed	Final report	Manuscript in preparation
iii. Focus group studies	Y. Wagatsuma, G. Bentil	June 1994	Completed	Final report	Manuscript in preparation
iv. Water contact studies	M. Aryeetey, Y. Wagatsuma	April 1993	Completed	Final report	Manuscript in preparation
v. Distribution of schistosomiasis host snails in three rural endemic areas in Southern Ghana.	M. Aryeetey, Y. Wagatsuma	Sept. 1992	Completed	Final report	—
Part III Control of urinary schistosomiasis in three defined rural areas in Southern Ghana.	M. Aryeetey, Y. Wagatsuma	August 1993	On-going	Progress report	—

Area: Schistosomiasis cont.

	PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
Part IV						
	Pathological changes detected by ultrasound in persons with infection due to S. haematobium after praziquantel treatment in endemic communities in Ghana.	Y. Wagatsuma, M. Aryeetey	1992	Completed	Final report	Being submitted as PhD Thesis to Johns Hopkins University by Dr. Wagatsuma
2.	**Development of new immuno-diagnostic techniques for urinary schistosomiasis**		March 1993	On-going	Progress report	
(i)	Characterization of monoclonal antibodies that detect Schistosoma haematobium soluble egg and infected human urine antigens.	K.M. Bosompem, T. Arishima		Completed	Final report	Hydridoma (in press)
(ii)	Extraction of Schistosoma haematobium antigens from infected human urine and generation of potential diagnostic monoclonal antibodies to urinary antigens	K.M. Bosompem, T. Arishima, T. Yamashita		Completed	Final report	Submitted for publication.
(iii)	Purification of Schistosoma haematobium antigens from the urine of infected humans	K.M. Bosompem, T. Arishima, T. Yamashita		On-going	Final report	Submitted for publication in the proceedings of the Symposium on Epidemiology and Control of Schistosomiasis October 11 - 12, 1994, Nairobi, Kenya.
(iv)	A new monoclonal antibody-based dipstick assay for specific diagnosis of urinary schistosomiasis	K.M. Bosompem		On-going	Final report	Manuscript in preparation

Area: Schistosomiasis cont.

	PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
(v)	Limited field evaluation of a rapid monoclonal antibody-based dipstick assay for urinary schistosomiasis.	K.M. Bosompem		Completed		Manuscript in preparation Abstracts
(vi)	A dot-immunobinding assay for detection of Schistosoma haematobium antigens in infected human urine.			On-going		15th African Health Sciences Conference, Nairobi, Kenya, 7th to 11th February 1994.
(vii)	Anti-paramyosin antibodies and natural immunity to schistosomiasis.	T. Arishima, K.M. Bosompem, T. Yamashita		Completed		9th Japan International Health Conference, Kagoshima, Japan, 30 - 31 July 1994. 16th African Health Sciences Congress, Nairobi, Kenya, 6-10th February, 1994. Seminar on Schistosomiasis and EPI vaccine trials in Ghana, Accra, Ghana. 10th January, 1995. Seminar on Schistosomiasis and EPI vaccine trials in Ghana, Accra, Ghana. 10th January, 1995.

Area: Schistosomiasis cont.

	PROJECT TITLE	PRINCIPAL INVESTIGATORS	STARTED	STATUS	REPORTS SUBMITTED	PUBLICATIONS/PRESENTATIONS
3.	Studies on Schistosomiasis haematobium strains in Ghana.	K.M. Bosompem, M.E. Aryeetey	March 1995	On-going	Progress report	
4.	Studies of the molluscicidal activity of some saponifying plants, sapindaceae, on schistosome host snails in Ghana under laboratory conditions.	M.E. Aryeetey	January 1995	On-going M.Phil research for Kpikpi	Progress report	

8　プロジェクト評価シート

(1)

プロジェクト評価シート

野口記念医学研究所プロジェクト（第2期）

協力分野	技術移転項目				インプット		国内支援体制	カウンターパート
	終了時目標	目標達成状況		延長の必要性 延長後の目標	専門家派遣 ( )内記載終了時までの期間	研修員受入 ( )内記載終了時までの期間		
		96' 6月時点	96' 9月終了時					
1．ワクチン関連分野	ワクチンの品質と効果の評価及びEPIワクチンにおける免疫原性の評価			一部について目標達成度が十分ではなく延長が必要。	堀　浩樹(チームリーダー/研) 1991-10-1993-1	Mr. M. Addae 1992-3-1993-10	国立三重大学 国立三重病院	Prof. F. K. Nkrumah (Dir)
	1-1. DPTワクチン	5 4 3 2 1	5 4 3 2 1	1－1．については追加接種の必要性について検討が必要。	神谷　保彦(研) 1992-3-1994-4	Ms. E. Owusu 1993-10-1994-8		Dr. P. Akpedonu (Bac)
	1-2. 麻疹ワクチン	5 4 3 2 1	5 4 3 2 1	1－2．はフォローアップ継続中である。	谷口清州(チームリーダー/研) 1992-11-1995-3			Dr. E. A. Afari (Epi)
	1-3. 免疫学的研究	5 4 3 2 1	5 4 3 2 1	1－3．は基礎データがまとめられたところで、更に研究が必要。 1－4．は、野口研との調整が必要。	多田　春一(技研) 94-1-1994-2			Dr. S. K. Dunyo (Epi)
	1-4. 品質管理	5 4 3 2 1	5 4 3 2 1		神谷　晋(研) 1995-1-1995-1	<研修員受入機関> 国立三重大学		Dr. E. Koram (Epi)
					神谷敏也(チームリーダー/研) 1995-2-(1996-9)			Dr. M. Osei-Kwasi (Vir)
	分野全体の目標達成度	5 4 3 2 1	5 4 3 2 1		南原　俊明(技研) 1995-11-199512			Mr. M. M. Addae (Che)

ワクチン関連分野研究に関与したユニットは、疫学、ウイルス、細菌、免疫、臨床病理ユニットで、多くの研究はプロジェクトで実績のある疫学ユニットが主導して行った為、比較的順調に行われた。日本人の長期専門家の継続的支援があったことも大きいと思われる。

ＡＰＤＴワクチンと麻疹ワクチンのトライアルではガーナのみならず途上国全てに適応出来る成果が得られた。

免疫不全、栄養不良児へのワクチン接種は行われなかったが、途上国で免疫不全を来す重要な疾患として麻疹を想定して、麻疹感染が免疫機能に与える影響が検討された。日本人小児と異なる結果が得られ、持続性下痢症での免疫研究で得られた成績と共に、今後もこの分野については検討が必要と思われる。

保健省と協力して行うことになっていたワクチン品質管理については、研究所がガーナの感染症におけるレファレンスラボラトリーとしての役割を果たしていこうとする決意と人材、予算の支援があることが前提となり、今プロジェクトではそこまでに至らなかった。

ワクチン分野に関してはこれまでの協力で野口研だけで研究計画を立て、調査、研究を行う技術は移転されたと判断するが、ワクチン関連分野の研究は途上国においては今後も重要な問題である。野口研が世界のワクチン研究をリードする研究所となるように引き続き支援することは意味のあることと考える。

(2)

プロジェクト評価シート

野口記念医学研究所プロジェクト（第2期）

協力分野	技術移転項目				インプット		国内支援体制	カウンターパート
	終了時目標	目標達成状況 96'6時点	目標達成状況 96'9終了時	終了後の目標 延長の必要性 延長後の目標	専門家派遣 （ ）内は調査団派遣までの期間	研修員受入 （ ）内は調査団派遣までの期間		
2．下痢症関連分野	ガーナ国における難治性下痢症に対する治療法の確立			最終報告完成までの延長は必要。一定の成果が上げられており、当初目標は達成されているので、下痢症プロジェクトとしては次期延長の必要性は弱い。	力丸 徹(疫学) 1992-12~1992-12 力丸 徹(疫学) 1993-3~1995-7 六反 一仁(疫学) 1993-8~1993-9 岸 恭一(疫学) 1995-1~1995-1 木戸 康弘(疫学) 1995-7~1995-9 宮城 稔(細菌) 1996-2~1996-4	Mr. D. D. Kennedy 1992-3~1993-3 Mr. K. E. Longmetey 1992-3~1993-3 Dr. M. Armah-Kiemesu 1994-3~1994-6 Mr. A. S. Y. Ablordey 1994-11~1995-11 Ms. D. K. Yeboah-Manu 1996-3~1996-12 Mr. E. A. Addo 1996-1~1996-3 Dr. P. Akpedonu (1996-7~1996-8)	国立徳島大学 <研修員受入機関> 徳島大学 国立三重病院 阪大微研	Dr. P. Akpedonu (Bac) Dr. M. Armah-Kiemesu (Nut) Ms. J. Yartey (Nut) Dr. G. Armah (EM) Dr. M. E. Aryeetey (Per)
	2-1. 難治性下痢症原因の検討	5 4 3 2 1	5 4 3 2 1					
	2-2. 難治性下痢症に関係する水や離乳食及び個人の衛生指標の汚染の検討	5 4 3 2 1	5 4 3 2 1					
	2-3. 難治性下痢症に関連する乳児授食状況の調査	5 4 3 2 1	5 4 3 2 1					
	2-4. 免疫栄養学的研究／難治性下痢症と栄養状態及び免疫能に関する研究	5 4 3 2 1	5 4 3 2 1					
	2-5. 穀物ベースORS研究／評価	5 4 3 2 1	5 4 3 2 1					
	分野全体の目標達成度	5 4 3 2 1	5 4 3 2 1					

下痢症関連分野研究に関連したユニットは細菌、栄養、寄生虫、免疫、電子顕微鏡、疫学ユニットで、主体は細菌と栄養ユニットであった。フィールドでの調査はサンプル回収はフィールドワーカーが行ったが、調査活動の指導監督はユニットのスタッフが行い、フィールド調査は、スムースに行われた。アクラのスラム街での下痢症は少なく、今回の研究の対象とした持続性下痢症は更に少なかった。原因菌、汚染状況の検討、食品分析などはこれまでに技術移転が終了しているものであるが、専門家がいない間に手技がいいかげんになっている事が見られた。

今回のプロジェクトで免疫、生化学分野で新たな研究手法が技術移転されたが、スタッフほぼ修得したものと考えている。プロジェクト後半に3名の主要なスタッフが留学などで不在となったため、マンパワー不足が顕著になった。主任研究者はスタッフが提出したデータをそのまま利用しており、真の異常値なのか、検査の方法の誤りなのか検討されないことがあった。これは野口研全体に当てはまる事であるが、研究者としての資質を問われる事である。

(3)

プロジェクト評価シート

野口記念医学研究所プロジェクト（第2期）

協力分野	技術移転項目				インプット		国内支援体制	カウンターパート
	終了時目標	目標達成状況 96'6時点	目標達成状況 96'9終了時	終了後の目標 延長の必要性 延長後の目標	専門家派遣 ( )内は期間終了時までの出張	研修員受入 ( )内は期間終了時までの出張		
3．AIDS関連分野	HIV感染症状態を観察し続けることができる研究室			目標達成度が低く、延長が必要。しかしながら現在の体制のままでの延長には問題が残る。ユニットの体制を強化するような支援体制の見直しが必要。 途上国におけるエイズの研究を支援する上では、今後も継続的な支援を続ける必要がある。	佐多 徹太郎(ウイルス学) 1993･7~1993･7 石川 晃一(ウイルス学) 1993･7~1993･7 井上 栄(ウイルス学) 1995･1~1995･1 石川 晃一(ウイルス学) 1995･2~1995･3 石川 晃一(ウイルス学) 1996･1~1996･1 小松 俊彦(ウイルス学) 1996･1~1996･1 浅野 利彦(ウイルス学) 1996･1~1996･1	Mr. S. Aidoo 1994･1~1994･12 Mr. J. Arthur-Quarm 1994･11~1995･11 Mr. J. A. M. Brandful 1995･3~1995･6 Mr. J. A. M. Brandful (1996･7~1996･8) <研修員受入機関> 国立予防衛生研究所	国立予防衛生研究所	Dr. M. Osei-Kwasi Dr. N. K. Ayisi Mr. J. A. M. Brandful
	3-1. HIV感染症の診断技術移転	5 4 3 2 1	5 4 3 2 1					
	3-2. 疫学的伝播経路研究／母子感染研究	5 4 3 2 1	5 4 3 2 1					
	3-3. ウイルス分離と性質の分子生物学的研究	5 4 3 2 1	5 4 3 2 1					
	3-4. AIDS患者の臨床的、免疫学的、ウイルス学的検討	5 4 3 2 1	5 4 3 2 1					
	分野全体の目標達成度	5 4 3 2 1	5 4 3 2 1					

エイズ関連分野研究に関与したのはウイルスユニットだけである。ユニットヘッドの資質に問題があり研究は大幅に遅れている上、1年以上もプログレスレポートの内容がほとんど変わっていない等その成果もはかばかしくない。種々の検査、分析方法などの技術移転は出来ており重視されているが、主任研究者が怠慢であるために、その技術を活用して研究を進めることが出来ていない。

少ない人材の中で、エイズ分野、ワクチン関連分野研究、第三国研修を行っており、過重な負担がかかっている事も否定出来ない。また、ずっと長期の専門家が派遣されておらず、短期専門家は派遣されるが期間が1か月未満のことが多くユニットヘッドと共にプロジェクトを推進するというより、短期間に仕事をこなすのに力が注がれる事が多いように思う。

前述のようにいろんな技術は既に移転されており、意欲のある若い研究者には現状のウイルスユニットに危機感を抱いているものもいる。アフリカにとってエイズは深刻な問題である。野口研にあるエイズ研究の設備、技術は今後もアフリカのエイズ研究に寄与するものと考えるが、現状の支援体制は考え直すべきと思う。

プロジェクト評価シート

協力分野	技術移転項目				インプット		国内支援体制	カウンターパート
	終了時目標	目標達成状況		延長の必要性 延長後の目標	専門家派遣 （ ）内は派遣終了までの期間	研修員受入 （ ）内は受入終了までの期間		
		96'6時点	96'9終了時					
4. 住血吸虫症関連分野	住血吸虫症の制圧に向けて実現可能な方法			一定の成果が上げられており、一部を除いて延長の必要はない。 4－3．は、最終的な結果が出るまでの延長は必要である。 4－4．4－5．については、現状からの進展は難しく延長の必要はない。	我妻 ゆき子（獣医学） 1991・10~1991・11 小島 正明（獣医学） 1991・10・1991・11 我妻 ゆき子（獣医学） 1992・5~1995・9 畑 英一（獣医学） 1992・7~1992・8 瀬戸 康秀（獣医学） 1992・7~1992・9 小島 正明（獣医学） 1992・8~1992・9 小島 正明（獣医学） 1992・8~1992・9 清場 拓郎（獣医学） 1993・5~1995・4 山下 隆天（獣医学） 1993・8~1993・11 小島 正明 1993・11~1993・12 神谷 明夫 1993・11~1993・12 山下隆天 1994・8~1994・10 小島正明 1995・1~1995・1 小島正明 1995・8~1995・8 小国暁 1995・3~1996・3 要請中1996・6 要請中1996・8	Ms. I. Gyambiby 1992・3~1993・3 Dr. K. M. Bosompem 1995・10~1995・12 第3国個別研修参加 Mr. J. R. K. Asigbe 1991・11~1992・12 フィリピン熱帯医学研究所 Mr. H. Abdul 1993・11~1994・9 フィリピン熱帯医学研究所 Mr. K. H. Koo (1995・2~1996・9) フィリピン熱帯医学研究所 <研修員受入機関> 国立東京大学医科学研究所	国立東京大学医科学研究所	Dr. M. E. Aryeetey Dr. K. M. Bosompem
	フィールド研究							
	4-1. 住血吸虫症基礎調査	5 4 3 2 1	5 4 3 2 1					
	4-2. 疫学的、社会文化学的、経済学的及び行動学的因子	5 4 3 2 1	5 4 3 2 1					
	4-3. 化学療法を併用した制圧法の検討	5 4 3 2 1	5 4 3 2 1					
	実験室研究							
	4-4. 有効な殺貝剤開発	5 4 3 2 1	5 4 3 2 1					
	4-5. S. Haematobiumの亜種の研究	5 4 3 2 1	5 4 3 2 1					
	4-6. 免疫診断法の開発	5 4 3 2 1	5 4 3 2 1					
	分野全体の目標達成度	5 4 3 2 1	5 4 3 2 1					

住血吸虫症関連分野研究に関与したのは寄生虫学ユニットだけである。ガーナで３００万人が罹患していると推定されているこの病気を制圧しようとするこの研究は非常に意義のあるものである。各研究はそれなりに成果を上げ得ているが、亜種の研究と殺貝剤の研究は、それぞれの主任研究者が、メインの研究に時間を割かれたため、ほとんどされていない状況である。８つの村の大きな母集団を対象としたフィールド研究は、開始が遅れた分、当初の計画から変更された。そのため、介入試験についてはプロジェクト終了までに報告書が完成するか不安がある。また、最終的にガーナ政府に対して、住血吸虫症の制圧対策の勧告を出すのに全ての研究が終了してからとなる。カウンターパートがフィールド研究の経験が乏しいため、日本人専門家が主導する形で開始されたが、専門家帰国後はカウンターパート１人で何とか運営出来るようになった。

免疫診断研究は、優秀なカウンターパートに恵まれ順調に研究が進み、実用化の手前まで研究が進んでいる。カウンターパートが獲得した免疫学、分子生物学の手法は応用範囲が広いので、住血吸虫症分野だけでなく、ウイルス学、細菌学の研究にもリーダーシップを発揮することが期待される。

EVALUATION SHEET

This sheet should be submitted to the evaluation team, filled with necessary data/comments by the Ghanaian persons who are responsible to each Unit of the Noguchi Memorial Institute for Medical research (NMIMR). This sheet would contribute as a basic information for us to make the joint evaluation report in collaboration with the Ghanaian side.

Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (ADMINISTRATION)

NAME AND POSITION (S.W. OPOKU-AGYAKWA, ADMINISTRATIVE SECRETARY)

Achievement : Please choose one of the following marks; 5 - very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1.Project Management Japanese side	(5)4 3 2 1	The Japanese side was keen that the project was carried out efficiently and according to the TSI.
Ghanaian side	5 4 3 2 1	The Ghanaian side was all enthusiastic about the management of the project except that there were financial constraints.
2.Japanese Experts (1)Long-term experts Contribution (on the whole)	(5)4 3 2 1	The Team Leaders and Co-ordinators during the period were very co-operative, language barrier notwithstanding.
(2)Short-term experts Duration	5 4 3 2 1	
Frequency	5 4 3 2 1	
Contribution(on the whole)	(5)4 3 2 1	The Japanese experts both long and short terms were hard working and played their roles well to implement the project.
3.Training of Ghanaian personnel in Japan Duration	(5)4 3 2 1	Generally the duration was adequate for scientific personnel, duration for administrative and other supporting staff was rather short in most cases.
Number of received persons	(5)4 3 2 1	With the scientific personnel the number would appear adequate. However administration had only one slot (a short one) - during the project.
Achievement	(5)4 3 2 1	The training equipped all concerned to make contribution to the to the successful implementation of the project.

4.Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) (Equipment Maintenance) (2) (Inventory Maintenance) (3) ( ) (4) (Provision of Gen. equipment) (5) (Office Administration) (6) ( ) (7) ( )	(5)4 3 2 1 5 4(3)2 1 5 4 3 2 1 5(4)3 2 1 5(4)3 2 1 5 4 3 2 1 5 4 3 2 1	4. (1) Through training in Japan and the biennial visits of the JICA repair teams, the maintenance staff and Technicians have been trained on maintenance and operation of sophisticated equipment. (2) Resulting from counterpart training of the Administrative Secretary a system is in place to maintain inventory of stores and equipment in the Institute on the LAN system. (4) Our maintenance staff are adequately equipped to maintain and repair equipment of general nature in use at the Institute. (5) By working hand in hand with the JICA Administration the experience of the administrative staff has been enhanced.
5.Provided Equipments (1)Materials (consmale goods reagents) (2)Instruments (lab. and field instruments (3)Equipment-machinery	5 4 3 2 1 5 4 3 2 1 (5) 4 3 2 1	Provided stand-by generating set and vehicles for field work and general supervision of the project.
6.Co-operation activity in your Unit as a whole	(5)4 3 2 1	The JICA and the Ghanaian administrations worked harmoniously throughout the period.
7.Other Comments/ Remarks		In future, fairer emphasis should be placed on Administration in terms of training and resources. Successful implementation of any project depends on the quality of its administrative capacity.

EVALUATION SHEET

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Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (EPIDEMIOLOGY)

NAME AND POSITION (DR. K.A. KORAM) RESEARCH FELLOW

Achievement : Please choose one of the following marks; 5 - very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1. Project Management Japanese side	(5) 4 3 2 1	
Ghanaian side	(5) 4 3 2 1	
2. Japanese Experts (1) Long-term experts Contribution (on the whole)	(5) 4 3 2 1	Drs. Y. Kamiya and K. Taniguchi were very active in the unit's EPI research activities. Dr. H. Mori made considerable contribution to PHC activities at Gomoa Fetteh. Dr. T. Kamiya is making significant contribution to the implementation of the Infant Health Observational study.
(2) Short-term experts Duration	(5) 4 3 2 1	
Frequency	(5) 4 3 2 1	
Contribution(on the whole)	(5) 4 3 2 1	Dr. Y Tada trained personnel of the unit in ELISA tests in the EPI (vaccine) studies
3. Training of Ghanaian personnel in Japan Duration	(5) 4 3 2 1	
Number of received persons	5 4 3 (2) 1	Two persons have benefited so far. There is the need to train some staff in data management and latest techniques in malaria microscopy.
Achievement	(5) 4 3 2 1	Mrs. A. Assoku's experience was very useful in the unit's EPI activities. Mr. G. Mensah returned after his training to re-organise our computer unit.

4. Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) ( ) (2) ( ) (3) ( ) (4) ( ) (5) ( ) (6) ( ) (7) ( )	5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	
5. Provided Equipments (1) Materials (consumable goods reagents) (2) Instruments (lab. and field instruments (3) Equipment-machinery	 (5) 4 3 2 1 (5) 4 3 2 1 (5) 4 3 2 1	 All needed items requested for were supplied " "
6. Co-operate activity in your Unit as a whole	(5) 4 3 2 1	
7. Other Comments/ Remarks		The project period under review has been well executed.

EVALUATION SHEET

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Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (IMMUNOLOGY)

NAME AND POSITION (AKANMORI,HEAD)

Achievement : Please choose one of the following marks; 5 - very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1.Project Management Japanese side Ghanaian side	5 (4) 3 2 1 5 4 (3) 2 1	The lack of a substansive Head of Unit and Fellows in the unit may have been a drawback to the management of the programme.
2.Japanese Experts (1)Long-term experts Contribution (on the whole) (2)Short-term experts Duration Frequency Contribution (on the whole)	 (5) 4 3 2 1 5 4 (3) 2 1 5 4 (3) 2 1 5 4 (3) 2 1	The long-term Experts Drs. Taniguchi and Kamiya contributed tremendously to the project. We hope that Dr.Taniguchi can come again,especially since the unit is at full staff strength now. The duration was too short for the two visiting experts.
3.Training of Ghanaian personnel in Japan Duration Number of received persons Achievement	 5 (4) 3 2 1 5 4 3 (2) 1 5 (4) 3 2 1	Mr. Addae of Haematology and Miss Enid Appiah Kyeremeh (now Mrs E. Owusu) both benefitted from training in Japan on the Facscan. This was highly successful but will require follow up in future as the uses of the FACSCAN are broadened. The duration of Mr.Addae's programme was not long enough for him to complete what he wanted to learn. Technically Mr. Addae belongs to the Chemical Pathology. It would be necessary to train one more person from Immunology on the Facscan.

4.Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) (FACSCAN,) (2) (CELL CULTURE) (3) ( ) (4) ( ) (5) ( ) (6) ( ) (7) ( )	(5) 4 3 2 1 5 (4) 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	
5.Provided Equipments (1)Materials (consumable goods reagents) (2) Instruments (lab. and field instruments FACSCAN, REF. CENTRIFUGE, FREEZER(-70° C) CO_2 INCUBATOR (3) Equipment-machinery	5 4 (3) 2 1 (5) 4 3 2 1 5 4 3 2 1	The Facscan is probably the most important and useful single item from JICA. of potential benefit not only locally but could attract outside collaboration. Freezer- Now we have a reliable serum bank. CO_2 Incubator - We also have capabilities for cell culture work and indeed would like to collaborate with Mr Addae on cell-mediated immunity in measles infection.
6. Co-operation activity in your Unit as a whole.	(5) 4 3 2 1	Both Drs. Taniguchi and Kamiya worked very well with unit staff and others and provided good training as well to the staff.. We hope they can come back.
7. Other Comments/ Remarks		Although the Vaccine programme has ended, it is my hope that this can be continued, especially with regard to T cell Immunity during measles and after immunization. This would enable us to put the Facscan to good use and to determine with certainty the proper time frame for measles immunization.

EVALUATION SHEET

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Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (Bacteriology Unit)

NAME AND POSITION (Dr Patience Akpedonu, Head of Unit)

Achievement : Please choose one of the following marks; 5 -- very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1.Project Management Japanese side Ghanaian side	(5) 4 3 2 1 (5) 4 3 2 1	
2.Japanese Experts (1)Long-term experts Contribution (on the whole) (2)Short-term experts Duration Frequency Contribution(on the whole)	5 4 3 2 1 5 4 (3) 2 1 5 4 3 (2) 1 (5) 4 3 2 1	Communication with Japanese Expert was a problem so improvements required in this area.
3.Training of Ghanaian personnel in Japan Duration Number of received persons Achievement	(5) 4 3 2 1 5 (4) 3 2 1 5 (4) 3 2 1	Apart from DNA-DNA hybridisation techniques most of the course content was not directly applicable to the project.

4.Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) (DNA-DNA Hybridisation) (2) ( ) (3) ( ) (4) ( ) (5) ( ) (6) ( ) (7) ( )	(5) 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	More technology transfer required
5.Provided Equipments (1)Materials (consumable goods reagents) (2)Instruments (lab. and field instruments (3)Equipment-machinery	(5) 4 3 2 1 (5) 4 3 2 1 (5) 4 3 2 1	
6.Co-operate activity in your Unit as a whole	5 (4) 3 2 1	
7.Other Comments/ Remarks		This was quite an experience as we all learnt a lot and will apply it to improve future projects. Funding was generally good. Training should have been done earlier on in the project and must have been applicable to the study. The project also provided jobs for young ladies in the study locality.

EVALUATION SHEET

This sheet should be submitted to the evaluation team, filled with necessary data/comments by the Ghanaian persons who are responsible to each Unit of the Noguchi Memorial Institute for Medical research (NMIMR). This sheet would contribute as a basic information for us to make the joint evaluation report in collaboration with the Ghanaian side.

Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (Nutrition Unit)

NAME AND POSITION (Dr. Margaret Armar-Klemesu, Head)

Achievement : Please choose one of the following marks; 5 - very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1.Project Management Japanese side Ghanaian side	5 (4) 3 2 1 5 (4) 3 2 1	
2.Japanese Experts (1)Long-term experts Contribution (on the whole) (2)Short-term experts Duration Frequency Contribution(on the whole)	5 (4) 3 2 1 (5) 4 3 2 1 5 4 3 2 1 5 4 3 2 1	Dr. Rikimaru has been very instrumental in initiating several projects during his term. The short-term experts did work very hard for the duration they were here. Dr. Kido's excellent human relations is to be commended. Dr. Rokutan was extremely efficient in technology transfer. The same goes for Prof. Ota who was highly knowledgeable. Their collective contribution to the unit has been very good.
3.Training of Ghanaian personnel in Japan Duration Number of received persons Achievement	5 (4) 3 2 1 (5) 4 3 2 1 (5) 4 3 2 1	

4.Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) (Immunology) (2) (Autoanalyzer) (3) ( ) (4) ( ) (5) ( ) (6) ( ) (7) ( )	(5) 4 3 2 1 5 (4) 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	1. Technology transfer has mainly been in the area of immunology techniques although techniques acquired have not been effectively put to use due to lack of support in necessary equipment, specifically anti sera for immunoglobins. 2. Training time for Dr. Armar-Klemesu on the autoanalyzer was too short for her to have effectively mastered handling of the machine. However, this has been rectified by the training received by Mr. Addo.
5.Provided Equipments (1)Materials (consumable goods reagents) (2)Instruments (lab. and field instruments (3)Equipment-machinery	(5) 4 3 2 1 (5) 4 3 2 1 5 4 3 2 1	
6.Co-operate activity in your Unit as a whole	5 (4) 3 2 1	
7.Other Comments/ Remarks		Generally the Nutrition Unit has benefitted immensely from the collaboration with JICA and the unit is unanimous in looking forward to continued collaboration with JICA.

EVALUATION SHEET

This sheet should be submitted to the evaluation team, filled with necessary data/comments by the Ghanaian persons who are responsible to each Unit of the Noguchi Memorial Institute for Medical reserach (NMIMR). This sheet would contribute as a basic information for us to make the joint evaluation report in collaboration with the Ghanaian side.

Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (VIROLOGY)

NAME AND POSITION (J.A.M. BRANDFUL MSc., Principal Research Asst.)

Achievement : Please choose one of the following marks; 5 - very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1.Project Management Japanese side	5 4 3 2 1	Not applicable because no collaboration was carried out on any project during Phase II.
Ghanaian side	5 4 **3** 2 1	It appears that potential problems in carrying out some proposed research projects under Phase II were not perceived.
2.Japanese Experts (1)Long-term experts Contribution (on the whole)	5 4 3 2 1	Not applicable. This Unit did not receive long-term experts under Phase II.
(2)Short-term experts Duration	5 4 3 **2** 1	
Frequency	5 4 3 **2** 1	
Contribution (on the whole)	5 **4** 3 2 1	
3.Training ofGhanaian personnel in Japan Duration	5 **4** 3 2 1	
Number of received persons	5 **4** 3 2 1	
Achievement	5 **4** 3 2 1	The technical skills of staff of the Unit who received training in Japan are of a high grade.

4.Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) (PCR technology) (2) ( ) (3) ( ) (4) ( ) (5) ( ) (6) ( ) (7) ( )	5 <u>4</u> 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	This technology was introduced along with genome extraction and purification.
5.Provided Equipment (1)Materials (consumable goods reagents) (2)Instruments (lab. and field instruments (3)Equipment-machinery	5 <u>4</u> 3 2 1 5 <u>4</u> 3 2 1 5 4 3 2 1	
6.Co-operate activity in your Unit as a whole	5 4 3 <u>2</u> 1	Team work among researchers was not much forthcoming.
7.Other Comments/ Remarks		

EVALUATION SHEET

This sheet should be submitted to the evaluation team, filled with necessary data/comments by the Ghanaian persons who are responsible to each Unit of the Noguchi Memorial Institute for Medical reserach (NMIMR). This sheet would contribute as a basic information for us to make the joint evaluation report in collaboration with the Ghanaian side.
Please evaluate on the following items and give us your comments on the achievements of the Noguchi Memorial Institute Project.

UNIT (PARASITOLOGY)

NAME AND POSITION (M. A. APPAWU, HEAD OF UNIT)

Achievement : Please choose one of the following marks; 5 - very good, 4- good, 3- fair, 2- not enough, 1- poor

Items	Achievement	Your Comments
1.Project Management Japanese side	5 4 3 2 1	4- Equipment requested from Japan arive too late.
Ghanaian side	5 4 3 2 1	4- Financial constraints delay some activities.
2.Japanese Experts (1)Long-term experts Contribution (on the whole)	5 4 3 2 1	4- Insufficient understanding of the Ghanaian situation creates problems with some experts.
(2)Short-term experts Duration	5 4 3 2 1	5
Frequency	5 4 3 2 1	5
Contribution(on the whole)	5 4 3 2 1	5
3.Training of Ghanaian personnel in Japan Duration	5 4 3 2 1	5
Number of received persons	5 4 3 2 1	5 Some provision should be made for extra slots in situations where unexpected progress or problems are encountered.
Achievement	5 4 3 2 1	5

4.Technology Transfer (Please write main items of technology transfer in your Unit and choose each mark) (1) (Hybridoma technology) (2) (Molecular cloning) (3) (Purification of proteins) (4) (Screening for unique antigens) (5) ( ) (6) ( ) (7) ( )	5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	5 3 Technology not fully transfered. 5 5
5.Provided Equipments (1)Materials (consumable goods reagents) (2)Instruments (lab. and field instruments (3)Equipment-machinery	5 4 3 2 1 5 4 3 2 1 5 4 3 2 1	5 5
6.Co-operate activity in your Unit as a whole	5 4 3 2 1	5
7.Other Comments/ Remarks		Provision should be made for scientists to attend conferences to present interesting findings and share ideas with colleagues so as to enhance progress.

9 野口記念医学研究所における外部協力先一覧

EXTERNAL RESEARCH FUNDING SOURCES
1995

AGENCY	RESEARCH AREA
JICA	HIV/AIDS
JICA	Schistosomiasis
JICA	Diarrhoeal Diseases
JICA	EPI Diseases
WHO/TDR	Malaria
WHO/TDR	Onchocerciasis
USAID	HIV/AIDS
Biological Manufacturers Association, Japan	AIK-C Measles Vaccine Trial
Bikken Laboratories	APDT Vaccine Trial
DANIDA	Malaria
DANIDA	Filariasis
Wellcome Trust (UK)	Malaria
Wellcome Trust (UK)	Onchocerciasis
International Atomic Agency	Food pesticide Residues
Applied Diarrhoeal Disease Research (ADDR) Harvard Institute	Acute Respiratory Infections
Ministry of Health, Japan (Dr. Kamiya)	Primary Health Care
Ministry of Health, Japan (Dr. Kamiya)	Diarrhoeal Diseases
Valco Trust Fund	Schistosomiasis, Malaria
International Foundation for Science	Fermented Foods
Comprehensive Sickle Cell Centre/NIH (Childrens' Hospital of Philadelphia)	Sickle Cell Disease
UNICEF	Cereal Based ORS