

ACKNOWLEDGEMENTS

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It would be impossible to mention them all individually, but we would like to single out the following:

Federal Government of Nigeria

Emirate and Local Government Authority

His Highness Alhaji Audu Bayero, Emir of Kano
Alhaji Umaru Sarkin Fulani J.aidinawa, District Head, Garki

State Government, Ministry of Health

Alhaji Mohammed Ibrahim, Permanent Secretary
Dr I. Imam, Director Medical Services
Dr Qureshi, Principal Medical Officer, Preventive
Dr Baisu, Principal Medical Officer, Curative

The University of Ibadan and especially the Staff of the Department of Clinical Pathology (Host to the WHO-Immunology Research and Training Centre, Dr V. Houba) under the leadership of Prof. B. K. Adadevoh, gave tremendous assistance in the early setting-up of the serological part of the project.

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Finally, special thanks should be given to Mrs M. Escribano-Matty for revising and preparing all the figures and tables and the references, and to Miss Frances Bonello for typing the text of this publication.

Appendix 1

STAFFING OF THE PROJECT

| Name | Capacity | Period of work with the project | |
|---------------------------|--------------------------------------|---------------------------------|-------------------|
| | | Started | Ended |
| Dr S. P. Ramakrishnan | Project director | 1 Sep. 70 | 11 Dec. 73 |
| Dr T. Matsushima | Team leader | total duration of project | |
| Mr G. R. Shidrawi | Entomologist | from start | 1 Jun. 75 |
| Mr J. L. Clarke | Entomologist | 12 Aug. 70 | 30 Apr. 72 |
| Mr S. Bragger | Statistician | 1 Jun. 70 | 10 Oct. 73 |
| Dr R. L. Cornille-Brogger | Immunologist | 17 Aug. 70 | 31 Dec. 73 |
| Mr J. Storey | Laboratory technician (parasitology) | total duration of project | |
| Mr T. S. Ashkar | Laboratory technician (serology) | 1 Feb. 71 | to end |
| Mr J. R. Boulzaguet | Laboratory technician (entomology) | total duration of project | |
| Mr P. E. Lietaert | Sanitarian | from start | 1 Jun. 71 |
| Mr J. Petrides | Sanitarian | from start | 1 Mar. 70 |
| Mr D. Thomas | Sanitarian | from start | 30 Apr. 74 |
| Mr E. Ramos-Camacho | Sanitarian | 8 Mar. 71 | 31 Mar. 75 |
| Mr V. R. Nair | Sanitarian | 3 Dec. 72 | 30 Nov. 73 |
| Mr R. V. Nambiar | Sanitarian | 1 May 72 | to end |
| Mr A. Abrar | Administrative officer | 1 Apr. 70 | 1 Jul. 74 |
| Mrs J. Maf | Clerk-typist | 1 Apr. 70 | 30 Apr. 74 |

Nigerian field staff (see also below)

| Nome | Capacity |
|-------------------------|---|
| Mr Hussaini Y acim | Senior laboratory technician (parasitology) |
| Mr Barau Mohammed | Laboratory technician (parasitology) |
| Mr Daniel Ejeh | Laboratory technician (parasitology) |
| Mr Elijah Zakary | Laboratory technician (serology) |
| Mr Sani Galadima | Laboratory technician (entomology) |
| Mr Garba Yaro | Field supervisor |
| Mr Raphael Odeh | Field supervisor |
| Mr Alhaji Anmusa Sadami | Field supervisor |

Short-term consultants, advisers and collaborating scientists

| Name | Responsibility | Institution |
|---------------------------|-----------------|-------------------------------------|
| Dr R. L. Cornille-Brogger | Serology | Istituto di Parassitologia, Rome |
| Professor M. Coluzzi | Vector genetics | |
| Dr A. Sabatini | Vector genetics | Istituto di Parassitologia, Rome |

| | <i>Responsibility</i> | <i>Institution</i> |
|--------------------------|-------------------------------|---|
| Professor M. Prothero | Human geography migrations | Institute of Geography, Liverpool |
| Dr I. A. McGregor | Serology, antigen preparation | Medical Research Council, London |
| Professor B. O. Osunkoya | Serology, antigen preparation | University of Ibadan |
| Dr A. I. O. Williams | Serology, antigen preparation | University of Ibadan |
| Dr A. Voller | Serology | Nuffield Institute, London |
| Professor A. F. Fleming | Human genetics (H types) | Ahmadu Bello University, Zaria |
| Dr I. G. Kagan | IHA test, serology | Centre for Disease Control, Atlanta |
| Dr H. M. Mathews | IHA test, serology | Centre for Disease Control, Atlanta |
| Dr H. O. Lobe1 | IHA test, serology | Centre for Disease Control, Atlanta |
| Professor P. G. Janssens | Research orientation | Institute of Tropical Medicine, Antwerp |
| Professor A. O. Lucas | Research orientation | Department of Preventive and Social Medicine, University of Ibadan |
| Dr N. Detinova | Entomology | Martsinovskiy Institute of Medical Parasitology and Tropical Medicine, Moscow |
| Dr D. S. Rowe | Immunology | University of Lausanne, Lausanne |

WHO headquarters staff, full-time, for various durations

| | |
|-----------------------|------------------------------|
| Mr A. S. Thomas | Programmer analyst |
| Mrs M. Escibano-Matty | Technical assistant-graphics |
| Mrs P. Razé | Programmer analyst |
| Miss J. Richards | Programmer analyst |
| Miss R. Prieto | Technical assistant |

WHO headquarters staff, part-time

| <i>Name</i> | <i>Division or unit^a</i> | <i>Responsibility</i> |
|------------------|-------------------------------------|-----------------------------------|
| Dr G. Sambasivan | Director, ME | Coordination, budget |
| Dr K. W. Newell | Director, RECS | Coordination, budget |
| Dr T. Lepes | Director, MPD | Coordination, budget |
| Dr H. C. Goodman | Chief, IMM | Coordination, budget |
| Mr J. W. Wright | Chief, VBC | Coordination, budget |
| Mr J. Hamon | Chief, VBC | Coordination, budget |
| Dr G. Gramiccia | ME-MPD | Planning, coordination with field |

^a HST = Division of Health Statistics; IMM = Immunology unit; ME = Division of Malaria Eradication; MPD = Division of Malaria and other Parasitic Diseases; RECS = Division of Research on Epidemiology and Communication Science; SHS = Division of Strengthening of Health Services; VBC = Division of Vector Biology and Control.

| <i>Name</i> | <i>Division or unit</i> | <i>Responsibility</i> |
|------------------------|-------------------------|---|
| Dr L. Molineaux | RECS-MPD | Planning, evaluation, epidemiology, model |
| Dr A. Rossi-Espagnet | RECS-SHS | Study design |
| Dr K. Djetz | RECS-HST | Mathematical model |
| Dr N. T. J. Bailey | RECS-HST | Statistics, study design |
| Mr R. F. Fritz | VBC | Planning (entomology), insecticides |
| Dr K. S. Hocking | VBC | Planning (entomology) |
| Dr A. Szenberg | IMM | Planning (serology), evaluation |
| Dr P. A. Falk | IMM | Evaluation (serology) |
| Dr S. Mandel | RECS | Statistics, epidemiology |
| Dr A. Bekessy | RECS | Statistical evaluation |
| Dr A. Benyoussef | RECS | Sociology, demography |
| Dr A. Weston | RECS | Social behaviour |
| Mr C. Garrett-Jones | ME | Planning (entomology) |
| Dr A. R. Zahar | ME-MPD | Evaluation (entomology) |
| Dr J. H. Pull | ME-MPD | Coordination with field, evaluation |
| Dr C. Alff-Steinberger | RECS | Numerical analysis |
| Miss N. Jenny | ME-MPD | Administrative assistant |
| Miss F. Bonnello | MPD | Secretary |

Nigerian staff trained and working with the project

The total number of staff deputed or recruited by the Nigerian Government to work with the project varied from 113 to 143 during the period of more intense activity (collection of basic data and intervention phase) in 1971-1973. This number was gradually reduced to 68 during the course of the post-intervention phase in 1974-1975.

By category, the following numbers of Nigerian staff were trained for the project during the period of maximum activity (1971-1973):

| | | | |
|--|------------------------|-------------------|----|
| Chief microscopist | 1 | Pump mechanic | 1 |
| Microscopists | 5 | Draughtsman | 1 |
| Microscopist trainees/ blood collectors | 17 | Clerk typist | 1 |
| Laboratory assistant (entomology) | 17 | Drivers | 17 |
| Laboratory attendants (entomology) | 9 | Mechanics | 2 |
| Field supervisors | 6 | Storekeeper | 2 |
| Mosquito scouts (spraymen) | 65 | General labourers | 3 |
| Squad leaders | 14 | Machine-operator | 2 |
| Geographical reconnaissance agents | 15 | Watchmen | 4 |
| | (in 1970-1971 only) | Office cleaner | 1 |
| | | Statistical clerk | 2 |
| | | Stewards | 2 |

It is understood that, on account of the turnover or redeployment of staff, the number of people trained was in excess of that of people employed at any one time for any category of post. In addition, 13 Nigerian technical health staff were given a fellowship by the Federal or State Government for training with the project comprising a higher health superintendent, 3 health inspectors, 7 rural health inspectors, a laboratory technologist, and a microscopist.

Appendix 2

COST OF THE PROJECT

The field research project was financed by WHO (Regular Budget and Malaria Special Account) and by the Federal Government of Nigeria, in the proportion of about 85% and 15 % respectively.

The costs borne by the Federal Government included the salary of the Governmental staff working for the project, the cost of building and maintenance of the project's accommodation in Kano and Garki. WHO covered all other costs, including an annual subsidy towards the costs borne by the Government. Details of the expenditure by year are given in Appendix Tables 1 and 2. Over the 7 years of activity of the project, the total cost was slightly over US \$6 000 000, or an average of \$870 000 per year. Of these, about 60% were for the staff, including travel and consultants, 13% for supplies, 12% for buildings and accommodation, about 8% for computer processing, and about 7 % for miscellaneous expenses. A Plan of Operations, stating the objectives pursued and the methods followed by the project, as well as the responsibilities of the Government and WHO, was prepared and signed by the parties in 1970 and revised in 1975.

Appendix Table 1: Summary of Government costs for the project, 1970-1976

| Commitment | 1970 US\$ | 1971 US\$ | 1972 US\$ | 1973 US\$ | 1974 US\$ | 1975 US\$ | 1976 US\$ | Total US\$ |
|-----------------------------------|----------------|--------------|--------------|--------------|--------------|----------------------|-----------------|---------------|
| Government staff | 15998 | 15998 | 15998 | 15999 | 15999 | 136 820 ^a | nil after April | 216 812 |
| Office accommodation ^b | 268 832 | - | - | - | - | - | - | 268 832 |
| Staff accommodation ^c | 65 807 | 77 009 | 77 009 | 83 612 | 64609 | 31 924 | 63849 | 483 819 |
| Total | 3 50637 | 93007 | 93007 | 99611 | 80608 | 168744 | 63849 | 949463 |

^a \$76 000 were covered by Federal Government funds.

^b Consisting of two complexes built for the purpose and from capital expenditure, one at Garki (field station) and one at Kano Project HQ (original source of funds not known).

^c 1970- 1974: 13 staff members
1975- 1976: 5 staff members, 2 in Government quarters.

Appendix Table 2: Summary of all costs for the project, 1970-1976

| Source | 1970 US\$ | 1971 US\$ | 1972 US\$ | 1973 US\$ | 1974 US\$ | 1975 US\$ | 1976 US\$ | Total US\$ |
|--------------|---------------|---------------|----------------|----------------|---------------|---------------|---------------|----------------|
| Government | 3 50638 | 93 007 | 93 007 | 99610 | 8 0608 | 168744 | 63849 | 948483 |
| WHO | 614799 | 870520 | 1027862 | 1 150924 | 529796 | 575 861 | 372517 | 5 142269 |
| Total | 965437 | 963527 | 1120859 | 1250534 | 610404 | 744605 | 436366 | 6091732 |