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A N N U A L R E P O R T

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Contract: AID/afr - C - 1315

Project Purpose *

- To strengthen the institutional capacity of the GOZ to monitor and control infectious diseases.
- To reduce the morbidity and mortality caused by panendemic diseases with focus on selected diseases which cause many deaths in young children.
- To provide an experience base and to develop operational cadres, organizational infrastructure, and methodologies for the prevention and control of selected communicable diseases.

Malaria Component *

- The establishment of a model malaria control program in the Kinshasa region and in one nearby rural area.
- The extension and integration of these and other endemic disease programs into the health delivery systems of five developmental zones with an estimated additional population of one million. These activities will be carried out in coordination with the Health Systems Development Project No. 660 -057 and the planned Basic Family Health Project No. 660 - 067.
- The training and development of a cadre of Zairean Health workers competent to plan and execute endemic diseases control programs.

Accomplishments

Epidemiological Evaluation Activities

Objectives of these activities are:

- Determination of the impact of the insecticidal application on the prevalence of malaria.
- Examination of dispensary and clinic records to ascertain the malaria positivity rate among those patients who have complained of fever or have exhibited fever symptoms.
- The accumulation of data on seasonal prevalence of fever or other malaria like symptoms and the analysis of this information.
- The collection of information on the presence and behavior of anopheline vectors of malaria.

Training methods for the epidemiology staff have included:

- On the job training.
- Training in laboratory diagnosis of malaria by a WHO Technician.
- Orientation and training course given to blood smear collectors.
- Entomology personnel given one week course, designed and conducted by staff.
- Five group chiefs of field operations section trained to do blood smear collection.
- A six part CDC slide-tape course in the diagnosis of malaria blood smears was translated from English to French by Program and training begun each Saturday morning for all personnel except Entomology staff.

Epidemiology results determinations were based on the following methods and techniques: Malariometric surveys, dispensary blood smear collections, and entomological studies in the rural area. Urban area

* From PRO AG Project No.660 - 11 - 531 - 058

determinations were made by means of malariometric surveys, dispensary visits, infant parasite surveys, regular school surveys, and entomological studies.

In the rural area, results showed a reduction of the slide positivity rate from 20.7% to 7.2% in the sprayed area during surveys taken in July 1980 and July 1981, respectively. The adjacent unsprayed control area showed 23% in October 1980 and 31% in July 1981. In the 7775 population of the sprayed area, 1149 fewer fever cases were found, thus, the spray applications definitely reduced malaria prevalence.

Urban area details are numerous and have been reported regularly in reports of the USAID Epidemiologist. Interpretation and analysis of the data collected have been attempted and some difficulties are encountered because of the relatively short observations span and the paucity of baseline data. At this point, it appears that the sprayed area, as compared with the unsprayed control area generally shows a more stable positivity percentage of prevalence which appears to be lower than the very sparse baseline information indicated for the same areas.

Dispensary Visits involved a cumulative total of approximately 390 establishments each month. Findings indicated forty-one to fifty thousand patient visits, with 32 - 35% complaining of fever. Fifty per cent of patient encounters within the 0 - 15 age group complained of fever. As this study proceeds, valuable data will be assembled relative to seasonal fever trends. This data will be an important technical base of information and can be useful for estimating timely purchases and distribution frequencies of anti-malaria medicines.

Entomology activities included a series of susceptibility tests, using the standard WHO method in the rural area. Of 317 An.gambiae exposed to DDT 4% and 40 An.gambiae exposed to Malathion 5%, all were found to be fully susceptible. Details were reported in the Report of the First Quarter, 1981.

The position of Entomology Chief was filled by a biology graduate from the National University of Zaire. He was sent to ORSTOM, Brazzaville, during May 1981, for a one month training and orientation course. The study was arranged by the USAID Malaria Advisor and funded (stipend) by USAID.

Upon his return, indicator areas were chosen and regular entomological activities begun. Main activities are adult capture by the pyrethrum-spray sheet method and larval collection. Data from the adult captures is shown below:

<u>Month</u>	<u>UNSPRAYED</u>		<u>SPRAYED</u>	
	<u>BF-GR*</u>	<u>BFHI**</u>	<u>BF-GR</u>	<u>BFHI</u>
September	3.5:1	0.8	2.9:1	0.9
October	4.6:1	1.3	4.1:1	1.04
November	8.0:1	0.3	6.3:1	0.5
December	16.0:1	1.9	10.3:1	0.3

BF-GR* - Blood-Fed:Gravid Ratio
BFHI** - Blood-Fed to Human Index

These data have not been treated statistically because of the short period of study. At this point, however, there appears to be the expected difference between captures in the sprayed and unsprayed areas.

Spraying Operations in the Kinshasa Urban area covered a cumulative total of 51,462 houses, using 21 metric tons of DDT. In the Rural Area, 5,012 houses were sprayed and 2 metric tons of DDT 75% WDP used.

The Health Education team of four, made regular community contacts. The group has made presentations at community meetings, churches, groups of mothers at dispensaries, maternity centers, youth groups, schools, civic meetings, and other places. Direct face to face contact during the year has exceeded 35,000 persons.

Food For Work. Malaria Program received and distributed food items to field spray and epidemiological workers. This food was received from USAID/Catholic Relief Service, repackaged and issued to the workers. Items and amounts distributed are shown below:

Bulgar-Soya	2705 Kilograms
Powdered Milk	760 "
Cooking Oil	397 Liters

Training, Out of Country.

- Program cadre, including the Director, Supervisor, Operations Supervisor, and Administrator, accompanied by the USAID Malaria Advisor, visited the National Malaria Program (SNEM) in Haiti. Observation visits to various areas and aspects of the program was both interesting and instructive. The group returned to Zaire with a better comprehension of difficulties and rewards associated with an organization that functions well. Some of the ideas collected were incorporated into the Zaire Malaria Project (PLAP).
- Two program personnel, the Director and Entomology Chief were in Brazzaville at the Organisation Recherche et Scientifique Outre-Mer (ORSTOM). Orientation was received on laboratory and parasitology methods used in malaria programs.
- Supervisor Tshibangu was in Lagos, Nigeria from 5 October - 8 January attending "A Course on Environmental Health and Malaria Control Techniques for Middle Level health Personnel". This WHO course attendance was initiated by the USAID Malaria Advisor.

Displacement of Warehouse and Parking Facilities. This affair was finally brought to an unsatisfactory end with the movement of these facilities to the former Red Cross Building on Avenue de la Justice. Remodeling promised in the presence of the USAID Director and PHO fell far short of the extent promised by the GOZ. The program has already spent nearly Zaires 90,000 on such items as installation of plumbing services, complete rewiring of building, installation of gasoline and diesel fuel storage and pump facilities, installation of burglar bars, and air conditioner wall openings.

visitors

Mr. Serge Roche, WHO Technical Officer, made preliminary assembly of basic materials and data for utilization in the planning for a national program. He wrote of a national malaria service as being a valuable resource for the Primary Health Care System as was set forth in the PRO-AI for Project 660-11-531-058. Some capabilities of the malaria service

would be to help the primary health care system extend malaria control activities in rural medically underserved areas. Examples are:

- Organization and participation in courses for the trainers of village level health workers. These workers chosen by the local population would distribute anti-malarials to children 0 - 4 years old, pregnant women and fever cases.
- Also, a reporting system could be designed to monitor drug distribution activities.
- Applied epidemiological research on the most workable method for the distribution periodicity of drugs could be implemented; for example, whether dose administration should be weekly, bi-weekly, or monthly.
- Regular tests relative to the development of drug resistance could be made and alternate drugs or treatments recommended, if indicated.
- The health education component of the primary health care system could be assisted in the design, implementation, and evaluation of techniques suitable for various ethnic and tribal groups in Zaire.

A team from the General Accounting Office (GAO) visited Zaire, 14 September - 2 October 1981. This visit was part of a worldwide review of US Government sponsored malaria control projects in developing countries, as they relate to WHO, US Government, and host country objectives. Program assessments were to be viewed in the context of evaluations of programs in other countries and as part of a broader analysis of the total USG support of malaria control.

Discussions were held with USAID staff, GOZ, Malaria Pilot Project personnel, and others.

The Malaria Advisor accompanied the team to the WHO African Region Office, Brazzaville for a one day visit. Briefing was provided by a panel of specialists, including PHC, Nutrition, Endemic Disease, Health Statistics, and others. The WHO panel discussed various aspects of malaria control prospects in Africa, including constraints, and hopes.

A draft report, "Review of Malaria Control Programs in Developing Countries, Zaire, Africa Country Summary"(Code 471974) European Branch, November 1981 was received in Zaire in late December 1981. This Report was also reviewed by the malaria advisors who commented that, "Overall, the Summary generally presents our views." Later a cable response was prepared by the Mission. The Malaria Advisors commented, "Although we hold different opinions on certain issues, the cable represents the Mission's malaria position as we know it."

Other visitors included:

Dr. Molez and Dr. Carnivale, ORSTOM, Brazzaville

Professor Takateru Ohsé, WHO, Brazzaville

Dr. M.J. Colbourne, London School of Hygiene and Tropical Medicine.

Program Development

A Plan for a minimum one year extension of the Pilot Project was submitted to the Mission in July 1981. This Plan was designed to

afford the Zairean cadre time for the acquisition of drug distribution and drug surveillance techniques, as well as to maintain the forward momentum of the pilot Project experience. No decision had been made by the Mission by the end of 1981.

Country Strategy

A malaria program strategy, in line with the USAID Africa Bureau position, was discussed with the Program Director, Dr. Makengo Bigonsa. Program elements suggested are - Planning; Training; Development of Laboratory Services, and Application of Specific Measures. This Strategy outline, in French, is attached as ANNEX I.

Financial

In 1981, Project received counterpart funds - Zaires 1,363,986.05
A Summary of expenditures is shown below. Details are found in ANNEX II

	<u>Amount in Zaires</u>	<u>Per cent</u>
<u>Salaries</u>	352,795.45	26
<u>Vehicle Operation</u>	421,938.40	31
<u>Other</u>	589,252.00	43

Personnel

The numbers of "permanent" project personnel ranged from 85 to 97 in 1981. Approximately 165 and 35 additional personnel were hired at six-monthly intervals for the Kinshasa and rural area spraying rounds, respectively. In Kinshasa, a spray round, including the training period lasted 36 days per spray round. In Bas Zaire (rural area) 14 days were needed per spray round.

Vehicles

Increased prices of gasoline, diesel fuel, motor oil and other needs for operation of the vehicles, continues to make transport a very expensive undertaking in Zaire. Two diesel vehicles received without cost after the end of the International Rescue Committee project, have helped in a small way, to keep fuel costs down. Less diesel fuel is needed per kilometer of operation and the price is much lower than gasoline.

Details of Project vehicles are shown in ANNEX III

Offshore Commodities

1. DDT 75% WDP - 49,459.56 pounds received. Controller's office quoted the amount of \$49,710 paid for this quantity.
(PIO/C 660-0058-5-00030)
2. Laboratory materials and supplies purchased in Brazzaville amounted to \$792.46.

3. Purchase orders were:

<u>P.O. Number</u>	<u>Category</u>	<u>Cost \$</u>
00029 - A	Office Supplies	2,296.57 *
- B	Vehicle Parts	1,194.
- C	-0-	
- D	Books	75.
- E	Laboratory Materials	715.
- F	Laboratory Materials	770.
- G	Vehicle Parts	924.
- H	Sun tan pants and shirts (Excess Property)	1,158.
- I	Vehicle Parts	700.
- J	Field materials	1,210.16
- K	Laboratory Equipment	940.24
- L	Field Equipment	124.
	Total	10,106.97

4. Training (See page 3)
 Brazzaville study tour, two persons, \$3500.

*Entire order not recd.

Program Support, GOZ

At year's end, the only tangible GOZ support continued to be the payment of base salaries for twenty project personnel. All other personnel are supported fully by Counterpart Funds. Initiatives are continuing at the MOH to encourage the signing of an arrete creating a malaria service.

BUTS	! APPROCHES	! ACTIVITES	! Calendrier Prévisionnel				
			! PGT0	! PGT6	! PGT7	! PGT8	! PGT9
(1) <u>PLANIFIER LE PROGRAMME</u>	<p>1° Utilisation des résultats et Techniques du PLAF comme base.</p> <p>Utilisation de la méthodologie PSP en considérant des régions de développement du pays comme priorité.</p>	<p>1) Mise en place de la législation propre pour créer un service National Anti-paludique.</p> <p>2) Formulation des activités annuelles avec l'élément d'évaluation, mettant l'accent sur les régions et besoins prioritaires, c-à-d. les régions de développement socio-économique; les camps des réfugiés; et autres régions urbaines et rurales.</p> <p>3) Planifier l'introduction de la méthodologie de la lutte antipaludique dans les activités des SSP, et planifier la promotion de la collaboration efficace et l'assistance technique dans le domaine de la formation, des résolutions des problèmes, et de l'évaluation.</p> <p>4) Formulation des budgets, recrutement du personnel, conditions de travail, cours de formation et recyclage.</p> <p>5) Mise à jour mensuel des programmes de lutte sur base de la rétro-information.</p>					

PGT0 - 1976 - 1977
 PGT6 - 1978 - 1983
 PGT7 - 1984 - 1989
 PGT8 - 1990 - 1994
 PGT9 - 1995 - 2000

DOCUMENT
 1984
 1985
 1986
 1987
 1988
 1989
 1990
 1991
 1992
 1993
 1994
 1995
 1996
 1997
 1998
 1999
 2000

ANNEXE - I

BUTS	APPROCHES	ACTIVITES	Calendrier Prévisionnel				
			!PGT°	!PJT6	!PGT7	!PGT8	!PGT9
(2) <u>FORMER LE PERSONNEL</u>	1°- Utilisation des structures et des personnels disponibles. - Recours aux mécanismes CTPD experts régionaux, et autre spécialistes internationaux pour appuyer les équipes Nationales.	1) Planification de la formation de personnel chargé de la lutte contre le paludisme.		-			
		2) Préparation et collection des matériels didactique y inclus le matériel audio-visuel et sa distribution après essais.		-			
		3) Préparation des matériels et techniques pour l'enseignement.					
		4) Préparer ou former les Paludologues, Entomologistes, cadres supérieurs pour leurs fonctions respectives.					
		5) Introduction d'un enseignement correct de la lutte contre le paludisme dans tous les établissements où sont enseignées les sciences de la santé.					
		6) Recyclage périodique du personnel en service.					

BUTS	APPROCHES	ACTIVITES	! Calendrier Prévisionnel				
			!PGT°	!PGT6	!PGT7	!PGT8	!PGT9
(3) DEVELOPPER LES SERVICES DE LABORATOIRE	1°- Etudes scientifiques des méthodes et technologie d'évaluation épidémiologique.	1) Etablissement d'un laboratoire central du Paludisme.					
		2) Etudes scientifiques ponctuelles sur les méthodes Paludiennes à entreprendre.					
		3) Diagnostic correct du paludisme dans les laboratoires existants et à venir.					
		4) Introduction et amélioration des activités de diagnostic entomologique dans les services Nationaux de laboratoire.					
		5) Avoir la facilité de faire le diagnostic de l'efficacité des médicaments antipaludiques.					
		6) Examiner les possibilités des facilités diagnostiques régionales et locales, ainsi que la collaboration avec les SSP.					
		7) Formation dans/et l'utilisation des tests Standards de l'OES par la sensibilité aux médicaments et aux insecticides.					

BUTS	APPROCHES	ACTIVITES	Calendrier Prévisionnel				
			PGT ^o	PGT ⁶	PGT ⁷	PGT ⁸	PGT ⁹
(4) APPLICATION DES MESURES SPECIFIQUES	1 ^o - Les enquêtes et des études sélectives en vue de promouvoir la recherche appliquée en matière de Paludisme.	1) Etudes des prévalences géographiques et saisonnières du Paludisme et des vecteurs anophéliens.					
		2) Collaboration avec les SSP, autres agences de santé, en vue d'identifier les problèmes spéciaux en matière de paludisme et formuler des solutions.					
		3) Recherche appliquée au terrain. Telle que la distribution des médicaments en masse, et essais d'insecticides.					
		4) Etudes dans les laboratoires des sections chimiques contre le paludisme, (entre autres, médicaments et insecticides - test de sensibilité).					
		5) Etudes immunologiques.					

EXPENDITURES - 1981 - PROJECT 0058 (MALARIA)

Counterpart Funds Received -	Zaires 1,500,000.
Expended -	Zaires 1,363,986.05

Expenditures:

	<u>Zaires</u>	<u>Per cent</u>
001 Furniture, Office and Lab	31,879.59	2.3
002 Office Machines and appliances	153,836.	11.2
003 Printing	1,761.	0.1
004 Office Supplies, Consumable	106,842.88	7.8
005 Medical Reimbursements	24,274.	1.7
006 Capital Improvements and Repairs	94,764.44	6.9
007 Project Personnel Travel Expense	31,710.	2.3
008 Laboratory supplies and materials	50,530.18	3.7
009 Gasoline, diesel fuel, motor oil	363,128.80	26.6
010 Maintenance, Repair of Vehicles	58,809.60	4.3
011 Commodity Handling	44,761.40	3.2
012 Salaries	352,795.45	25.9
013 Materials For Field Operations	22,379.71	1.6
014 Miscellaneous	26,512.99	1.9

Note: In Summary, Items 009 and 010 are combined to show vehicle expense.

One gasoline driven alternator and mobylettes used occasionally are also included in 009.

0058 MALARIA VEHICLE REPORT - 1981VEHICLE IDENTIFICATION

<u>IT PLATE NO.</u> (a)	<u>ESTIMATED COST \$</u>	<u>PROJECT USE BEGAN</u>	<u>AGE (MONTHS) END 1981</u>	<u>LIFE OF VEH. (MOS) AMORT/MONTH</u>	<u>\$ AMT. AMORT. 1981</u>	<u>AMORT. \$/V. END 1981</u>
1612 (b)	10,000	3/80	21	48(208.3)	2499.6	4374.3
1792 (c)	10,000	3/80	21	48(208.3)	2499.6	4374.3
2353	12,000	6/80	18	48(250)	3000.	5240.
1787	10,000	3/80	21	48(208.3)	2499.6	4374.3
2016 (d)	8,000	9/77	51	48(166.9)	1490.	0
3257	15,000	9/80	15	48(312.5)	3750.	4687.5
2830	15,000	1/80	23	48(312.5)	3750.	7187.5
1870 (e)	6,000	7/80 (g)	?	17(352.94)	4235.28	0
2133 (e)	6,000	7/80 (g)	?	17(352.94)	4235.28	0
<u>KN PLATES (f)</u>						
9152	18,000	5/81	36	48(375)	4500.	4500.
9153	18,000	5/81	36	48(375)	4500.	4500.
9154	18,000	5/81	36	48(375)	4500.	4500.
TOTALS					27959.36	43737.9

- (a) All Chevrolets except 1870;2133: (e) Recd. in wornout cond., Excess Prop.
 (b) Advisor's vehicle (f) From former IRC Project, no cost to 0058
 (c) Advisor's vehicle (g) Not used in 1981. Repairs underway.
 (d) Advisor's former vehicle