

## **Ifakara DSS site**

2.1 The Ifakara Demographic Surveillance System (DSS) area is located in southern Tanzania in parts of two districts, Kilombero and Ulanga both in Morogoro region (latitude 8° 00.' to 8° 35'S, altitude 35° 58 to 36° 48'E). The Ifakara DSS site was incepted in September 1996. Baseline census was conducted between September and December 1996. A total of 25 villages are covered with a population of about 65,000 people in 14,000 households. Since January 1997 each household is visited once in every four months (three times in a year) to record births, pregnancies, deaths and migration. In order to document community-based causes of death we started conducting bereavement interviews in September 2000.

The area is predominately rural with scattered households. The main ethnic groups are Wapogoro, Wandamba, Wabena, and Wambunga with several others in small proportions. Subsistence farming of maize and rice occupies the majority of the villagers. The literacy rate in adults is quite high, 88% for men and 69% for women. The mean household size is five people who usually live in a compound with one or two houses. The main rainy season is from November to May. In some years floods are experienced in several parts of the DSS area, particularly in April. During floods, accessibility to some households is very difficult (for more details see INDEPTH network, 2002).

### **2.2 (see monograph)**

**3. The under-five mortality in 2002 was 29.4 per 1,000 person years.**

## **4 Capacity for conducting Clinical Trials**

The Centre has participated in several clinical trials and there is plenty of accumulated experience. The following list comprises major clinical trials conducted by the Centre.

A randomised controlled trial to prevent Vitamin A deficiency in young infants by supplementation alongside routine vaccinations delivered through the expanded programme on immunization.

A randomised, placebo controlled trial to assess the efficacy and safety of intermittent sulphadoxine-pyramethamine treatment on the rate of malaria and severe anaemia in infants was carried out in Ifakara.

To evaluate the new strategy to inhibit development of resistance using combination of two antimalarials drugs (Artesunate and sulphadoxine-pyrimethamine).

Open randomised trial to assess safety and efficacy of amodiaquine (AQ), sulphadoxine-pyrimethamine (SP) and the co-administration of AQ + SP.

The Kilombero Tuberculosis Project aimed to evaluate the conversion rate at 2 months of treatment of tuberculosis and cure rates at 5 months treatment between the community based directly observed therapy – short course (CBDOTS) and institution based direct observed therapy (IBDOTS).

The IMPACT project aiming at implementing and evaluating wide use of combination therapy (CT) (artesunate + SP) whether it will inhibit development of drug resistance; determine if CT has an effect (transmission) on population-level gametocyte carriage rates; identify human behaviour factors that may influence success of CT; evaluate the cost and cost effectiveness of CT strategy; investigate policy level decision making process as it relates to changing malaria treatment guidelines and measure public health impact of a CT strategy.

The first trial of the SPf66 malaria vaccine in Africa - a randomised double-blind placebo-controlled studies of SPf66 was conducted in a highly endemic area of Tanzania.

Evaluation of SPf66 malaria vaccine in infants and its interactions with EPI vaccines.

A randomised comparison of different strategies for control of anaemia and malaria in infants, including an assessment of the effect of iron supplementation on malaria susceptibility.

### **4.1 Ethics: The Institutional Review Board**

The Centre has an independent functioning Institutional Review Board (IRB), which reviews all research proposals and progress reports carried by the Centre. The members include representatives from lawyers, teachers, nurses, doctors, religious organisations, women groups, and the community.

### **4.2 Description of Laboratory facilities**

The Centre maintains a well-established laboratory for:

Parasitology – facilities for malaria conventional microscopy are available

Immunology – malaria and HIV immunology (Computer controlled ELISA reader and washer are available)

Microbiology – bacterial isolation and identification facilities

Molecular biology – (2 Thermocyclers and all facilities to carry out PCR are available)

### 4.3 Description of Clinical facilities

1. Well established Clinical Surveillance System/CADIS
2. Demographic Surveillance System.

### 4.4 List of Scientists

1. Dr. Hassan Mshinda - PhD Molecular Biology
2. Dr. Salim Abdulla - MD, PhD Epidemiology
3. Dr. Rose Nathan - PhD Demography
4. Mr. Charles Mayombana - MSc Community Health (PhD student)
5. Mr. Kefas Mugittu - MVM (PhD student– Molecular Biology)
6. Mr. Honorathy Urassa - MSc Medical Microbiology
7. Mr. Oscar Mukasa - MSc Medical Informatics
8. Mr. Abdallah Mkopi - MSc Epidemiology and Biostatistics
9. Mr. Honorati Masanja - MSc Medical Statistics
10. Dr. Boniface Idindili - MD, MPH
11. Dr. Abdulnoor Mulokozi - MD.
12. Mr. Hadji Mponda - Advanced Diploma in Marketing (MSc student)
13. Mr. Allen Malisa - MVM
14. Ms Modesta Ndejemi - BSc (PhD student – Molecular Biology)
15. Mr. Ahmed Makemba - MPH
16. Mr. Joseph Mugasa - MSc. Molecular Biology
17. Mr. Hezra Mrema - MSc. Environmental Science
18. Mr. Rashid Khatib - MA Sociology
19. Mr. Mwifadhi Mrisho - MA Demography
20. Mr. Godlove Stephen - MA Economics
21. Mr. Joseph Njau - MA Economics
22. Mr. Sosthenes Charles - MSc Medical Statistics
23. Ms. Fatuma Manzi - MSc Economics
24. Ms. Valeriana Mayagaya - BSc. Biology
25. Ms Sally Mtenga - Bsc. Community Development
26. Mr. Paul Mahunga - BA Statistics
27. Mr Suleman Mbuyita - BSc. Agriculture Science
28. Mr John Rutaihwa - BSc
29. Mr Denis Kamugisha - BSc
30. Ms Emmy Meta - MA sociology
31. Ms June James - MA Sociology
32. Ms Angela Kimweri - MA Sociology

## 5 Catalogue of completed and ongoing projects

### 5.1 Completed Research Projects

1. Studies on Health Seeking Behaviour in Relation to Essential Health Interventions
2. Evaluation of SPf66 malaria vaccine in infants and its interactions with EPI vaccines
3. Evaluation of community effectiveness of insecticide treated nets on malaria related morbidity and mortality among children in Kilombero valley.
4. Comparative evaluation of chloroquine and sulphadoxine-pyrimethamine against clinical malaria.
5. Malaria natural transmission blocking immunity: epidemiology and mechanisms.

6. A randomised controlled trial of evaluation of efficacy of community based directly observed therapy versus institutional based direct observed therapy short-course for the treatment of Tuberculosis in Kilombero district, Tanzania.
7. A randomised comparison of two approaches to anaemia treatment in Tanzanian children.
8. Intermittent sulphadoxine-pyramethamine treatment in infants in Ifakara.

## 5.2 Ongoing Research Projects

1. International Monitoring Project for Anti Malaria Combination Therapy
2. Social Marketing of Insecticide Treated Mosquito nets
3. WHO multi-country evaluation of IMCI Tanzania component.
4. A randomised controlled trial to prevent Vitamin A deficiency in young infants by supplementation alongside routine vaccinations delivered through the expanded programme on immunization.
5. Assessment of the concentration of retinoic acid in breast milk following Vitamin A supplementation of postpartum women in a Vitamin A deficiency community
6. Malaria Transmission Intensity and Mortality Burden Across Africa
7. Governance Health and Equity

## 5.3 Projects that have directly influenced national health policy

1. Governance Health and Equity
2. WHO multi-country evaluation of IMCI Tanzania component.
3. Evaluation of community effectiveness of insecticide treated nets on malaria related morbidity and mortality among children in Kilombero valley.
4. Comparative evaluation of chloroquine and sulphadoxine-pyrimethamine against clinical malaria.
5. A randomised controlled trial of evaluation of efficacy of community based directly observed therapy versus institutional based direct observed therapy short-course for the treatment of Tuberculosis in Kilombero district, Tanzania.
6. Intermittent sulphadoxine-pyramethamine treatment in infants in Ifakara.

## 6 Publications

1. Abdulla S, Schellenberg JA, Nathan R, Mukasa O, Marchant T, Smith T, Tanner M, Lengeler C. Impact on malaria morbidity of a programme supplying insecticide treated nets in children aged under 2 years in Tanzania: community cross sectional study. *BMJ*. 2001 Feb 3;322(7281):270-3.
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Evaluation of the SPf66 vaccine for malaria control when delivered through the EPI scheme in Tanzania. *Trop Med Int Health*. 1999 May;4(5):368-76.

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## **7 General human resource capacity**

### **Directorate:**

Dr. Hassan Mshinda – (PhD molecular epidemiology), Director

### **Finance and administration:**

- Finances unit: Mr. Hassan Karata – (CPA), Chief Accountant

- Human Resources and Infrastructure unit - Ms. Diana Myonga – (Adv Dip Materials Managnt), Personnel Officer

**Biomedical sciences:**

Head: Mr. Honorathy Urassa – (MSc med microbiology), Research Scientist

- Molecular Parasitology unit: Mr. Kefas Mugittu – (MVMed), Research Scientist
- Immunology unit: Mr. Allen Malisa - (MVMed), Research Scientist
- Microbiology unit: Mr. Honorathy Urassa – (MSc med microbiology), Research Scientist

**Computing and Medical Informatics:**

Head: Mr. Oscar Mukasa (MSc Med informatics), Research Scientist

- Data management unit: Mr. Paul Mahunga – (BSc statistics)
- IT and networking unit: Mr. Sosthenes Charles – (MSc Medical)

**Health Systems research:**

Head: Mr. Charles Mayombana (MSc community health), Project co-ordinator

- Health financing: Fatuma Manzi (MSc Health economics)

**Demographic and Inpatient surveillance systems:**

Head: Dr. Rose Nathan (PhD demography), Project co-ordinator

**Intervention studies:**

Head: Dr. Salim Abdulla (PhD epidemiology), Project co-ordinator

- Malaria interventions unit: Dr. Salim Abdulla (MD, PhD epidemiology), Project co-ordinator
- HIV/AIDS and other interventions unit: Dr. Boniface Idindili – MD, MPH, Project co-ordinator

**Social Marketing and Health Promotion:**

Head: Mr. Haji Mponda (Adv Dip Materials Managnt), Social Marketing Manager

**Staff Strength**

1. PhD	: 3
2. MSc	: 16
3. BSc	: 6
4. Advanced Diploma	: 4
5. Ordinary Diploma	: 7