Sida Evaluation 02/13

Sida's Support to the Reproductive Health and TANSWED HIV Research Programmes in Tanzania

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Sida Evaluation 02/13
Commissioned by Sida, Department for Research Cooperation

Registration No.: 2000-004556
Date of Final Report: June 2002
Printed in Stockholm, Sweden 2002
ISBN 91-586-8712-2
ISSN 1401–0402

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
COSTECH	Commission for Science and Technology
ECAOGS	East, Central and South African Associations of Ob/Gyn Societies
FIGO	International Federation of Gynecology and Obstetrics
GNP	Gross National Product
IMCH	International Maternal and Child Health
KARP	Kagera Research Project
MMC	Muhimbili Medical Center
M.Med	Master of Medicine
MoH	Ministry of Health
MSc	Master of Science
MUCHS	Muhimbili University College of Health Sciences
NACP	National AIDS Control Programme
NCHIV/AIDS	National Commission for HIV/AIDS
NGO	Non-Governmental Organisation
NIMR	National Institute of Medical Research
OG	Obstetrics and Gynaecology
ORCI	Ocean Road Cancer Institute
PI	Principal Investigator
RCHS/MoH	Reproductive and Child Health Section of Ministry of Health
RH	Reproductive Health programme
RMO	Regional Medical Officer
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SEK	Swedish currency (krona)
Sida	Swedish International Development Agency
STIs	Sexually Transmitted Infections
TACAIDS	Tanzania Commission for AIDS
TANHER	Tanzania National Health Research forum
TANSWED	Tanzanian and Swedish HIV/AIDS programme
TFNC	Tanzania Food and Nutritional Centre
UDSM	University of Dar es Salaam
UNDP	United Nations Development Programme
WHO	World Health Organization

Acknowledgements

We are indebted to many people who made this evaluation possible. We wish to thank all of them, especially those at the Muhimbili University College of Health Science (MUCHS), who spared their valuable time to meet us, sometimes for long discussions, despite their heavy work load. We are particularly grateful to Professor Fred Mhalu (the TANSWED HIV programme co-ordinator from Tanzania) and Dr. Siriel Massawe (the Reproductive Health programme co-ordinator from Tanzania), who scheduled arrangements in Dar es Salaam for the evaluation and were key persons at all the meetings. From Sweden, we wish to extend special thanks to Professor Gunnel Biberfeld (the TANSWED HIV programme co-ordinator from Sweden), who was the first person from this bilateral collaboration that we met and who gave us two full days from her already busy schedule. We would also like to thank Professors Eric Sandström and Peter Biberfeld for the valuable time they spent with us. We are so grateful for the time the Umeå collaborators for both programmes, Professor Stig Wall, Maria Emmelin, Lars Dahlgren and Lennarth Nyström, spent with us and for all the valuable information they shared with us. Special thanks to Professor Gunilla Lindmark (the Swedish co-ordinator for the Reproductive Health programme), who spent one entire day of discussion with us. We also wish to thank Drs. Barbro Carlsson and Anita Sandström for sharing with us their experience and views on bilateral programmes, from the Sida/SAREC perspective. Finally, we would like to express our most sincere gratitude to Dr. Annica Sohlström, the Sida officer responsible for the Tanzania bilateral collaboration, for organizing the current evaluation.

Executive summary

Background

Sida/SAREC has been supporting the two programmes under evaluation for fifteen and eleven years respectively. The TANSWED HIV programme has been supported since 1986. It was started as a result-oriented project without the emphasis on research capacity strengthening, but this was introduced as an additional aim when it became a bilateral programme in 1990.

The Reproductive Health programme has been funded since 1990 and has been bilateral from the beginning. The two programmes are very different in size and scope and the TANSWED HIV programme is substantially larger. It is the largest individual SAREC-funded bilateral programme, with a budget of SEK 18m for the period 2001–2003. The budget for the Reproductive Health programme for the same period is SEK 4m.

In 1992, the HIV/AIDS research programme was evaluated and in 1996 both TANSWED HIV and the Reproductive Health programmes were included in an evaluation of SAREC support for health research co-operation with Tanzania.

On the whole, they have both been assessed as successful programmes, resulting in a significant number of research publications and both have had effects on health policy in Tanzania and internationally.

Terms of reference for the present evaluation

Sida decided that a common evaluation should be made of the two programmes during year 2001.

Critical issues raised in reviews of the latest funding applications (2001–2003) for the programmes were that they were too broad and unfocused and that the capacity building component could be improved. The evaluation should focus on capacity strengthening and research components, assessing the contributions made by the two programmes. Bottlenecks preventing the increased enrolment of postgraduate students should be identified. Interaction between the programmes, as well as leadership, should be looked into. All this should be done with the focus on the future direction and management of the programmes.

Conclusion

The Sida/SAREC bilateral funding to MUCHS and the programmes under evaluation should continue, as this is seen as currently making the largest contribution to developing a research environment at MUCHS.

Findings and recommendations

Capacity strengthening

For both programmes, a total of seven PhD students have graduated, six Tanzanian and one Swedish. The first Tanzanian PhD student with a clinical background will graduate in 2002. The programmes have not reached their full potential for capacity building as a result of several constraints. The freeze on employment between 1992 and 2000 almost coincided with the start of the bilateral programme. This became a major obstacle in relation to the recruitment of PhD students, especially in clinical subjects in Tanzania. There are few eligible candidates due to the requirements for a clinician to become an academic staff. The pool of young people available for training is small. It is difficult to train in the local environment due to competing demands and it is difficult for research students to plan their time abroad because of the shortage of senior staff in the departments. The benefits of getting a PhD after M.Med are not clear. However in many ways, a PhD by papers would fit into the Tanzanian system, as has also been proposed by the Academic Board at MUCHS.

The research environment is unsatisfactory and this applies especially to the library, local support for data processing and supervisory capacity, as well as the laboratory facilities in many departments.

On the Swedish side, there are few supervisors on the programmes and a lack of success in recruiting Swedish students to join the programmes.

If the definition of critical mass is that a department has enough people to guarantee stability and sustainability for research, there is a problem on both the Tanzanian and the Swedish side.

Recommendations

MUCHS should:

- Develop and support PhD coursework and supervisory capacity so as to run local sandwich PhD programmes
- Identify and motivate young academic staff, especially in clinical areas, to take up PhD training
- Create and encourage incentives for research productivity and PhDs in the system for example through promotion at the clinical departments
- Provide protected time for research, paper writing and research training
- Fill the vacant positions to create a larger pool from which PhD candidates can be selected
- Include non-academic teaching staff to be considered for eligibility for research training
- Provide stipends for those training locally so that they have less need to engage in other activities to raise their income
- Prioritise the library for support and development

Sida should:

- Include in the bilateral programme funding support for the M. Med research training, perhaps with slightly increased research training, without interfering with the time needed for specialist training
- Help support PhD students locally, i.e. with scholarships, and make time for research which can be accounted for

- Support the library at MUCHS on a larger scale and help develop a basic core facility – a clinical research centre with data processing, epidemiological and statistical support common to all research programmes
- Look into the situation of the Swedish collaborating departments

The departments in Tanzania and Sweden should:

- Find supplementary funding to support Swedish PhD students in the programme as well
- Increase the numbers of PhD students, secure their time for research training and
- ensure that all students have tutors in both Sweden and Tanzania
- Attach M.Med students to ongoing projects so as to create a pool of younger researchers
- Make every effort to attach post-doc students (both Tanzanian and Swedish) to the research programmes

Research components

The TANSWED HIV programme has been very productive with publications covering a wide spectrum from microbiology/immunology and histopathology to clinical, epidemiological and social and behavioural aspects. Many publications have been in international journals, but only a minority have been included in PhD theses. The number of abstracts is very high; being more than double the number of published papers. This could be related to the long time needed to complete the projects and the importance that is attached to the dissemination of results through the opportunities for researchers to travel to meetings. However, several abstracts have never been included in papers. The Reproductive Health programme, which is smaller and has a shorter history, has fewer publications and abstracts to match. The percentage of articles published in regional journals is higher. This may cause problems for the departments as journal impact factors are used in the assessment.

The way the programmes developed made them broad and unfocused, as new ideas are often brought in with potential new principal investigators and are not developed from ongoing work.

The co-ordinators of TANSWED are people with an extraordinarily broad-minded approach, motivation and commitment and they have contributed a great deal to the programme, but they will soon be reaching retirement age. The leadership at programme level in the Reproductive Health programme has been unchanged on the Swedish side since the start. It is strong and dedicated, with a heavy supervisory burden and, in the not too distant future, these people will be reaching retirement age. On the Tanzanian side, there has been a change during the past year, but there is still continuity, as the present co-ordinator is also from the OG department. The leadership at PI level is generally unstable in both programmes.

Recommendations

- The current system of impact factor assessment to rank the importance of research publications is inadequate. There is a need to promote other assessments, which can more effectively rank research for development publications, otherwise locally relevant research is underrated
- There should be more interaction between Tanzanian and Swedish supervisors, with each spending a reasonable time in the other country to improve the scientific quality of research and research proposals. It is necessary to identify themes within the programmes. This may be one way of reaching a compromise between breadth and focus and make new ideas develop from ongoing work

- There should be clearly-written guidelines on the ownership of data, publication procedures and authorship of manuscripts
- The number of abstracts that are developed into completed journal publications should be dramatically increased and monitored. The provision of time spent in a conducive environment could be helpful
- Arrangements should be made to analyse all the qualitative social science and epidemiological data which has not yet been analysed
- Three-year funding cycles are not optimal for PhD students. The programme period needs to be increased and the project period should be more flexible. Creative time is needed to plan for the next application. There is also a need for an improved evaluation process when renewed funding is applied for
- Plans for leadership succession, especially at co-ordinator level, should start now and be completed by the next proposal submission

The bilateral programme is thought by the participants to slow the pace of research, especially when capacity building has so many bottlenecks that cannot be addressed by the researchers themselves. To maximise the benefits of the bilateral programmes, there is an urgent need for all parties at MUCHS and the Swedish institutions that are involved to understand clearly the rationale behind and the differences between a thematic and a bilateral approach. It is obviously the responsibility of Sida to clarify this so as to avoid confusion and misunderstanding and enhance the interest and continued participation of scientists on the Tanzanian and the Swedish side.

1 Introduction

1.1 Tanzanian context

Tanzania, with a population of about 30 million, is one of the poor countries of the world and lies just south of the equator in East Africa. The country's principal problems are poverty, illiteracy and disease, especially those of a communicable nature. Various national health reforms are being implemented, guided by the National Health Policy of 1990, the Primary Health Care Strategy and the Tanzanian Health Sector strategy note of 1993. The overall objective of the health policy is to improve the health and well-being of all Tanzanians, with the focus on those at most risk, and to encourage the health system to be more responsive to the needs of the people.

In an environment of abundant needs against a backdrop of extremely limited resources, there is a compelling argument for making priorities. With the diminishing resources allocated to the health sector in general and subsequently to health research, it is imperative that resources are allocated to address priority health problems. In spite of this, in the early 1990s, one of the six identified major problems facing the health sector was a lack of appropriate research priorities at all levels.

An attempt was made to develop national health research priorities at a workshop in Arusha in 1999 convened by the National Institute of Medical Research (NIMR). The results did not, however, obtain universal acceptance, in part because of the methodology that was used. The health problems were categorised into three groups, under each of which priorities were identified as shown:

Health service/health systems	*Disease profile*	*Socio-cultural problems*
Lack of equipment/drugs	URTI	Poor latrine usage
Lack of transport	Diarrhoeal diseases	Poor economic status/alcoholism
Under-funding	Pneumonia	Polygamy
Ignorance, poor health education	Intestinal worms	Ignorance and illiteracy
Impassable roads	Eye infections	Gender inequality
Lack of rehabilitation/buildings	Skin infections	Witchcraft
Lack of water supply	Anaemia	Inheritance of widows
Poor environmental sanitation	Trauma/accidents	Low family planning acceptance
Inadequate health facilities		Use of local herbs

On the other hand, MUCHS had published its institutional research policy including research priorities in 1995. The latter were developed with the aim of improving the health and well-being of human beings, while bearing in mind the need also to reflect the function of the college as a university institution for training and advancing knowledge. It was recognised then that there were many constraints to research and they still apply today. They include:

a) Inadequate funding with some departments being worse off than others due to a disparity in the ability to attract external funding. Estimates indicate that the research funding level in Tanzania is about 0.35% of the GNP.

b) Lack of co-ordination between and within institutions and a tendency not to collaborate as much as would otherwise be possible, coupled with unnecessary duplication

c) Lack of information regarding ongoing or planned research, source of funds and access to scientific literature

d) Lack of interaction between researchers, policy- and decision-makers, communities, health workers and other researchers or institutions

e) Poor salary structure nationally and at MUCHS, leading in particular to dissatisfaction and the neglect of research in preference to alternative sources of additional income

f) Small pool of scientists. A critical mass of scientists is needed to conduct substantial and sustainable research programmes. There is a small number of entrants to college to train as research scientists, a high attrition rate and both an internal and an external brain drain. Tanzania as a nation has not yet attained the critical minimum level of research capacity that is necessary to bring about a significant impact on national development

g) Weak research culture and national research support environment leading to the marginalisation of research activity remain a problem.

The priorities identified by MUCHS are: malaria, HIV and other sexually- transmitted diseases, tuberculosis, acute respiratory infections, parasitic infections/infestations, cardiovascular diseases, diabetes, micronutrient disorders, cancer, nutritional disorders, childhood diseases for which immunisation is available, diarrhoeal diseases, mental health, injuries, maternal health and dental health.

National research structure

There are many institutions conducting research in Tanzania; they range from universities to research institutions to government departments and non- governmental organisations (NGOs). The Commission for Science and Technology (COSTECH) is the body that co-ordinates all research in Tanzania. The National Institute for Medical Research (NIMR) is responsible for controlling, co-ordinating, conducting and promoting the performance of health research and the dissemination of research results. The Medical National Health Research clearance body receives, reviews and grants research clearance for all health research in Tanzania. The NIMR has, however, authorised institutions mandated to conduct health research to set up institutional health ethics committees whose function will be to review research proposals for health research intended to be conducted within Tanzania and by a research team not involving foreigners. It is emphasised in the first version in 2001 of "Guidelines on Ethics for health research in Tanzania", published by the NIMR, that any research involving foreign nationals has to be cleared by the NIMR, unless the institution has been mandated to control and monitor such research by the Tanzanian government. All partner institutions in health research are united under the Tanzanian National Health Research (TANHER) Forum, which is an inclusive body or mechanism which ensures that each partner has a clearly-defined role, is considered an asset and shares in the ownership of the mechanism. Its functions are established in the Essential National Health Research Strategy which was adopted in Tanzania in 1991.

A total of 11,673 AIDS cases were reported to the NACP between 1st January and 31st December 2000 from the 20 regions of the Tanzanian mainland, giving a cumulative reported total of 130,386 cases between 1983 and December 2000. It is estimated that, by December 2000, about 660,000 AIDS cases had occurred in Tanzania. The epidemic continues to escalate in Tanzania. However, evidence indicating a decline in HIV prevalence and incidence in the Kagera region is beginning to emerge. The World Bank estimates that, because of the AIDS epidemic, life expectancy by 2010 will revert to 47 years instead of the projected 56 years in the absence of AIDS. The bank also predicts that the mean age of the working population (work force) will decline from 31.5 to 29 years between 1992 and 2010. The overall younger work force will have less education, less training and less experience. The bank further estimates a reduction in the average real GDP growth rate

between 1985 and 2010 from 3.9% without AIDS to between 2.8 and 3.3% with AIDS. All the above factors are likely to lead to a negative impact on the overall living standards and the economic performance of the country.

In the above context and that of an enlarging orphan population and a young and rapidly expanding Tanzanian population, reproductive health issues will be of paramount importance. HIV/AIDS and reproductive health are priority issues in Tanzania.

The importance of research in health development cannot be over-emphasised. The resources needed to support meaningful research are often lacking, due to inadequate and overworked human resources, inadequate budgetary provisions for research institutions and an environment that is generally not supportive of research.

HIV/AIDS and reproductive health research form key areas of focus for support in the Sida-supported bilateral programme with MUCHS.

1.2 Swedish context

The overall goal of research co-operation through SAREC is to strengthen research capacity locally and promote development-oriented research. Research capacity involves all the steps from identifying researchable problem areas, pursuing the research, applying and disseminating the results to having access to international research findings and international collaboration and building sustainable institutions. Research for development has an over-riding goal of poverty alleviation for which new knowledge is also urgently needed within health research.

Sida funds thematic health research in the areas of health systems and health policies, child health, sexual and reproductive health, HIV/AIDS and related sexually transmitted diseases and poverty-related tropical diseases, including research into vaccines. In the strategy for research co-operation in the area of HIV/AIDS, the emphasis is on vaccine development, the prevention of mother-to-child transmission, microbicide development, the protection of young people and the control of HIV/AIDS-related STIs.

Bilateral research co-operation is the main form of support for the development of research capacity and the focus has been on support for research carried out at national institutions – research universities – in areas identified as national priorities and transformed into local strategic plans.

A PhD in Sweden takes four years of full-time work which, in the case of clinicians, is usually spread over a longer period. In the sandwich type of PhD under the bilateral programme, only short periods are spent outside Tanzania. The training consists of course work but first and foremost research presented in a thesis based on at least four scientific papers, of which three must be published in peer-reviewed journals and the fourth must be submitted to a journal of this kind by the time of submission of the dissertation. The research is related to a theme and is presented in a book with an analytical synthesis of the research findings and methodology covering the research area. Specialist training is completely outside these four years.

2 Background

2.1 MUCHS

MUCHS was established in July 1991 when the then Faculty of Medicine was upgraded to a college of the University of Dar es Salaam (UDSM). The college has four faculties (Dentistry, Medicine, Nursing, Pharmacy) and five institutes (Allied Health Sciences, Development Studies, Primary Health Care and Continuing Education, Public Health, Traditional Medicine) and a Directorate of Postgraduate Studies. MUCHS is a constituent college of UDSM, and has a separate administration from Muhimbili National Hospital.

The Muhimbili National Act of 2000, enacted by the Parliament of the United Republic of Tanzania, set in motion the process of restructuring the Muhimbili Medical Centre by separating the Muhimbili National Hospital and MUCHS. This separation came after more than a decade of serious under-funding for service, teaching and research and a damaged infrastructure at MMC.

Five-year strategic plan

MUCHS has a five-year rolling strategic plan for the period 1999/2000–2003/2004, with the mission of providing in Tanzania a place of learning, education and research in health sciences. One of the set goals to be addressed so as to complete the above mission is to carry out research in health and related sciences. The following five of the fourteen strategic objectives in the five-year plan are of particular relevance to the evaluation and planning of the TANSWED and Reproductive Health programmes:

Enhance performance and improve the quality of MUCHS output

The various aspects of the strategic plan are geared towards enhancing performance and improving the quality of the products, be they student output, publications or service provided. This strategic objective will specifically address performance and the quality of output. To do this, the college will endeavour to increase the number of qualifying doctors involved in health research by 20%, the number of dissertation-derived publications in referred journals by 30%, the number of undergraduate students qualifying for postgraduate studies by 100% and the number of dissertations completed in time by 90%. Other performance and quality issues will include the following aspects: increasing the number of publications by the college in refereed journals, improving the rate of completion of research/consulting projects, the rate of acceptance of research-related publications by refereed journals, the frequency of invitations to tender for consultancies and the number of staff involved in consultancies.

Key strategies which have been identified in order to realise the above are:

> To introduce research methodology in all postgraduate programmes to inculcate a research culture among the students
>
> To abolish the case report format of the dissertation and introduce research-based dissertations in all postgraduate programmes

To enhance research capacity and capability

The following strategies to achieve the above objective are as they appear in the plan:

Increase funding for research: Request the Government to increase the proportion of GNP allocated to science and technology to at least 1.0%;

Solicit for donor funds to support small projects;

Disseminate information on possible sources of funds for research;

Encourage collaborative research between scientists in the college and researchers in better-funded institutions, inside and outside the country;

Maximize on available funds by focusing research on priority areas;

Make attraction of external funding as one of the conditionality for the continued employment and for assuming a leadership position.

Motivate staff and students to do research

Inculcate a research culture in graduates and students of the College by replacing case-report dissertations with research-based dissertations;

Make research methodology a compulsory component of the curriculum;

Make student research better funded;

Create facilities to aid research e.g. data centre where students can have hands-on experience with data processing;

Improve supervision of student research by supporting staff involvement;

Review the undergraduate and postgraduate curricula to ensure they are in line with a good research culture;

Reward individuals/groups for research productivity.

Strengthen Research Capacity

Impose an institutional overhead cost of at least 20%, by the year 2001, on all externally funded research. This will be used to finance general functions of research;

Give preference to programmes (rather than projects);

Conduct research methodology training workshops;

Encourage sharing of resources e.g. develop a multi-user research laboratory.

Improve the linkage between research and application of research results

The aim of this should be to ensure that teaching in the College reflects new research findings, that such findings reach policy makers and the findings are translated into policy.

Disseminating research findings widely to relevant bodies and to provide timely feedback to the community.

The strategies identified to achieve the above objectives are:

Support publication and distribution of the MUCHS Research Bulletin;

Organize scientific conferences;

To disseminate research findings;

To facilitate dialogue between researchers and research clients.

Support publication and distribution of the Dar es Salaam Medical Journal and other student's organization publications as an outlet of student research;

Encourage students to publish their research/projects findings.

Encourage faculty-based seminars and conferences;

Support organization of seminars and conferences in the College;

Establish a data centre;

To enhance easy access to the research inventory;

Provide data handling facilities for staff and students;.

Make the research inventory available through the Internet;

Promote research linkage with other research Institutions;

Encourage development of outlet instruments for research outputs for academic members of staff.

Strengthen the College Library Services

Fully furnish the existing library;

To maximally utilize the existing sitting capacity;.

Expand the physical facilities to match the students enrolment expansion;

Recruit and maintain adequate and qualified staffing to match with expanded role;

Solicit for scholarships to train the existing library staff;

Negotiate for new employment of library staff;

Improve and modernize the Library Information and Communication Technology;

Establish an integrated Library Information Service;

Create a Local Area Network within the Library;

To strengthen human resource management in the College

In order to fulfil the main objective of Teaching, Research and Service; there is need to have adequate human resources. During the academic year 1998/99 there were 202 members of academic staff (40 professors, 46 senior lecturers, 77 lecturers, 37 assistant lecturers and 2 tutorial assistants) with an average staff: student ratio of 1:2.85. With the current student expansion program this ratio is bound to worsen. However the age profile of the academic staff is not very favourable with the majority of them due to retire in the next five years. The other major problem is that some departments have serious shortage of staff. To address these problems MUCHS should increase recruitment and training of new academic and administrative staff.

Selected strategies to achieve the above objectives are to:
Strengthen the management of human resources in the College
Ensure optimal staffing in the College

Work out the optimal staffing levels for academic and supporting staff;

Assess the quality of all non-academic staff with respect to the adequacy of their educational, professional and practical qualifications;

Develop plans for handling those considered unqualified but trainable;

Improve job satisfaction and motivation of staff and thereby increase staff retention

Address staff recruitment, deployment and development needs of the College involving among other things to:

Develop a College-level Training Policy and a 5-year Training Programme that addresses critical staff development problems;

Improve postgraduate training programmes to increase the pool f acadrom whichemic staff could be recruited;

Encourage faculties and Institutes to write proposals which incorporate training component to at least Ph.D levels to increase the postgraduate training opportunities for young graduate;

Actively seek for scholarships for training staff (academic, administrative and technical);

Human resources: appointments and promotions

By 2000, MUCHS had 174 academic staff from all levels from assistant lecturers to professors. The number of academic staff who attained various levels of qualification are indicated by the figures in parentheses: PhD (48), M. Med (61), other masters (42), other degrees (23). There are 35 tutors at the various schools at the Institute of Allied Health Sciences. Twenty-eight of them have diplomas and seven have a university degree.

MUCHS is also dependent on the availability of a large pool of non-academic staff who are not employed by the university but are instead employed by the Ministry of Health, at the Muhimbili Hospital and the Ocean Road Cancer Institute, for example. To be eligible for appointment as an academic staff member, lecturer and above, a PhD is a requirement except for those in clinical disciplines where an M.Med with a B+ grade is sufficient. For appointment as research fellow or assistant lecturer, a master's degree with a B+ grade or a Grade Point Average of 4.0 and above is essential. Appointment and promotion beyond lecturer or research fellow level requires publications which are assessed on the basis of the guidelines for the assessment of academic publications as contained in "Academic staff performance assessment guidelines" approved at the 138th Council Meeting on 25 November 1999.

The public service, including the university as a whole, imposed a freeze on the recruitment of new staff because of limited funding, which led to many vacant positions remaining unfilled. The few academic staff have had to make do with low salaries, increased teaching compounded by an increase in the teaching burden as a result of higher student intake, clinical services and little time and other resources for research.

The promotion system for academic staff is fairly complex. It places a great deal of emphasis on research and publications, but in spite of this the university does not provide significant support for staff to conduct research.

Postgraduate training

The college has facilities to enable students to undertake advanced work and research for the following postgraduate degrees: Master of Science (M.Sc) in Biomedical Sciences, Master of Medicine (M.Med), Master of Science (M.Sc.), as a post M. Med qualification in super specialities of neurosurgery, ENT, orthopaedics and trauma or neurology; Master of Dentistry, Master of Pharmacy, Master of Public Health and PhD.

Master of Science (M.Sc.) degree

This one-year degree may be awarded in any of the biomedical science subjects and in tropical disease control, after completion of the prescribed courses in the particular subject. The following people are eligible to register for the degree: any medical, dental or pharmacy graduate of UDSM or from a recognised university. Others who are eligible are those who have completed the first

three years of the MD course at MUCHS and have obtained a credit or distinction in the subject chosen and have put in a high academic performance in all other subjects. They must also agree to undertake to complete the MD degree training immediately afterwards. The M.Sc is awarded on completion of the MD degree course. The M.Sc can be obtained by coursework and a dissertation.

Master of Medicine (M.Med) degree

The degree may be awarded after the successful completion of at least three years of postgraduate full-time training in the fields of Internal Medicine, Surgery, Obstetrics and Gynaecology, Child Health, Community Health, Haematology, Microbiology, Ophthalmology, Anaesthesiology, Psychiatry, Anatomical Pathology and any other clinical disciplines as may be approved. Those eligible for admission include MDs or equivalent degree holders with a grade B (during MD training) in the subject they wish to pursue during the M. Med and they must also have practised for at least two years since the award. The degree programme is based on examinable coursework and research leading to a dissertation. Part of the prescribed courses may be taken at another approved institution. Exams for M. Med are in two parts: Part 1 exams are held at the end of the first year of the course and consist of examinations in three chosen biomedical science core courses, as well as examinations in the discipline of the participant's clinical speciality. Part II M.Med exams are to be held at the end of the third year as the final examination in the discipline of speciality. The candidates must pass each of the components in Part II, i.e. written, clinical/practical and oral exams.

The dissertation research is spread over a period of one to two years from selecting a research topic to the completion of write-up. There is no dedicated academic period for the research, but the work is done concurrently with the rest of the professional training. The actual time spent on the research is equivalent to six to nine months. The dissertation consists of a single research topic and is submitted as a manuscript. If, having passed the final Part II exams, a dissertation is considered unsatisfactory, a resubmission of the dissertation for examination is required after three months in the case of minor corrections and nine months if there are major corrections. A dissertation is examined by at least two examiners, (one of whom is external and is the main examiner), followed by a viva voce. The degree is awarded after passing Part II exams and submitting an approved dissertation. The dissertation is produced under the supervision of a senior staff member. Some of the dissertations have resulted in publications in referred journals. It is clear that an enthusiastic supervisor is a key factor in getting a publication produced. Although it is not common to have publications from M.Med dissertations, eighteen papers have been published by some of the graduates in Internal Medicine Department between 1985 and 1998. Key staff involved have been late Professor McLarty and Professor A.B.M. Swai who are also co-authors on the papers.

The present M.Med is designed to place great emphasis and focus very heavily on professional training. It is, however, commendable that the programme combines professional and research training. The detailed curriculum design is contained in the University of Dar es Salaam prospectus. At this point, it is enough to mention that the curriculum content which has a research focus and orientation is delivered in the first year, prior to the selection of a dissertation research topic. Epidemiology/biostatistics covers 120 hours, during which the following courses are offered: EB 600 principles of epidemiology, EB 601 Methods of Epidemiology, EB 602 Research Methodology, EB 603 Biostatistics, EB 604 Use of computers and EB 605 Teaching methodology and communication skills.

PhD degree

A PhD degree is encouraged in all the disciplines at MUCHS, apart from clinical disciplines and especially those dealing directly with patients. In these areas, there is an overwhelming desire for

clinical academic staff, first and foremost, to achieve recognition as well-trained, skilled clinicians. Generally speaking, an M. Med is regarded as being sufficient and some people view it as being equivalent to a PhD. The PhD degree at UDSM is by research only and has no prescribed coursework, although this may change in the near future. It is, however, possible to attend courses as desired. It is a four-year, full-time programme leading to the production of a thesis examined by a panel of at least three examiners, including one external member, the main examiner. An oral exam is conducted by a panel of six examiners.

2.2 Sida support for capacity building at UDSM and MUCHS

In 1995 Sida decided to concentrate research co-operation to the University of Dar es Salaam. Prior to the reorientation to university-wide collaboration, thematic research programmes had been supported. Support for these programmes, was then included in the co-operative framework.

The support currently focuses on three areas: support for reform and management, support for research facilitating activities through library support, scholarships, a small research grants scheme and, the third and largest area, support for research collaboration directed at research and research training activities. At MUCHS, research programmes related to HIV/AIDS, Reproductive Health and Malaria treatment for children are integrated in the bilateral programme.

The total budget for research co-operation for the period 2001–2003 for UDSM is SEK 83 million. For MUCHS, it is SEK 33 million, with SEK 2m for the library at MUCHS, SEK 3m for the College Grants Scheme and postgraduate scholarships and the rest for the three research programmes, with SEK 4m for reproductive health, SEK 6m for malaria research and SEK 18m for the HIV/AIDS research programme.

2.3 Expected outcomes of bilateral support and how to measure them

An improved research environment with capacity strengthening and research strengthening are the expected outcomes. The measurements are mostly quantitative, such as the number of individuals trained and the use of library and laboratories, faculty use of information communication technology, the number and quality of small research projects, the number and progress of PhD and MSc students recruited, the quality of workshops and the number of participants in conferences and seminars. Availability of improved laboratory facilities and technical skills to handle them and, above all, research results disseminated nationally, regionally and internationally are assessed as well. The impact of the research on national and regional polices are also evaluated.

Several outcomes are not so easy to measure. They include the improvement in teaching mentioned repeatedly as a result of research and also, through this teaching, the seeds for establishing a research culture in undergraduate and postgraduate teaching for clinical medicine and public health. The collateral effects on stimulating research in other areas are also difficult to measure, as is the effect of the research training on projects funded by other donors but of equal national importance.

2.4 Previous evaluations and terms of reference for the present evaluation

Sida/SAREC has been supporting the TANSWED HIV programme since 1986 and the Reproductive Health programme since 1990. In 1992, the HIV/AIDS research programme was

evaluated (Bjorvatn, Tafari, Talle) and in 1996 both programmes were included in an evaluation of the SAREC support to Health Research Co-operation with Tanzania (M.Mugambi). The evaluations were very positive, although the two programmes are very different in scope and size.

Both programmes have been scientifically productive and have had important effects on health policy issues both in Tanzania and internationally. In 1992, it was too early to evaluate the effects on capacity strengthening and it was stated that a timetable of at least 10–15 years is necessary as a basis for a programme of this kind. In any event for the enrichment of higher education programmes at Tanzanian institutions, the support should be closely associated with existing PhD and Master's programmes.

Prof. Mugambi points out that more Tanzanians at postgraduate level could have been trained and, he adds, on the assumption that suitable candidates were available. He also states that MUCHS and SAREC will have to contend with the problems of a shortage of academic and technical staff and the apparent lack of sufficient commitment to research. Staff shortage places heavy clinical and teaching loads on the few and poor remuneration results in a lack of motivation. He also points to the need to recruit young researchers and balanced development between departments and the fact that future leadership needs to be planned for the programmes.

The terms of reference for the present evaluation of the Reproductive Health programme and the TANSWED HIV programme state that the main aim is to focus on the future direction and management of the programmes, resulting in concrete and realistic recommendations, especially when it comes to postgraduate training (Appendix 1). The scope of the evaluation also includes looking into the interaction between programmes/projects and the balance between different disciplines, as well as leadership. This evaluation was not intended to assess scientific content.

To realise this, the team should evaluate:

- Capacity strengthening
  1. Describe the number, progress, qualification and career after graduation (MSc and PhD) in the two programmes since the start
  2. Assess the extent to which the programmes have contributed to a critical mass, especially at MUCHS
  3. Assess bottlenecks

- Research components
  1. Assess the quality by the number of publications, type of journals and the balance between the different projects within the programmes
  2. Assess the dissemination of research results
  3. Assess the consequences of the broad spectrum of projects within the two programmes and discuss how the programmes could be more focused
  4. Describe interaction between programmes and projects
  5. Look into leadership questions for the future
  6. Assess the type of external collaboration needed to improve the programmes from a capacity building and a scientific point of view

The following review team was appointed:

Nelson Sewankambo, professor and dean, Makerere University, Uganda
Rodolfo Peña, MD, PhD, senior lecturer, Leon University, Nicaragua
Lotta Mellander, professor, Göteborg University, Sweden (co-ordinator)

3 Evaluation methodology

The time schedule for the evaluation, including preparation and report writing, was set at six weeks, four of which were used for the site visits to Stockholm, Umeå, Uppsala and Dar es Salaam. The team had access to previous reports and assessments, as well as the applications submitted to Sida/SAREC in June 2000 and other relevant documents, as listed in appendix 2. The site visits in Sweden were made between 24 Sept and 7 October 2001, starting with discussions at Sida/SAREC and continuing with meetings with involved researchers at the Swedish Institute for Infectious Disease Control (SMI), the Karolinska Institute and the Department of Dermato-venerology at Södersjukhuset, all in Stockholm.

The following week, researchers involved in both the TANSWED HIV and the Reproductive Health programmes at the Department of Epidemiology and Public Health, Umeå University, were visited. The Department of Women's and Children's Health, International Maternal and Child Health (IMCH), Uppsala University, was visited for discussions relating to the Reproductive Health programme. The first two weeks ended with a meeting with Sida/SAREC officers and the planning of the subsequent visit to Tanzania. Dar es Salaam was visited from 15th to 26th October 2001. Co-ordinators, principal investigators and other researchers and technical staff from the TANSWED HIV/AIDS and the Reproductive Health (RH) programmes were met. Most of the meetings took place on the campus of MUCHS, next to Muhimbili National Hospital where most of the project activities take place. The Kagera study site was not visited. Meetings were also held with the principal, Prof. J.P. Mtabaji, the Dean of the Faculty of Medicine, Prof. K.J. Pallangyo, and the Director of Postgraduate studies and Research who is also the co-ordinator of TANSWED HIV programme.

External institutions, which are also connected to the projects, were visited. They included the Ocean Road Cancer Institute (ORCI), Ilala Hospital and the City Council STIs/adolescent clinic. The library at MUCHS and the main library on the main campus of the University of Dar es Salaam were visited. Visits to various government bodies related to the projects were also organised NACP , NIMR , Reproductive and Child Health section of the Ministry of Health – (RCHS/MoH) and TACAIDS. The names and addresses of the people met during interviews and discussions in both Tanzania and Sweden are presented in Appendix 3. The interviews and discussions with the different researchers and the data collection closely followed the scope of the terms of reference. The interviews and discussions were always conducted with all three evaluators present. Notes were taken individually and discussed and compiled on a daily basis within the team. Repeated interviews for clarification of certain points were conducted when necessary. Every interview or discussion contained a summing-up, following the terms of reference, to check the level of agreement on the findings from the previous discussion. A master file was created for the Swedish and the Tanzanian part of the evaluation. The evaluators have jointly written the present report and all the members of the team have endorsed all the parts, including the findings and recommendations. The evaluation is limited in several ways, as it does not assess all the scientific strengths, or the cost effectiveness of the programmes but focuses on finding the bottlenecks in terms of research capacity building and suggesting improvements for the development of future programmes. The scientific strengths have previously been evaluated as outstanding in many ways.

Complete lists of publications up to October 2001, many reprints and all the PhD theses produced within the programmes were also available and are presented in Appendix 4 and figures 1–4.

4 Findings

The current evaluation was made simultaneously for both the TANSWED HIV and the Reproductive Health programmes. The reason for this was that both programmes were facing various problems at the time. However, during the evaluation, it emerged that, although there were common problems, there were also several different background developments and programme-specific constraints. It was therefore decided to present each of the programmes under evaluation separately, even if the constraints are common for both programmes to a fairly large degree. The bottle-necks as well as suggestions and recommendations are presented with both programmes in mind under common headings.

4.1 TANSWED HIV programme

4.1.1 Programme background:

TANSWED was started as a thematic programme in 1986, but it changed to a bilateral one in 1990 and has continued as such. The early beginnings of the programme can be traced to two foresighted researchers, Gunnel Biberfeld and Fred Mhalu, meeting and agreeing to work together. Beginning with the Kagera AIDS research project (KARP) in 1987, which included a population-based HIV seroprevalence study among adults, the programme has grown and expanded tremendously. It has diversified the nature of the projects that are undertaken, increased the number of researchers and students involved and expanded geographically within Kagera and beyond. Research results of both local and international significance have been produced, indicating the great value and contribution of TANSWED to scientific inquiry and the generation of knowledge. The longitudinal nature of KARP is invaluable and has enabled the assessment of HIV trends. The demonstration of declining HIV incidence creates new research opportunities in terms of both social behaviour and epidemiology to explain the decline in infection.

The overall aim of the programme is to generate information about the epidemiology, clinical manifestations, virology, serology, immunology and immunopathology of HIV infections in Tanzania and sociobehavioural factors related to HIV infection and to introduce and evaluate interventions for HIV prevention and control.

From the beginning, this was a result-oriented programme also with some effort on research capacity strengthening. The latter was reinforced when the programme changed from thematic to bilateral funding in 1990.

The project proposal submitted for 2001–2003 funding had eight subprogrammes, as outlined here:

1. Improving the laboratory diagnosis and monitoring of HIV-1 infection
2. Studies of sexually transmitted diseases with the emphasis on young people in relation to HIV infection and control in Dar es Salaam
3. Epidemiology towards the control of HIV-1 infection in the Kagera region
4. HIV-associated pathology, particularly malignancies
5. Studies of mother-to-child transmission of HIV-1 infection
6. Follow-up studies of HIV-1-infected individuals with known time of infection in Dar es Salaam

7. Preparation for HIV-1 vaccine evaluations in Tanzania
8. Improved clinical case management for HIV/AIDS

An additional aim is to strengthen the research capacity of the departments involved in the project. The proposals for clinical case management were not well developed and were therefore not funded.

The institutions involved in this programme in Tanzania include MUCHS, and the rest of the former Muhimbili Medical Centre, the Tanzanian National AIDS Control Programme, the City Council (Ilala Health Department) of Dar es Salaam, the Kagera Regional Medical Authorities, the Health Unit of the Tanzanian Police Force, the Department of Sociology at UDSM and the Ocean Road Cancer Institute. The collaborating institutions in Sweden are the Swedish Institute for Infectious Disease Control, the Karolinska Institute and Umeå University. The programme co-ordinator in Tanzania is Fred Mhalu, who is professor at the Department of Microbiology and Immunology and Director of Postgraduate Studies and Research at MUCHS. The co-ordinator in Sweden is Gunnel Biberfeld, is professor at the Karolinska Institute and the Department of Immunology, Swedish Institute for Infectious Disease Control. A complete list of the principal investigators and their projects in Tanzania and Sweden is shown in the following table.

Tanzania	Sweden	Project
1. Fred Mhalu Dept. of Microbiology & Immunology MUCHS	Gunnel Biberfeld SMI & Karolinska Institute	Studies of improving laboratory diagnosis and monitoring of HIV infection
2. F. Mhalu & K. Pallangyo	Gunnel Biberfeld Eric Sandstrom	Preparation for HIV vaccine evaluations in Tanzania
3. Japhet Killewo & G. Kwesigabo Dept. of Epidemiology & Biostatistics, MUCHS	Stig Wall Dept. of Epidemiology, University of Umea	Kagera AIDS Research Project (KARP) Epidemiology towards the control of HIV infection in Kagera region of Tanzania
4. Kisali Pallangyo (Dean) Dept. of Medicine MUCHS	E. Sandström Sodersjukhuset & Gunnel Biberfeld	Follow-up study of HIV infected individuals with known dates of infection in Dar es Salaam Tanzania
5. Augustine Massawe, Dept. of Paediatrics MUCHS Charles Kilewo, Dept. of Obs/Gynaecology, MUCHS	Gunnel Biberfeld, SMI & Karolinska Institute Gunnel Biberfeld, SMI & Karolinska Institute	Studies of mother-to-child transmission of HIV-1 infection in Dar-es-Salaam Tanzania.
6. Ephata Kaaya, Dept. of Pathology, MUCHS	Peter Biberfeld, Dept. of Pathology, Karolinska Institute	HIV associated pathology, particularly malignancies
Jeff Luande, Ocean Road Cancer Institute Dar-es Salaam		HIV associated pathology, particularly malignancies
7. Fred Mhalu, MUCHS, Dept. of Microbiology & Immunology	Eric Sandström, Dept. of Dermatovenereology Södersjukhuset	Studies of STDs with the emphasis on young people in relation to HIV infection & control
8. K.J. Pallangyo		Improved clinical case management for HIV/AIDS

4.1.2 Capacity strengthening

Within TANSWED capacity strengthening by both Tanzanian and Swedish collaborators is understood to encompass a wide range of activities and processes. It is argued that focusing largely on PhD training as a means of assessing or promoting capacity strengthening is not satisfactory as it does not give the complete picture of the research capacity strengthening. The members of the TANSWED programme constructed the following list of suggested indicators for capacity strengthening:

1. Supervision of PhDs
2. Masters level training and especially M.MED
3. Research work and processes unrelated to degree training
4. Preparations or research effort and results at seminars/workshops or conferences
5. Publications in the form of abstracts, papers for journals, books, monographs and reports
6. PhD or Masters dissertations

7. Academic promotions based on research-related achievements e.g.-research degree, scientific publications
8. Research-related workshops, seminars, conferences
9. Focused short-term research training courses.
10. Developing and strengthening the necessary technical and administrative infrastructure which facilitates and supports research, for example
    a) Research laboratories
    b) Good and effective information management systems including library, ICT
    c) Availability of and access to research grants
    d) Transportation facilities
    e) Supportive administrative environment for grant management, procurement, proposal development
    f) Training of support staff such as technicians, research assistants
    g) Institutional capacity for proposal writing, scientific and ethical review etc.
11. Impact of research processes and results on health and development.

PhD and MSc degree training

Six people have been trained at PhD level as part of the TANSWED programme and four of them are medical doctors with an MD degree (two epidemiologists, one immunologist/microbiologist, one histopathologist), while one is a linguist. and one is a Swedish MD. No clinician has as yet completed training, as the only two who have shown any interest in training registered in 2001. One other candidate is still training in immunology/virology, making a total of eight Tanzanians who have either completed (5) or are still in training (3) at PhD level. There have been four completed MSc, two of whom went on to do PhD training.

A list of the personnel who have been trained so far and those still training under the TANSWED programme at PhD and Master's level follows:

PhD degrees Tanzanian scientists

Kilewo, Japhet, MD, epidemiologist, Kagera project. PhD thesis in Umeå 1994. Title: "Epidemiology towards the control of HIV infection in Tanzania with special reference to the Kagera region". Promoted to assistant professor, mainly through scientific work within the TANSWED programme. Now on leave of absence from MUCHS for the past two years. At present he is at the International Centre for Diarrhoeal Diseases and Research; Bangladesh.

Kaaya, Ephata, MD, pathologist. PhD thesis Karolinska Institute 1995. Title: "Kaposi's sarcoma in humans and malignant lymphoma in simian AIDS". He was promoted to associate professor at MUCHS, mainly through scientific work within the TANSWED programme. He is now Head of the Department of Pathology at MUCHS.

Lyamuya, Eligius, MD, M. Med, immunologist/microbiologist. PhD thesis Karolinska Institute, Stockholm 2000. Title: "HIV-1 infection in Tanzania with special reference to early diagnosis in children and preparations for vaccine trials". Promoted to senior lecturer and then to associate professor, mainly through scientific work within the TANSWED programme. He is now head of the Department of Microbiology/Immunology, MUCHS.

Kwesigabo, Gideon, MD, epidemiologist. Kagera project. MSc. in epidemiology in London financed by the SAREC project. PhD thesis in epidemiology in Umeå 2001. Title: "Trends of HIV infection in the Kagera Region of Tanzania 1987–2000". Now senior lecturer at MUCHS.

Mutembei, Aldin, Department of Kiswahili, University of Dar es Salaam. PhD thesis 2001 in the Netherlands. Title: "Poetry and AIDS in Tanzania: changing metaphors and metonymies in Haya oral tradition". PhD work partly done within the Kagera project.

PhD degree Swedish Scientist
Bredberg-Rådén, Ulla PhD thesis. Karolinska Institute, Stockholm 1994. Title: Detection of HIV infection, especially in Africa.

Registered PhD students
At present there are three Tanzanian doctors registered as PhD students at the Karolinska Institute:

Willy Urassa. Immunology/Virology.
Charles Kilewo. Obstetrician/Gynecologist. Prevention of mother-to-child transmission of HIV.
Muhammed Bakari, Internal Medicine. Preparation for HIV vaccine trials.

M.Sc degrees, Tanzanians
Urassa, Willy. MD, M. Med, microbiologist/immunologist, M.Sc. at the Karolinska Institute Stockholm 1992. Title: "Human immunodeficiency virus type 1 infection in Tanzania: serological diagnosis prognostic markers and outcome of treatment of genital warts". Still working within the TANSWED projects at MUCHS. At present registered as a PhD student at the Karolinska Institute. Plans to present his PhD thesis in 2002. M. Med research was partly done within the TANSWED programme. Promoted from tutorial assistant to assistant lecturer, lecturer and now to senior lecturer mainly through scientific work within the project.

Mbena, Ephrain. Health laboratory scientist MUCHS. M.Sc. in immunology, London University, was financed by the TANSWED programme;. Still working in the TANSWED project at MUCHS (since 1986).

Mbwana, Judica Health laboratory scientist MUCHS. M.Sc. in microbiology, London University, was financed by the TANSWED programme; Now registered as a PhD student in microbiology at Göteborg University. Still working at MUCHS partly with the TANSWED programme.

Kwesigabo, Gideon. MD epidemiologist, Kagera project. First M.Sc. and then PhD within the TANSWED programme.

It is argued by many of the people who were interviewed that other forms of capacity strengthening have taken place, as shown in Appendix 5, which is a list of academic staff or technical support who accumulated research experience by working on the project. Also included are academic staff who received promotions based on research work and subsequent publications resulting from the TANSWED programme. These promotions took place at the Departments of Microbiology/Immunology, Internal Medicine, Pathology, Paediatrics, Obstetrics and Gynaecology, Surgery and the Institute of Public Health.

The infrastructure at MUCHS has been strengthened by improving the laboratory environment and resources, (i.e. refurbishment, equipment and supplies), refurbishment of clinic space, vehicles, journal subscriptions and library support. Attendance at conferences and presentations of research work and findings were also enriching.

There has also been benefits in Sweden where various investigators have enriched their research experience and supervision of PhD candidates. The research infrastructure was also enhanced,

primarily through laboratory funding support. There have been many publications involving Swedish scientists.

Contribution to the creation of a critical mass at MUCHS and at Swedish institutions

The list in the above sections indicates the contributions made by the programme to building a critical mass. Significant contributions have been made in PhD training. It is, however, evident that few people have been trained under the programme, which otherwise has tremendous training potential in both Tanzania and Sweden for students from both countries. One very glaring deficiency is the lack of PhD trainees from clinical departments which handle patients directly. It was only in 2001, that the first ever students (two in number) from these departments registered for PhD training in this programme. Even at the other departments, there are relatively few people who have trained or are still in training.

4.1.3 Research component

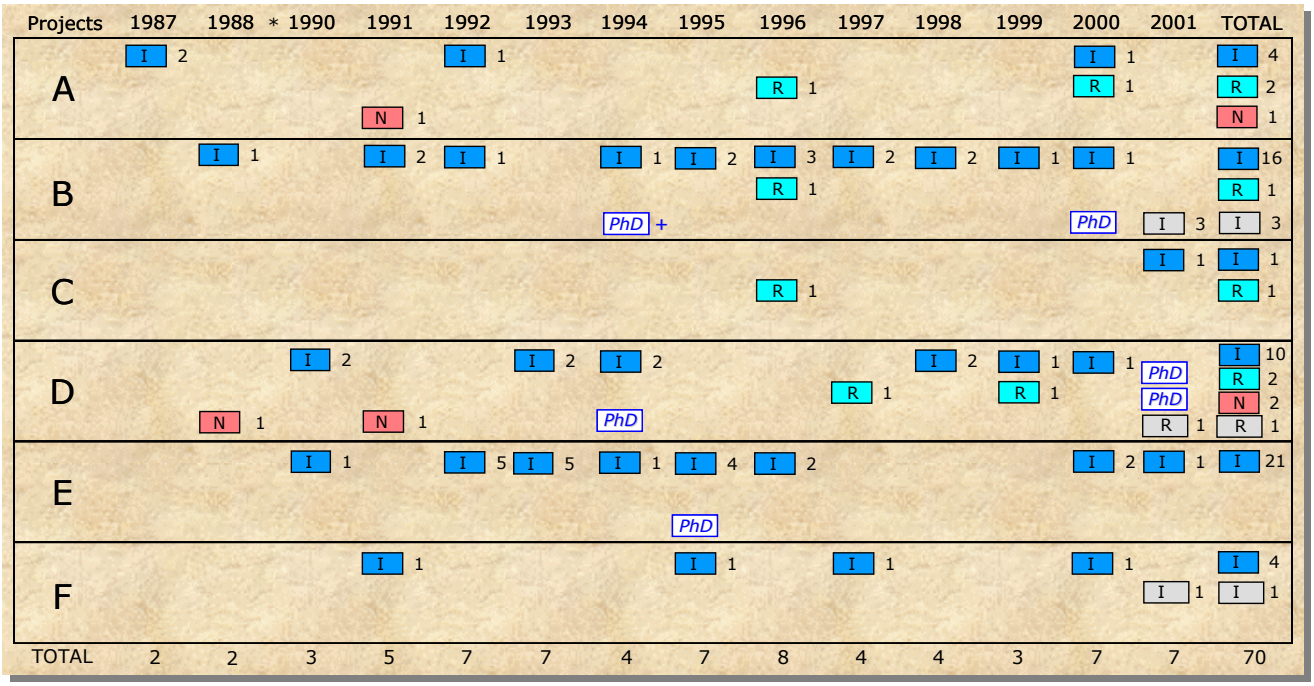
From 1987 to 2001, the TANSWED programme published a total of 70 papers, on average five papers a year (for details on publications, see Table 1 in Appendix 4). The number of publications in international journals is 60 (85.7%). The spectrum of journals reflects the great breadth of the research areas within the programme. During the same period, 166 abstracts were presented. Figure 1 presents the published articles and PhD theses by projects and by years.

Project "E", that is HIV-associated pathology, particularly malignancies, has been the most productive in terms of the number of published articles; however, it is also the most isolated, with very little interaction with other projects. Despite the large number of publications, only one PhD thesis has been produced. In this project, the Tanzanian authors appear in only 50% of the published articles as the first authors.

Project code to Figure 1.

Project A: Clinical studies or studies including HIV infected adult patients. Studies of police officers (preparation for vaccine trials).
Project B: Studies on improving the Laboratory Diagnosis and monitoring HIV-1 infection.
Project C: Studies on Sexually transmitted diseases (STDs) with emphasis on youth in relation to HIV infection and control in Dar es Salam
Project D: Epidemiology toward the control of HIV-1 infection in the Kagera region (including strengthening of capacity in epidemiology in the behavioural science)
Project E: HIV associated pathology, particularly malignancies.
Project F: Studies on mother - to – Child transmission of HIV-1 infection.

Figure 1.: Published Articles and PhD theses by projects and by years
TANSWED HIV PROGRAMME
October 2001



	1987	1988	* 1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	TOTAL
International	2	1	3	3	7	7	4	7	5	3	4	2	6	6	60
Regional									3	1		1	1	1	7
National		1		2											3

Manuscripts, Submitted or In press. + Swedish Scientist

*1989 No Articles published

Source Table 1: TANSWED PROGRAMME List of Publication (Articles). Appendix 4.

Project "B", i.e. Laboratory diagnosis and monitoring HIV 1 infection, appears as the cornerstone project with its researchers also as co-authors in the majority of the published articles in the other projects, apart from the previously-mentioned Project "E". However, once again, despite the large number of published papers, only two PhD theses have been produced, one by a Tanzanian and one by a Swedish PhD student.

In terms of the balance between the number of published papers and PhD theses produced, Project "D", i.e. Epidemiology towards the control of HIV-1 infection in the Kagera region, has the best balance. Project "D" has been involved in a total of 15 published articles and four PhD theses. The rest of the projects have not been able to produce any PhD thesis so far, despite the number of published papers.

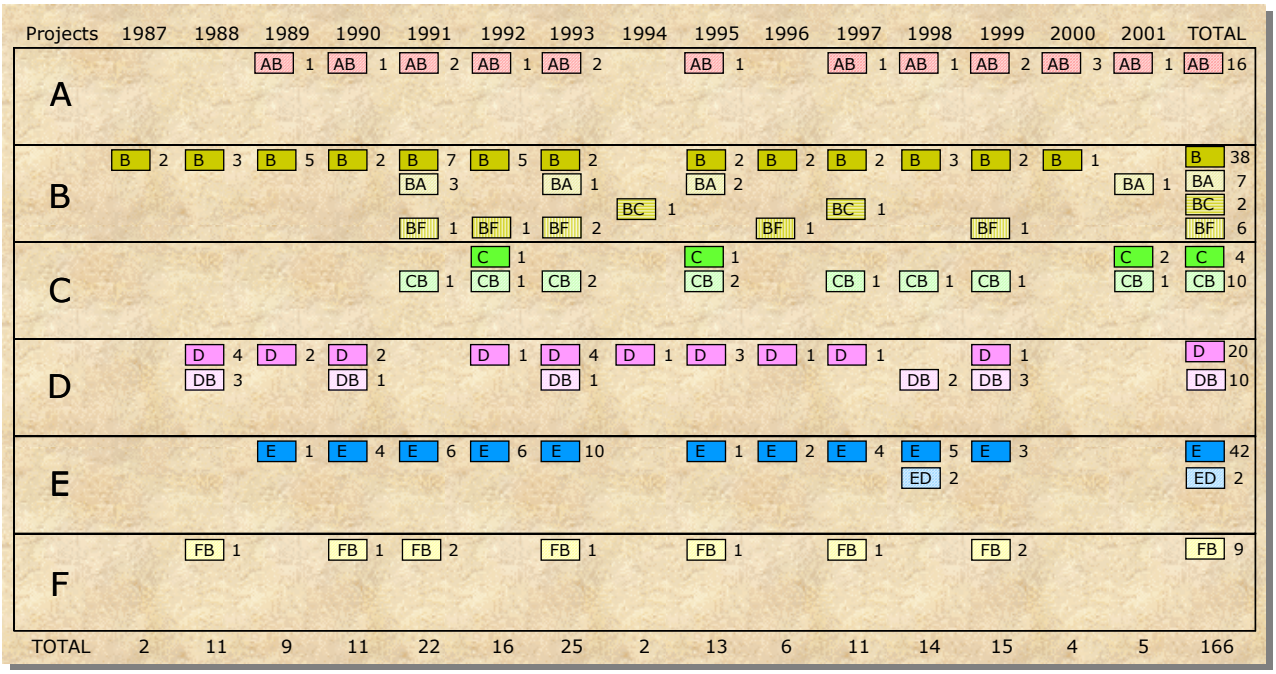
The numbers of abstracts by project and by year are presented in Figure 2 (for details on the abstracts, see Table 2 in Appendix 4). The pattern is the same as that for the published papers in terms of the projects that are the most active in terms of the number of abstracts presented. There could be many reasons for the large number of abstracts in relation to the number of papers. It could be related to the long period of time that is needed to complete the projects and the fact that data from several abstracts goes into the same paper. It may also illustrate the importance that is placed on the dissemination of results utilizing opportunities for young researchers to travel to meetings. It is easier for a young researcher to be the first author of an abstract than a paper, so, with few PhD students, there may be less incentive to put a lot of work into a paper.

The problem of abstracts and the data that is collected but is not included in papers has to be addressed by the PIs of the various projects, together with the co-ordinators and supervisors from both countries.

Project code to Figure 2

Project A: Clinical studies or studies including HIV infected adult patients. Studies of police officers (preparation for vaccine trials).
Project B: Studies on improving the Laboratory Diagnosis and monitoring HIV-1 infection.
Project C: Studies on Sexually transmitted diseases (STDs) with emphasis on youth in relation to HIV infection and control in Dar es Salaam
Project D: Epidemiology toward the control of HIV-1 infection in the Kagera region (including strengthening of capacity in epidemiology in the behavioural science)
Project E: HIV associated pathology, particularly malignancies.
Project F: Studies on mother - to – Child transmission of HIV-1 infection.

Figure 2.: Abstracts presented by projects and by years
TANSWED HIV PROGRAMME
October 2001



International	2	11	8	8	17	15	21	1	11	4	10	6	12	4	5	135
Regional			1				2	1		1	1	1	1			8
National				3	5	1	2		2	1		7	2			23

B Authorship only belong to project "B"
BA Principal authorship belong to project "B" in collaboration with project "A". *"The same principal apply to the other projects".*

Source Table 2: TANSWED PROGRAMME List of Abstracts. Appendix 4.

Programme Development and Scope

Since its inception in the late 80's the TANSWED programme has developed and grown extensively in number, content and complexity of projects, and budget. The number of academic staff investigators and PhD students involved have also increased over the years but a greater increase would have been better. On the Swedish side the situation has been much less satisfactory. The advent of the bilateral programme may cause even less development on the Swedish side because of budgetary constraints and the shift in primary responsibility and ownership to MUCHS. It is noteworthy that the number of departments involved at MUCHS and UDSM has remained more or less stagnant.

The Department of Microbiology, Pathology and Institute of Public Health have benefited the most from programme growth and development leading to stronger research infrastructure both human and physical. As previously discussed the clinical departments have lagged behind. It is a widely held perception that the leadership of the programme has favoured development of the laboratory based studies especially microbiological/immunology and pathology but much less of the social, epidemiological, intervention and clinical aspects. KARP is now the largest project in TANSWED with a total 8m SEK of the total 18m SEK for the MUCHS bilateral program. This raises an issue of whether it is not time to make KARP become a separate program from TANSWED.

The Microbiology department has developed and played a very important core function to all projects providing the needed HIV testing. Other equally important core functions like data management and analysis and program management aspects (e.g. procurement, finance management) are not well catered for. The role of microbiology department in the program is reflected in the service of its projects which are of an operational research nature and do not change substantially from one funding cycle to the next.

New projects are added through a discussion within the programme in connection with the planning of a new application and as a result of a college wide call for proposals issued by MUCHS' Principal about a year prior to the new funding cycle. There may be a need to publicise these more widely in future as a number of staff claim not to have seen any such advertisements. Tanzanian scientists argued they help to broaden the scope of the programme. A broader scope was seen as extremely desirable to cover many broad research areas instead of focusing on a few narrowly defined ones based on the leader(s)'s scientific interest and an ever deepening scientific inquiry. Breadth over depth is seen as crucial because of the many priority health research issues and relatively few funding opportunities.

There is very little interaction between projects within TANSWED and the underlying fundamental reasons for this are not clear. It seems logical that if greater interaction occurred it would promote faster program development and form a more solid base for institutionalisation.

The development and sustainability of TANSWED is shaped by the principals that underlie the bilateral programme and above all Sida's approach to funding support for development. A long term commitment and outlook to salary support and incentives to researchers which are intended not to destabilize the institution's reward and support systems is commendable. However, competition from other funders or international collaborators who offer very attractive packages to get a job done is making it more difficult to attract and retain students and researchers. This situation may slow the program's development in future. Also equally true is that investigators believe that the relatively large salary budget requirements like those of clinical trials cannot be accommodated in TANSWED or the bilateral programme as a whole. As such excellent scientific

research projects like HIV vaccine trial, PETRA and MITRA have had to be placed under other funding mechanisms. TANSWED therefore may build platforms for other funders to spring from. This takes away an opportunity for TANSWED to launch itself into other major research programmes.

A case in point is the recent HIV vaccine trial application by TANSWED investigators in collaboration with Walter Reed Army Institute of Research has received very high ratings from the European Union. It will be a continuing challenge to adjust to changing circumstances so that program development does not stall.

Dissemination of results
TANSWED has done an excellent job disseminating research results through national and international meetings/conferences, journal publications and through interaction or programme representation on various national and international committees. There are, however, a large number of abstracts that have not been written up to produce papers. Dissemination to communities has taken place only in a limited way through two workshops, simplified, easy-to-read texts of research findings and their implications and discussions with the communities involved.

4.1.4 Leadership

The leadership at institutional level is strong and dedicated to streamlining the research management of the programme to ensure institutionalisation, transparency and accountability at MUCHS and by Swedish collaborators. More effort is needed at this level down to subprojects. However, misunderstandings have arisen as to which funds should be kept in Sweden for the use by scientists and Tanzanian students in Sweden for the purchase of equipment and supplies overseas. The institutional leadership should have adequate support to ensure smooth, timely and effective grant management. There has been a change in the organisational set-up and management at MUCHS, with the separation of the latter from Muhimbili Hospital. Some departments involved in the programme were housed on Muhimbili hospital premises; they included Department of pathology, offices and laboratories which may be taken over by the hospital in the near future. It will be necessary for the institutional leaders to be proactive to ensure that the above organisational change does not negatively impact programme activities.

The co-ordinators at TANSWED are people with an extraordinarily broad-minded approach, motivation, drive and commitment and they have contributed a great deal to the programme. However, they will soon be reaching retirement age. They have been with the programme since its inception and are PIs of several projects. There are as yet no plans for smooth succession and transition. It will not be easy to find suitable replacements, but the search should start now. The most important qualities for suitable candidates are detailed in the next paragraph below. The leadership of the projects is generally unstable. J. Killewo left for Bangladesh almost two years ago but is still regarded as the PI of KARP in Tanzania, while on the Swedish side the situation is equally unclear. Stig Wall is the PI, but he seldom visits Tanzania, while E.M. is a social scientist who is herself a PhD student and the overall Swedish administrative co-ordinator.

K.J. Pallangyo is now dean and has less time for monitoring and steering the clinical projects. Charles Kilewo is now a student, while Augustine Massawe wishes to apply for training. In order to improve the scientific quality of projects and the time committed to good leadership, the qualities outlined below are proposed.

Qualifications required for new people both in Sweden and Tanzania

Co-ordinator position	Principal investigator position
She/he should be MD and PhD	PhD
Administrative capacity	Administrative capacity
Broad interest in various disciplines (e.g. social science epidemiology, lab, clinical work)	
Good research background	Good research background
Mature in science and scientifically generous	
Respected in local research arena	Respected in local research arena
Want to have the job	Want to have the job
Supervisory interest and skills for PhD training	
Good national contacts with policy making organs/bodies especially in Tanzania	

It would be appropriate to have positions of deputy co-ordinator and deputy PI on a rotating basis to have a broader understanding and sustainability within projects.

4.2 Reproductive health programme

4.2.1 Programme background

The programme was initiated by SAREC and on the exploratory visits and workshops the intention was already to create a bilateral multidisciplinary programme. At the time when the programme started there was no research infrastructure in the Department of Obstetrics and Gynecology at MMC. The first contract for the bilateral programme related to 1990–1992.

The area of reproductive health is well in line with the research priorities of MUCHS and within the national priorities. It focuses on local and regional problems and the scientific research areas are of the utmost importance for the health of women and children. The first two projects that started in 1990 were anaemia in pregnancy and maternal mortality and these themes have continued to run through all the programme periods, including the present one, 2001–2003. The projects during the application periods are shown below.

1990–92	1992–94	1994–97	1998–2000	2001–2003
Maternal mortality	→	→	→	Funding ending during period
Anaemia in pregnancy	→	→	→	Funding ending during period
	Attitudes to pregnancy complications	→		
	Postpartum contraception	→		
		Mothers' concerns postpartum →	→	→
			Factors related to home-deliveries	Write-up 2001
			Victims of sexual assault	Not funded
			Management and Quality of MCH service	→
			Database project	→

The research collaboration has been between the Department of Obstetrics and Gynaecology, Muhimbili Medical Centre, Dar es Salaam, Tanzania, and the Department of Women's and Children's Health, International Maternal and Child Health (IMCH), Uppsala University, Sweden. Other collaborating departments at present are the Department of Epidemiology and Public Health, University of Umeå, and the Faculty of Nursing at the Karolinska Institute in Stockholm, Sweden, as well as the Faculty of Nursing and the Department of Community Health at MUCHS.

The programme currently consists of seven projects, including the two initial projects, anaemia and maternal mortality, which are still ongoing but are about to be finalised into PhDs.

The assessment of the latest application for the period 2001–2003 does not support the projects involving rape and home deliveries, due to slow progress and the fact that no training of PhD students is undertaken at present within these projects. However, a retrospective study of rape victims provided background information for the SAREC project and has had a major impact on the change in punishment for rape. For the database project, it is anticipated that close links to research projects will be established from the database so as to make it into a research tool during the present programme period. For the maternal mortality study, continuation after the PhD involving an intervention study could not be funded at the time, but it is being supported in part within a regional mortality prevention network supported by UNDP-World Bank since 1998, with the chair in MoH and close co-operation with the urban health authority.

In parallel with the programme and with mutual benefits, a very important network was started in 1990. This regional reproductive health research network supported by SAREC held annual workshops and research methodology courses. The regional research workshops ended in 1997. Annual meetings for midwives, also supported by the WHO and the Rockefeller Foundation,

started in 1992 and annual meetings for the East, Central and South African association of ob/gyn societies, ECSAOGS, have been held since 1997.

Over the years, the co-ordinator for the Swedish side of the programme has been the same, Prof. Gunilla Lindmark in Uppsala, supported by Dr. Lennarth Nyström in Umea. On the Tanzanian side, the coordinator was from the beginning the late Professor Ernest Urassa. The current co-ordinator is Dr. Siriel Massawe, since July 2001. She is also head of the OG department at MUCHS and is about to finalise her PhD in Uppsala. The staff at the department who are involved in the programme as principal investigators are either PhD students or members of the clinical non-academic staff not registered as PhD students.

The PI position is related to the way new ideas come into the programme. It is so far not common that an idea grows out of the present project and initiates a search for a suitable PhD candidate. Before new programme proposals are going to be submitted, the college advertises this fact and asks staff to come up with ideas, so there is a call for proposals every third year. This might lead to a broad unfocused programme. There is also a discussion within the programme in connection with the planning for the new application and efforts from the researchers to encourage persons outside the department of obstetrics and gynecology to bring their research ideas. The present projects have, with few exceptions, not been used for M.Med training, and have therefore not functioned as a recruitment platform.

The budget system during the most recent period, where the partners in the bilateral programme had to agree on the use of the total budget and the balance between costs on both sides, made the budget discussions very difficult, especially as the grant was smaller than the proposed budget.

The system for budgeting is an important change, but the start has been partly problematic and new discussions between Sida and the researchers might be necessary to ease the process.

There are major changes, not only on the Tanzanian side in the organisational structure but also on the Swedish side and there is also a need to look at the conditions for the Swedish resource base to reach a sustainable situation.

4.2.2 Capacity strengthening

Research training results

In the Reproductive Health programme, the main aim has always been a PhD of the sandwich type and not publications for promotion and this can be seen from the list of publications. Four PhD students have registered within the programme. The first two students registered in 1991 were Siriel Massawe and Ernest Urassa who have also been senior clinicians, obstetricians and gynaecologists, with a very heavy clinical work load and responsibility. The plan was that both of them should present their theses in 2001, but one will be postponed until early 2002 and the other was completed but could not be presented/examined for health reasons. Both present important scientific data of national, regional and international significance. The titles of the theses are "Assessment of a programme for prevention and management of anaemia in pregnancy at primary health care level in Dar es Salaam, Tanzania" and "Maternal mortality. A community-based study in Dar es Salaam, Tanzania". Both projects have generated four peer-reviewed articles, as well as two submitted manuscripts in the anaemia study and two additional manuscripts in the maternal mortality study. The student in the maternal mortality study was promoted as a result of articles published within the programme. For both these PhD studies, the main supervisor has been Gunilla Lindmark, with Lennarth Nyström as the other supervisor.

The third PhD student is a midwife, Helen Lugina, who was registered in 1997 and presented her thesis "Women's Post Partum Concerns and Midwives' Reflection on Postpartum Care" in May 2001. She had five peer-reviewed papers in the thesis. The first one had already been published before she registered and this gave her a good start. She was able to spend many months in Uppsala on a special grant and participate in eleven different research-training courses while pursuing her PhD. Her progress has been fast as more time has been available for research. Additional support from the Swedish Institute and the Department in Uppsala made longer stays in Sweden possible. Helen Luginas main supervisor has been Gunilla Lindmark, while the other supervisor has been Kyllike Christensson. When promotion was discussed at MUCHS, she was advised only to use her papers and not the PhD as such since she was already promoted to lecturer.

The fourth PhD student was registered in November 1999; namely David Urassa and the title of his thesis is "Quality of MCH/FP/Delivery services in decentralised and non-decentralised context in Rufiji and Kisarawe districts, Tanzania". Gunilla Lindmark, Lennarth Nyström and Anders Carlstedt are his supervisors. Three manuscripts are under production and the presentation of the thesis is planned some time in 2003 or soon thereafter. As he is attached to the community health department and does not have heavy clinical duties and is in an academic situation where a PhD is important for promotion, the time taken to finish the PhD will be much shorter than that taken by a a senior member of the clinical academic staff.

Other students include:

Dr Indira Asser: Postpartum contraception. Manuscripts in draft and abstract for presentation. M.Med. Involved in the initial stages of the rape study. Emigrated to the USA.

Ns Rose Mlay: Attitudes to pregnancy complications. One publication, one manuscript. Master'sdegree in Canada. Teaching at the Faculty of Nursing, MUCHS.

Ns Feddy Mwanga: Master's dissertation on factors related to home deliveries in one village in Tanzania. Presently assigned to WHO Geneva.

There has never been a Swedish PhD student working under the programme and no extra funding has been sought for that. There are no post-doc positions at the Swedish department.

There has never been a local Tanzanian supervisor for the research students.

Contribution to the creation of a critical mass at MUCHS and the Swedish institution

During the past ten years, a great deal has happened at MUCHS. SAREC/Sida support has enabled very good groundwork; it has made a huge change to the institution. "We have never seen a collaboration as ideal as the SAREC/Sida system," – as was said by the Tanzanian co-ordinators. When it comes to capacity building measured in the number of completed PhD and MSc studies, the Reproductive Health programme has not realised its full potential. It has been developed during a time of constraints at local level and this has affected progress. Capacity strengthening at institutional level comes through individuals and the effect of research training is seen at the clinical meetings where younger doctors with this kind of experience improve the discussions and the clinical work, but much of this is difficult to measure. At departmental level, the individuals are always the same, as only those already employed at the department are accepted for the programme. The capacity for research in the department is increasing and the programme has contributed, if only on a limited scale, to the critical mass, especially at the OG department, in nursing and in some ways at the paediatric department .The programme has been a platform for

international collaboration and contact, which also has an impact at college level. The availability of equipment has created opportunities for more people to do research even outside the programme.

If the definition of critical mass is that a department has enough people to guarantee stability and sustainability for research, there is a problem on both the Tanzanian and the Swedish side.

4.2.3 Research component

Publications

By October 2001, the Reproductive Health programme had produced seventeen papers and five manuscripts. Of the 17 papers, 14 were published and three submitted (Fig 3). Four of the papers were published in regional journals; for details on the published papers, see Table 3 in Appendix 4. The majority of publications are included in planned or finalised PhD theses. It is not easy to get research in the area of reproductive health in Africa published in international journals. Strangely enough, even Swedish data is regarded as being of more general interest and is easier to publish. This must also be discussed in relation to the impact factors of journals, which has an effect on the Swedish institution through the credits given by the university. This has to be dealt with by the universities in Sweden. Publishing in a regional, peer-reviewed journal could be very important, in view of the impact on development and the use of the research findings where they can make an important contribution. The Reproductive Health Group has found a good balance and has an ongoing discussion on these issues.

Project code to Figure 3

Project A: Maternal Mortality: a community-based study in Dar es Salaam, Tanzania.

Project B: Assessment of a programme for prevention and management of anaemia in pregnancy at primary health care level in Dar es Salaam, Tanzania.

Project C: Recognition of risk factors by mothers during pregnancy

Project D: Mother's concerns expressed at one and six weeks postpartum follow-up in Dar es Salaam/The impact of a post partum promotion and support programme in Dar es Salaam, Tanzania

Project E: Quality of MCH/FP/Delivery services in decentralised and non-decentralised context in Rufiji and Kisarawe districts, Tanzania

Figure 3.: Published Articles and PhD theses by projects and by years
REPRODUCTIVE HEALTH PROGRAMME
October 2001

Projects	1994	1995	1996	1997	1999	In press	Under revision	**Submitted Manuscript**	TOTAL
A	R 1	I 1	R 1	I 1				2	I 2 R 2 2
B		R 1	I 1		I 2		I 1	1	I 3 R 1 2
C	R 1							1	R 1 1
D	I 1					I 3	PhD 2001	I 1	I 1 I 4
E								3	3
TOTAL	3	2	2	1	2	3	1	8	22

International	1	1	1	1	2	3	1	1	11
Regional	2	1	1					?	4
National								?	?

Manuscripts, Submitted or In press.

Source Table 3: REPRODUCTIVE HEALTH PROGRAMME List of Publication (Articles). Appendix 4.

A total of 24 abstracts were presented between 1992 and 2000. Eleven were presented at regional conferences or workshops and six at FIGO World Conferences, see Figure 4 (for details on the abstracts, see Table 4 in Appendix 4). It is worth mentioning that 11 (46%) of the abstracts have been included in published papers. Abstracts that did not make it into papers were mainly related to PIs not remaining in the programme for different reasons.

To date, some project data has not been included in abstracts or papers and this is partly due to the lack of adequate support and supervision (from both parties involved). When it happens in

collaboration like this, where the principal goal is research capacity building, it is important to look into why this happened and increase the support for the PIs involved.

Project code to Figure 4

Project A: Maternal Mortality: a community-based study in Dar es Salaam, Tanzania.

Project B: Assessment of a programme for prevention and management of anaemia in pregnancy at primary health care level in Dar es Salaam, Tanzania.

Project C: Recognition of risk factors by mothers during pregnancy

Project D: Mother's concerns expressed at one and six weeks postpartum follow-up in Dar es Salaam / The impact of a post partum promotion and support programme in Dar es Salaam, Tanzania

Project E: Quality of MCH/FP/Delivery services in decentralised and non-decentralised context in Rufiji and Kisarawe districts, Tanzania

Figure 4.: Abstracts presented by projects and by years
REPRODUCTIVE HEALTH PROGRAMME
October 2001

Projects	1992	1993	1994	1995	1996	1997	2000	TOTAL
A	A 1	A 1	A 3		A 1	A 1		A 7
B		B 1	B 1	B 2	B 1	B 2	B 1	B 8
C		C 1						C 1
D			D 1		D 1			D 2
E							E 2	E 2
TOTAL	1	3	5	3‡	3	4?	5*	24

International			2	1		4	2	9
Regional		3	3	2			3	11
National	1				3			4

A Authorship only belong to project "A". "*The same principal apply to the other projects".*
‡ 1995 Ref 9, in table 4 is from a project, which ended
? 1997 Ref 12, in table 4 is from a project, which ended
* 2000 Ref 21 (Rape project), 22 (Database project)

Source Table 4: REPRODUCTIVE HEALTH PROGRAMME List of Abstracts. Appendix 4.

Programme Development and Scope

The way the RH programme develops is by integrating new projects when an interested researcher inside or outside the department brings a research question to be discussed by the programme and, if it is accepted, it is then included with the new person as the PI. This development strategy is partly based on local advertisements at MUCHS, initially every two years and then every three

years when the new programme period started. This way of growing produces a wide spectrum of projects and does not focus on going more deeply into a particular research area under an existing PI. However, this strategy has both positive and negative consequences. The positive results include the chance of having more people involved and thereby creating a broader base for recruiting new PhD students, as well as more chance of interaction between various academic departments and health providers. A strategy of this kind requires a major organisational effort, as well as close supervision, and, in the present situation, this is a problem, as is the lack of eligible candidates.

One negative side of a programme with a broad spectrum is that the budget has to be divided into several parts, which usually creates a great deal of inconvenience among the researchers and, finally, there is a risk that only descriptive answers will be given to research questions, because of the extension of the programme to include too many projects. When this was discussed at the Swedish institution, the broadness was regarded as a consequence of a bilateral programme, since the research questions have to come from the Tanzanian side. It was considered very important that the PhD students should come up with the research questions themselves.

A practical challenge is how much influence should come from the Swedish side? The Tanzanian ideas are always given precedence. On the Tanzanian side, on the other hand, the fact that they did not have as much input and open discussions on ideas with the Swedish researchers as they would have liked was regarded as a problem. It seems that the idea of bilateral programmes as an instrument for capacity building makes the research collaboration itself unbalanced. The three-year programme vis á vis the project period creates some problems. There is not much time for creative thinking before the next application and some projects are carried through the different programme periods without any large-scale changes, due to the shortage of planning time.

Dissemination of results

From the very start, the RH programme has placed a great deal of emphasis on the dissemination of results nationally, regionally and internationally. The dissemination of research results takes place through publications and through national and regional workshops. Research at MUCHS has been very useful at national level, especially when it comes to the maternal mortality and anaemia studies. The MoH looks at proposals and is involved in the dissemination of results. The Tanzanian co-ordinator is on the advisory board of the reproductive health section of the MoH. She is also on the TFNC committee on micronutrients and is called to many other meetings, such as the annual Regional Medical Officers meeting. It is more of a problem to find time for all the meetings at which her presence is desired, but it provides many opportunities to disseminate research results.

The programme has created some good opportunities to use research results nationally and in the region, as well as strengthening the base for international involvement for the Swedish institutions.

4.2.4 Leadership

The present leadership at co-ordinator level has not changed since 1990 on the Swedish side but is very dependent on a single institution with statistical/epidemiological support. On the Tanzanian side, there has been a change during the last year, but there is still continuity as the present co-ordinator is from the same Department at MUCHS as was the co-ordinator from 1994–2000, the late Professor Ernest Urassa. The co-ordination on both the Tanzanian and the Swedish side has functioned very well but with a supervisory burden on the Swedish co-ordinator. The principal investigator, i.e. the leader of project on the Tanzanian side, is a PhD student or a member of the non-academic staff.

There is a need for a job description for co-ordinators and principal investigators. In practice, it seems as if the co-ordinator on the Swedish side communicates on research issues directly with the PI and about administrative issues – usually problems – through the co-ordinator. Perhaps this situation is related to the recent change of co-ordinator on the Tanzanian side, but it makes the Tanzanian co-ordinator's position difficult in the research group. It has been especially difficult, as the co-ordinator is also a research student, a situation that will soon change. The present co-ordinator is well respected and has a strong position at the department. The PI level is weak and will not improve until the capacity has been further strengthened.

The co-ordinators in the future should still have a very long-term commitment, but it could be suggested that an assistant co-ordinator from another department, i.e. nursing and/or community health on the Tanzanian side, is appointed for two or three years at a time to give more researchers an insight into the running of the programme and to relieve the principal co-ordinator of some of the work load.

The same system could be used on the Swedish side and it is important that the change of principal co-ordinator allows at least one year for handing over so as not to affect the opportunities for recruiting new PhD students.

The profile for a programme co-ordinator in the future

Swedish	Tanzanian
MD and PhD or PhD	MD and PhD
Medical or social science background	Can be independently responsible for quality of research.
Assoc. Prof./Prof.	Administrative capacity
Good research background	Respected in the group
Mature in science	Respected at MUCHS
Scientifically generous	Must be interested in the position
Administrative capacity	Have time for the job
Experience of local conditions	Good national contacts especially with policy-making bodies.
Must be interested in the position	International contacts
Have time for the job	Supervisory skills
Good international contacts	
Interest and skills in supervising PhD students.	

5 Interaction between programmes

There is hardly any interaction between programmes or between projects within a programme. While preparing for the present grant, a meeting was as usual held at the Bahari Beach Hotel and the different projects that had been proposed for the TANSWED HIV programme were presented. This is the one time the investigators feel that they are under one umbrella. There is clearly a lack of sufficient understanding by the project groups as to what goes on in other projects and literally no understanding as to what goes on across programmes. The Reproductive Health programme does not interact with the youth clinic for STI and reproductive health at the City Health Department. Cross-cutting issues like small faculty research grants or the use of overheads are not clearly understood. Although the situation is improving, there is still a sense of friction between projects which might contribute to the failure to interact. Some disciplines feel that they are marginalized and regarded as less important than others in terms of their potential contribution to science.

It was felt by members that there was no need to develop external collaboration to improve scientific quality and capacity building, except in a very few defined areas, such as the linguistic component in KARP, where a suitable interested partner in Sweden could not be found, or for vaccine trial research and MITRA studies in order to obtain large grants from the European Union and so on.

6 Bottlenecks for capacity building and research

Recruitment of clinical doctors

For an MD to qualify for admission to M.Med training, a B in the subject of specialisation is necessary. For a specialist to qualify for academic status he/she must have scored a credit (B+) or better in the M.Med Programme and is expected to have been more than average in undergraduate training. This means that not so many people are eligible. The number of M.Meds admitted to the OG department is a maximum of five a year, but it is often lower. Fewer than half obtain a B+. In the year 2001 no one was admitted.

The number of young people available for training is not enough because of many vacant positions. Non-academic staff at a MUCHS department, even if they have an M.Med, are not considered for PhD training. The freeze on employment in 1992–2000 made it impossible to employ academic staff and the employment freeze also imposed greater work loads on the few doctors that were available. At the same time, the student intake increased from 50 to 170 a year, generating a higher teaching load. As the problem with this freeze on employment almost coincided with the start of the bilateral programme, it has not been possible for the programme to realise its full potential.

Employment has been once again allowed, but enough suitable people can not be found to fill the posts. There is no proper staff development plan at MUCHS.

The benefits of getting a PhD after M.Med are not clear to staff at MUCHS. In the clinical subjects, an M.Med is the exam after MD that gives access to an academic career and promotion from there on is through scientific papers. In many ways, a PhD by papers would fit into the system and for this reason the Academic Board at MUCHS did agree to adopt a PhD system by publications as well as by monograph in 1996 but the proposal was not finalized. Failure to mount MUCHS based PhD programmes and courses is a bottleneck in itself.

A PhD student in the programme is usually a senior clinician with a heavy clinical burden. The academic positions involve clinical work, teaching and research. The distribution of working hours may be implied in the weighting according to teaching, supervision and publications shown in the "Academic Staff Assessment Guidelines" as presented in the table below:

Activity	Assistant Lecturer	Lecturer to Senior lecturer	Senior Lecturer to To Associate professor	Associate Professor to Professor
Teaching		40%	30%	30%
Supervision		10%	10%	10%
Publications (Research)	PhD	50%	60%	60%

Unfortunately health care delivery is not included in the above weighting.

Private practice is allowed, as well as being economically important and common. It creates a bottleneck for research. It cannot be left for more than a few months at a time if clientele is to be maintained.

The PhD programme in Sweden does not have an age limit for registration and this is regarded as very positive, as many other PhD programmes have age limits of this kind, but it also makes clinicians embark on the training when they already have heavy clinical responsibility. The age of attainment of a PhD affects the period of time that the new graduate can be active as a tutor for new PhD students.

When a PhD student joins a sandwich programme, new bottlenecks become visible:

It is difficult to get research students to stay abroad long enough and it is also difficult to plan their visits as they have to queue up for time abroad, depending on the shortage of senior staff at the department.

It is difficult to train in the local environment, due to competing demands, and local research training courses are often not recognised in the Swedish-based sandwich programme. Research training courses in English on the Swedish side are limited in number and often come late in the process .The courses in the PhD training should come at an early stage.

No full-time scholarships, salaries or part-salaries can be paid.

There is a great lack of supervisory capacity locally and supervision is not recognised sufficiently in the local system for promotion.

There is a lack of local support for data processing and research skills training. The programme/ projects create their own borders and it is difficult to work together and get help. It is often said that it is more difficult to get help if the person who is approached gets to know that you are part of a project. The Reproductive Health programme has nobody locally to discuss data processing problems with.

There is a lack of protected time for research both from the PhD student's and the departments' point of view. Economic pressures also impose extra burden making it difficult to commit time for research.

A thesis by papers can also drag on, because it takes a long time to have papers accepted

There is a non-academic environment with unsatisfactory research support.

The library at MUCHS does not support the research effort in its present form and this is a major obstacle.

There is a perception that selection of research projects is biased in favour of some disciplines and against others thus limiting potential trainees. Some projects are treated as protected territories.

There are problems on the Swedish side in recruiting and supporting Swedish PhD students to join the programmes. There are few Swedish supervisors on the programmes.

6.1 Suggestions in the short and long term for improvements in relation to MUCHS and Sida

Three-year funding cycles are not optimal for PhD students and the programme periods need to be increased, while the project periods need to be more flexible. The programme period could be six years and the project period two to four years, with the two last years of the programme period being used to finalise and disseminate research findings and have creative time for thinking about the next programme/project period and the development of the research in a more focused way. There is also a need for an improved evaluation process when renewed funding is applied for.

The library at MUCHS has to be prioritised in a new way and must be seen by the college as a crucial issue for the future. The suggestion is that some of the overheads should be used for the library, if possible. The library also has to become a positive environment for the increased number of students and staff and structural improvements, including reading rooms and group rooms, need to be made. Increased direct library support from Sida has to be looked into, as well as the possibility of collaborative library support from either UDSM or perhaps even with a medical library from the Swedish side, possibly in a triangular arrangement.

A basic service "core facility" is needed composed of a clinical research centre with data processing, epidemiological and statistical support for all the research programmes, plus secretarial help and access to at least one "research nurse". The data processing help locally is a crucial issue for the RH programme.

To get younger students into the PhD programme, M.Med students need to be attached to the programme and the opportunities for non-academic M.Med staff to join a PhD programme should be looked into.

The M.Med has a research component, but the M.Med varies in content and the research component is distributed over a period of up to two years and is considered to be between six and 12 months. If an M.Med is primarily regarded as a specialist examination, it contains a commendable amount of research effort and it is important not to compromise the clinical part that is relatively short. As a first step, it is suggested that the possibility of a M.Med res+. is looked into, where six months of full-time research is added after the mixed clinical/research time during the three years. These six months could be fully supported through Sida, as well as the research costs during the first three years, also including extra research training courses. The student should budget for the research costs. The goal should be that between one and two papers should be published in peer-reviewed journals from the M.Med dissertation. An M.Med res+. could be an another way into academic medicine. The suggestion is that ten M.Med res.+ a year should be supported and five of them should be attached to projects under the bilateral programmes. There should be a gender balance.

A PhD by papers and not by monograph appears to be preferred by the medical faculty for the future, but the change does not have enough support within the university system. A PhD by papers fits in fairly well with the concept of promotion by papers, but in the present system the PhD does not count for academic promotion in clinical disciplines. This question must be addressed again in discussions, so that potential PhD candidates are rewarded for their huge efforts.

Scholarships for PhD students, in the sandwich programmes, corresponding to two years of full-time research, which can be divided into periods no shorter than four months and used in Tanzania, should be made available to the clinical disciplines through the department of postgraduate studies. At least three such scholarships per grant period per programme with a gender balance should be made available through added funding from Sida. The time that is used should be accounted for in a very transparent way and the departments involved in the bilateral programmes should be able to apply for this in co-operation with the co-ordinators of the programmes. PhD students within the programmes, but in disciplines where clinical/patient duties are not a major part and where a PhD is already a prerequisite for an academic career, should not be part of this support

The situation of the Swedish collaborating departments has to be looked into. The Swedish base is often narrow and dependent on very few individuals, limiting the expertise available for the Tanzanian side. It seems to be as difficult to work between departments in Sweden as in Tanzania.

There should be a system for attaching Swedish PhD students, as well as post-doc positions, to bilateral programmes. In the short term, the post-doc positions are urgently needed for sustainability on the Swedish side. The funding for this must come from outside the bilateral budget. With more people being trained at MUCHS, there will also be a need for post-doc positions there.

All PhD students should have tutors in both Sweden and Tanzania. Research training courses have to be looked into on both the Swedish and the Tanzanian side in terms of availability and recognition.

The co-ordinators should still have a long-term overall commitment, but an assistant co-ordinator from another department should be appointed on a three-year basis, for example the post should be rotated between the other departments involved.

Additional (external) expertise and collaborations required to improve the programmes

Knowledge and skills in (clinical) records management
Laboratory scientific skills in molecular biology
Construction and preparation of vaccine candidates for clinical trials
Data management and analysis
Skills in pathology related to the pathology project
Epidemiology capacity
Social science skills and capacity

7 Recommendations for the future

1. There is need to re-examine the Sida model for research support so as to determine how best to modify it to suit the local (developing country) situation as well as the Swedish collaborating institutions. The current model should be compared with and assessed against other models employed by other development partners. Of particular note are issues such as whether or not to pay salary top-ups to persons who are already employed locally, as local salaries are generally too low; whether or not to permit the employment of additional staff and whether or not to pay competitive rates on the job market for the work that is done. It is issues like these that may affect the institution's research productivity, recruitment for training and the motivation and retention of well-trained scientists to avoid the loss of Sida-supported programmes to others within or outside the country.

2. Sida could lead the way forward in defining an ethical code for the organisation in order to curtail the brain drain particularly from south to north but also from south to south in defined circumstances. There should be adequate dis-incentives to prevent people indulging in brain shopping.

3. The current system of impact factor assessment to rank the importance of research publications is inadequate. There is a need to promote other assessments which can rank research for development publication more effectively; otherwise, locally relevant research is under-rated and is not given the prominence it deserves and this would run counter to the objectives of Sida.

4. Research capacity strengthening has yet to achieve a critical mass at MUCHS. Efforts need to be made to accelerate the process and increase the number of PhD graduates in very creative ways, which will ensure sustainability and the achievement of a critical mass. For future monitoring and evaluation, attempts should be made to harmonise understanding between Sida and grantees about what constitutes research capacity strengthening on the one hand and what is a critical mass on the other.

5. Specific recommendations relating to capacity strengthening at MUCHS:

    i. Develop and support PhD coursework and supervisor capacity locally at MUCHS so as to run local sandwich PhD programmes.

    ii. MUCHS should identify and motivate young academic staff to start PhD training in clinical and non-clinical areas, especially the former, which have hitherto been slow to embrace the idea of a PhD as research and not a professional degree.

    iii. MUCHS should provide the protected time for research, publishing and research training.

    iv. Vacant positions at MUCHS should be filled as quickly as possible so as to create a larger pool from which PhD candidates can be selected and also to reduce the work load for the few available staff and thereby create an opportunity to free up time for research.

    v. Non-academic staff who otherwise have a good curriculum vitae should be considered for eligibility for research training.

    vi. Stipends should be provided for those training locally so that they have less need to engage in other activities to raise their income.

    vii. Create and encourage incentives for research productivity and PhD training especially in the clinical departments.

6. Sida should consider including funding support for M.Med degree research training and supervision, research projects, dissertation write-up and journal publication arising there from. Similarly, other master's degree training should be included. Master's degree training will substantially enlarge the pool of interested and capable individuals who can continue to PhD training.

7. The research training potential of the programme needs to be more fully exploited as follows.

    i. The master's degree students should be attached to the ongoing or approved projects within the programme.

    ii. Every effort should be made to attach post-doc students (both Tanzanian and Swedish) to the research programme.

    iii. Obtain supplementary funding to support Swedish PhD students who should work as much as possible side by side but on individual projects with Tanzanian students both in Sweden and Tanzania.

8. The number of abstracts which are developed into completed journal publications should be dramatically increased through a deliberate mentoring process, the provision of writing grants and short sabbaticals in a conductive environment.

9. Arrangements should be made to analyse all the qualitative social science and epidemiological data which has not yet been analysed. Some Master's and PhD students should be encouraged to undertake secondary data analysis.

10. Students should receive more guidance about the best and most extensive courses to take in Sweden and the appropriate length of stay in Sweden. Short stays and taking courses late in the PhD cycle are not as useful.

11. There should be clearly written guidelines on the ownership of data, publication procedures and authorship of manuscripts. Early discussions about who should be an author on a project are important.

12. Given the immense interest among MUCHS researchers to keep the programme wide, it is necessary to identify a theme or themes, such as the prevention of HIV, into which research efforts should fit. This may be one way of reaching a compromise between breadth and focus. New ideas should be developed from ongoing work.

13. In TANSWED HIV programme a better balance between various disciplines, epidemiological, social science, clinical, laboratory/immunological, should be aimed for.

14. Whether the declining prevalence and incidence is real should be demonstrated in the next few years. After a decade of research KARP needs to be redesigned to address new research opportunities for explaining the possible decline in HIV. Evaluations of interventions like HIV-vaccine is desirable. However giving the declining HIV prevalence and incidence and the distance and the logistical challenges associated with conducting longitudinal studies in this area, and the high cost of maintaining KARP, makes it timely to start looking for other more accessible and higher HIV prevalence/incidence areas to test intervention. The planned sero-prevalence surveillance in a number of districts could provide the data that is needed to identify new study areas.

15. Plans for leadership succession, especially at co-ordinator level, should start now and be completed by the next proposal submission in 2003. Even at project level, a great deal has happened and strong, active leaders (PIs) for each subprogramme need to be clearly identified. The qualities identified previously will help in this process in both Tanzania and Sweden. At MUCHS level, the programme should be more widely advertised with clear management, including the way overheads are used, the advertisement and award of faculty research grants, the selection of course participants, the selection of researchers and new research projects and so on.

16. Interaction between departments programmes and projects can be improved tremendously and should use as much locally available expertise in Tanzania between MUCHS and USDM and other research institutions, for data management and social science skills, for example. Interaction between Reproductive Health and TANSWED programmes should be promoted. Through joint seminars and workshops, the pooling of data management and epidemiological skills would have a synergistic effect on each programme.

17. There should be more interaction between Tanzanian and Swedish supervisors, with each spending a reasonable time in the other country to improve scientific quality research and research proposals.

18. Research budgets, budget allocations and proposal topics and proposal content should be agreed by the respective PIs before proposals are submitted. Any changes needed in the proposal and budget allocations after SIDA's scientific review should also be agreed upon by the relevant PIs in both countries.

19. The three-year grant cycle should be increased to perhaps as much as five to six years to ensure a more steady and assured flow of resources.

20. Importance should be attached to clearly defining how a student may benefit from a multicentre project or one that is co-funded by Sida and another funder. In this situation, the student may find it more difficult to be a first author.

21. MUCHS should develop sufficient management capacity to ensure the smooth and efficient finance management of the grants and procurement systems for purchasing equipment and consumables.

Sida bilateral funding to MUCHS should continue, as this is seen as making the largest contribution currently to developing a research environment at MUCHS. Funding should be clearly separate from that of UDSM. There is a perception at MUCHS that, under joint funding for the entire university, MUCHS is marginalised by UDSM.

To maximise the benefits of the bilateral programme, there is an urgent need for all the parties at MUCHS and the Swedish institutions involved clearly to understand the rationale and differences between a thematic and a bilateral approach. Clearly, it is the responsibility of Sida to clarify this so as to avoid confusion and misunderstanding and enhance the interest and participation of Swedish scientists.

Appendix 1

Terms of reference for evaluation of the Reproductive Health programme and the TANSWED HIV programme, MUCHS

Background

Sida/SAREC has supported the TANSWED HIV programme and the Reproductive Health programme since 1986 and 1990, respectively. The former is the largest individual SAREC funded bilateral programme. It was evaluated in 1992 while the Reproductive Health Programme has never been subjected to an individual evaluation. Both programmes were however included in an evaluation of the complete SAREC support to health research co-operation with Tanzania, in 1996. Generally, they have both been assessed as successful programmes, resulting in capacity strengthening and a significant amount of research publications and effects on health policy issues both in Tanzania and internationally.

The overall aim of the TANSWED HIV programme is to obtain information about the epidemiology, clinical manifestations, virology, immunology and immunopathology of HIV infections in Tanzania and to evaluate interventions for prevention of HIV infection. An important aim is also to strengthen the research capacity of the departments engaged in the programme. The programme consists of 8 different sub-projects and is co-ordinated by Professor Fred Mhalu at Muhimbili University College of Health Sciences (MUCHS) and by Professor Gunnel Biberfeld at the Karolinska Institutet (KI) and the Swedish Institute for Infectious Disease Control (SMI).

The aims of the Reproductive health programme are to study maternal mortality, anaemia in pregnancy and the management and quality of maternal and child health services in Tanzania. The programme does also include support to a neonatal database. Currently there are four PhD candidates in the programme. It is co-ordinated by Dr Siriel Massawe at MUCHS and by Professor Gunilla Lindmark, Uppsala University and Dr Lennarth Nyström, Umeå University.

Both programmes consist of several sub projects covering broad areas. The HIV TANSWED programme includes subprojects with microbiological, epidemiological and clinical aspects whereas the reproductive health programme covers subjects like maternal health care, anemia, delivery care and studies on sexual abuse. During the agreement period 2001–2003 several of these subprojects are planned to be concluded and several of the current PhD students will graduate. Furthermore, some of the key investigators and research leaders are reaching retiring age in the coming years. Critical issues raised in reviews of the latest applications for the programmes were that they are too broad, resulting in unfocused aims and that the capacity building component could be improved. Since both programmes share many of the above mentioned features, Sida finds it valuable to carry out a common evaluation of the two programmes early during the agreement period 2001–2003, so that adequate actions can be taken in due time for the next application to Sida/SAREC in 2003.

Purpose and scope of the evaluation

The main aim of the evaluation is to *focus on the future* direction and management of the programmes resulting in concrete and realistic recommendations, especially regarding post-graduate training, interactions between the research programmes/projects, balance between different disciplines and leadership. Thus, the scope of the evaluation is *not* to describe and evaluate the past progress of the programmes.

The assignment (issues to be covered in the evaluation)

The consultants should evaluate the following:

Capacity strengthening

Give suggestions in a short- and long-term perspective for how the capacity strengthening can be improved (increased number of post-graduate students, sustainability, creation of a critical mass), considering actions at MUCHS as well as at Sida.

Describe the number, progress, qualification and career after graduation of the MSc- and PhD students in the two programmes, since the start.

Assess to what extent the programmes have contributed to creation of a "critical mass" at MUCHS.

Assess bottlenecks for an increased enrolment of postgraduate students.

Research components

Assess the quality (number of publications national and international, type of publications, quality of journals) of the research in the different sub projects and the balance between different disciplines in the two programmes, respectively.

Assess the consequences of the broad spectra of sub projects in the two programmes and how the programmes could be more focused.

Describe interactions (collaborative projects, meetings, workshops) between the two programmes and other research projects at MUCHS, UDSM and other institutions in Tanzania.

Describe the current leadership of the programmes both at the Tanzanian and Swedish side. Assess the type of qualifications needed for new co-ordinators as well as for leaders in the various sub projects, on both the Swedish and Tanzanian side.

Assess the type (for example disciplines, specific competence) of external collaborations needed to improve the programmes from a scientific and capacity building point of view.

Assess the degree of dissemination of research results from the two programmes (involvement in national, regional, global policy making bodies, incorporation of institutional representatives into national policymaking bodies, implementation of policy at national level or regional level).

Based on what is found regarding the above-mentioned points, give concrete and realistic recommendations for improvements. This includes also recommendations for how the Sida support could be designed to help this process.

Methodology, evaluation team and time schedule

Gothenburg University will be contracted as responsible for the evaluation and it will be carried out by Professors Lotta Mellander (co-ordinator), Nelson Sewankambo, Rodolfo Pena and by Dr Seija Kasvi. The consultants should visit Sida/SAREC for an introduction, followed by meetings with involved researchers at the Department of Public health and Clinical Medicine, Umeå University, Department of Obstetrics and Gynaecology, Uppsala University, the Swedish Institute for Infectious Disease Control, Karolinska Institutet and department of Dermatovenerology, Södersjukhuset. These meetings should take place in September and October, 2001.

The consultants should visit MUCHS for ten days in October 2001, and meet with researchers in the different subprojects in the two programmes. Furthermore, meetings should be held with J P Mtabaji, principal and Prof Kisali Pallangyo, dean for Faculty of Medicine.

The consultants should read previous reports, evaluations and assessments from Sida/SAREC regarding the two programmes and MUCHS as well as the applications submitted to Sida/SAREC in June -00. Also, relevant documents provided by MUCHS should be covered.

The consultants will make their own travel arrangements. The visits will be facilitated through contacts from SAREC.

Reporting

The report should be written in English and the format and outline of the report shall follow the guidelines in Sida Evaluation report – a Standardised Format (see annex 1).

A draft report should be submitted to Sida/SAREC by the latest, February 28, 2002. A final version in hard copy and on diskette should be submitted to Sida/SAREC not later than four weeks after comments have been received from Sida and the involved departments.

Subject to decision by Sida, the report shall be published and distributed as a publication within the Sida Evaluations series. The report shall be written in Word 6.0 for Windows (or in a compatible format) and should be presented in a way that enables publication without further editing.

Appendix 2

List of Documents:

Programs Documents:

1. Research application submitted to SAREC in May 2000 from the HIV research group at MUCHS for the support during 2001–2003.
2. Research application submitted to SAREC in May 2000 from the Reproductive Health research group at MUCHS for the support during 2001–2003.
3. Promemoria and assessment for Sida/Sarec support to UDSM and MUCHS for the period 2001–2003
4. Evaluation of SAREC supported HIV/AIDS research in Tanzania. By Bjarne Bjorvatn, Nebiat Tafari and Aud Talle. April, 1992

Sida/Sarec documents:

1. Health Research Cooperation with Tanzania. A review of the present and prospects of the future. A consultancy report by M Mugambi. Sida/Sarec 1996.
2. Health Research in Faculties of Medicine in Addis Ababa, Dar es Salaam, Maputo. A review. By M Mugambi. Research Surveys 1995:2. SAREC documentation
3. Research Co-operation. I. An outline of policy, programmes and practice. II. Trends in development and research. Sida/Sarec, 2000
4. Research on HIV/AIDS and related diseases. Review of SAREC's special programme. By L.O.Kallings, M. Mugambi and A. Talle. 1997
5. Health Research in Faculties of Medicine in Addis Ababa, Dar es Salaam and Maputo. Report from a seminar held in Arusha, Tanzania, 21–24 May 1995. Editors: M Mugambi, J Mtabaji, A Swai. Coference reports 1996:1, Sida.
6. Sida/SARECs guidelines for applying institutions. June 2000
7. A strategy for Research Cooperation in the area of HIV/AIDS. Sida/SAREC, September 1999

Others Documents:

1. Proceedings of the National Seminar on Clinical Management of HIV infection/AIDS in Tanzania. Held at the Tanzania Episcopal Conference Centre, Kurasini, Dar es Salaam March 29–31, 2000. Organized by the Faculty of Medicine, Muhimbili University College of Health Sciences of Behalf of the Muhimbili Medical Centre and the National AIDS control programme.
2. University of Dar es Salaam Prospectus 2001/2002
3. Muhimbili Medical Centre. Essential of Mumbili Medical Centre Reforms. A prototype for Hospital Reforms. First Edition, 31 July 2000
4. Muhimbili University College of Health Sciences. Summary of Study Projects Supported by Sida/SAREC 1986–1999. Prepared for the Visit to Muhimbili Medical Centre by His Excellency the Swedish Ambassador to Tanzania, April 9, 1999.
5. University of Dar es Salaam. Academic Staff Performance Assessment Guidelines. (As approved at the 138th Council Meeting on 25th November, 1999). Academic Staff Recruitment. January, 2000
6. The United Republic of TANZANIA. National Aids Control Programme. Strategic framework for the third medium term plan (MTP-III) for Prevention and Control of HIV/AIDS/STDs. 1998–2002. Ministry of Health, Tanzania (Mainland). Dar es Salaam. July, 1998

7. Research Priorities on HIV/AIDS/STDs of the third medium term plan (MTP-III. 1998–2000)
8. University of Dar es Salaam. General Regulations and Guidelines for Postgraduate study programmes. Directorate of Postgraduate studies. July 1996.
9. University of Dar es Salaam. The SHDC subcommittee on review of the conduct of postgraduate studies in the University of Dar es Salaam. Final Report. April 1999.
10. University of Dar es Salaam. Research Policy and Operational Procedures for the University of Dar es Salaam. June 1998.
11. Muhimbili University College of Health Sciences. Research Policy. April 1995.
12. The United Republic of TANZANIA. Ministry of Health, Tanzania (MAINLAND). National Multisectorial Policy Guidelines on HIV/AIDS/STIs. (Pre-Final).
13. Muhimbili University College of Health Sciences. Five years rollings strategic plan 1999/2000–2003/2004. Summary of Mission Statement, Goals, Strategic Objectives. Dar es Salaam, April, 2000.
14. National Multisectorial AIDS Confernce Centre. 6–10 December 1998. Scientific Report. April 1999. Under the Auspices of the Muhimbili Medical Centre and National AIDS Control Programme
15. III International Conference. AIDS and associated cancers in AFRICA. September 14–16, 1988. Arusha Interntional Conference Centre. Arusha, Tanzania.
16. National Institute for Medical Research ENHR secretariat. Tanzania Essential National Health Research, priority Setting Workshop. Arusha International Conference Centre. Arusha, Tanzania 15–21 February 1999. Final report.
17. Proceedings of the Malaria Workshop/Seminar, held on 14th –16th May, 2001. At Social Science and Medicine (SOSMED) conference room, ground floor, multipurpose laboratory building (MUCHS). Organsed by MUCHS/Karolinska Institute Malaria Research groups.
18. Tanzania National Health Research Forum. Guidelines on Ethics for Health Research in Tanzania. Publication of the Tanzania National Health Research Forum. First Version, 2001.
19. Tanzania Medical Journal. Volume 6 No.2. September 1991
20. National Package of Essential Reproductive and Child Health Interventions in Tanzania. United Republic of Tanzania. Ministry of Health. Reproductive and Child Health Section.
21. United Republic of Tanzania. Ministry of Health. Strategy for Reproductive Health and Child Survival. 1997–2001.

Appendix 3

List of people

List of People, participating in meetings for the evaluation of
TANSWED and REPRODUCTIVE HEALTH PROGRAMME
Sweden-Tanzania bilateral co-operation programmes
Sweden visit 24 September – 05 of October 2001

Name		Position in relation to the programme/project	Meetings		
			Place	Date	Time
SIDA / SAREC					
1	Annica Sohlström	Sida/Sarec Officer for Tanzania Annica.Sohlstrom@sida.se	Sida	24/09/01	9:30-12am
2	Anita Sandström	Anita.Sandstrom@sida.se	Sida	25/09/01	8:30-11am
3	Barbro Carlsson	barbro.carlsson@sida.se	Sida	25/09/01	10:30-12am
TANSWED PROGRAMME					
4	Gunnel Biberfeld	Swedish Coordinator for TANSWED Gunnel.Biberfeld@smi.ki.se	SMI	26/09/01	8:30-7:00pm
5	Ragnar Norrby	Head of the SMI	SMI	26/09/01	lunch-time
6	Peter Biberfeld	Swedish Investigator Project. E HIV Associated Malignancies Peter.Biberfeld@onkpat.ki.se	SMI	27/09/01	9:30-5:30pm
7	Eric Sandström	Swedish Counterpart for the vaccine trials project	South Hospital	28/09/01	9:00-4:30pm
8	Charles Killewo	Tanzanian researcher in Sweden (taking a course)	""	28/09/01	9:00-4:30pm
9	Mohammed Bakari	Tanzanian researcher in Sweden (taking a course)	""	28/09/01	9:00-4:30pm
10	Maria Emmelin	Overall Swedish administrator for Kagera project maria.emmelin@epiph.umu.se	UMEA	01/10/01	9:15-6:00pm
11	Stig Wall	Professor of Epidemiology and head of the Depart. (SWE-side) stig.wall@epiph.umu.se	UMEA	01/10/01	9:15-12am
12	Lars Dahlgren	Swedish Supervisor for Social Behavior studies of the Kagera project	UMEA	01/10/01	1:00-6:00pm
REPRODUCTIVE HEALTH PROGRAMME					
13	Lennarth Nyström	Swedish member of the RH programme lennarth.nystrom@epiph.umu.se	UMEA	02/10/01	8:30-2:30pm

Name		Position in relation to the programme/project	Meetings		
			Place	Date	Time
14	Gunilla Lindmark	Swedish Coordinator for Rep. Health programme Gunilla.Lindmark@kbh.uu.se	UPPSALA	03/10/01	8:30-4:00pm
OTHERS					
15	Annica Sholström	Sida/Sarec Officer for Tanzania	SIDA	04/10/01	11:00-12am
16	Prof. Aud Talle	Professor of Anthropology	SIDA	04/10/01	3:00-3:30pm
17	Anita Sandström	Sida/Sarec	SIDA	05/10/01	8:00-8:50am

List of People, participating in meetings for the evaluation of
TANSWED and REPRODUCTIVE HEALTH PROGRAMME
Sweden-Tanzania bilateral co-operation programmes
Tanzania visit 15–26 of October 2001

Name		Position in relation to the programme/project	Meetings		
			Place	Date	Time
SIDA / SAREC / MUCHS AUTHORITIES					
1	Fred Mhalu	Director of Postgraduate Studies of MUCHS fmhalu@muchs.act.tz	Postgraduate Office MUCHS	15/10/01	3:00-05:00pm
2	Kisali Pallangyo	Dean of Faculty of Medicine kpallangyo@muchs.ac.tz	Dean office Dean Office (project J)	15/10/01 17/10/01 22/10/01	1:00-2:30pm 7:30-9:30am 2:30-5:00pm
3	J.P. Mtabaji	Principal of MUCHS	Principal's Office	16/10/01	9:00-11am
4	B.M. Minja	Registran of MUCHS	Principal's Office	16/10/01	9:00-11am
5	Y.S Mashalla	Deputy Registrar of MUCHS	Principal's Office	16/10/01	9:00-11am
6	Z.E. Masesa	PMU Manager	Principal's Office	16/10/01	9:00-11am
7	Annica Sohlström	Sida/Sarec Officer for Tanzania	Courtyard Hotel	19/10/01	7:30-10pm

REPRODUCTIVE HEALTH PROGRAMME					
8	Siriel Massawe	Head of the Department of Obs/Gyn. Programme Coordinator/ smassawe@muchs.ac.tz	Postgraduate Office MUCHS Obs/Gyn office Courtyard Hotel Obs/Gyn office	15/10/01 16/10/01 17/10/01 24/10/01	10:00-12:00am 11:15-1:00pm 7:30-10.00pm 4:30-5:30pm
9	Helena Lugina	Lecturer-Nursing. Acting Dean. Post-partum care Project Coordinator hlugina@muchs.ac.tz	Obs/Gyn office	16/10/01	11:15-1:00pm
10	Elizabeth Hizza	Obstetrician at Obs/Gyn department (non academic staff). Child abuse Project lizhiz88@yahoo.com	Obs/Gyn office	16/10/01	11:15-1:00pm
11	Y.M. Kapona	Obstetrician at Obs/Gyn department (non academic staff). Data Base project ykapona@yahoo.com	Obs/Gyn office	16/10/01	11:15-1:00pm
12	M Mtawahi	Obstetrician at Obs/Gyn department (non academic staff). Data base project miriam_mtawahi@yahoo.com	Obs/Gyn office	16/10/01	11:15-1:00pm
13	D.P. Urassa	Assist. Lecturer at Community health department. Health management project durassa@muchs.ac.tz	Obs/Gyn office IPH	16/10/01 24/10/01	11:15-1:00pm 3:30-4:30pm
TANSWED PROGRAMME					
14	Fred Mhalu	Professor. TANSWED program co-ordinator fmhalu@muchs.act.tz	Postgraduate Office MUCHS Microbiology Microbiology	15/10/01 18/10/01 25/10/01	9:00-12:00am 3:00-5:00pm 3:15-5:00pm
15	Jeff Luande	ORCI (Ocean Road Cancer Institute)	Microbiology ORCI Microbiology	19/10/01 23/10/01 25/10/01	2:00-4:00pm 8:00-10:00am 3:15-5:00pm
16	Augustine Massawe	Senior Lecture. Head of Neonatology ward amassawe@muchs.ac.tz	Microbiology Petra House (Project F) Courtyard hotel	18/10/01 19/10/01 19/10/01	3:00-5:00pm 10:00-12:40pm Lunch time

17	Eligius Lyamuya	Assist Professor. Head of Microbiology and Immunology Department elyamuya@muchs.ac.tz	Microbiology Microbiology His office	18/10/01 25/10/01 25/10/01	3:00-5:00pm 3:15-5:00pm 5:30-6:15pm
18	Ephata Kaaya	Assoc. Professor-Pathology ekaaya@muchs.ac.tz	Microbiology Pathology (Project E) Microbiology	18/10/01 22/10/01 25/10/01	3:00-5:00pm 8:30-10:30am 3:15-5:00pm
19	Aldin M Mutembei	Lecturer UDSM Kiswahili Department kaizilege@hotmail.com mutembei@yahoo.com	Microbiology IPH (KARP) IPH (KARP) Microbiology	18/10/01 19/10/01 25/10/01 25/10/01	3:00-5:00pm 2:00-3:45pm 8:30-10:00am 3:15-5:00pm
20	Gideon Kwesigabo	Lecturer IPH gkwesigabo@muchs.ac.tz	Microbiology IPH (KARP) IPH (KARP)	18/10/01 19/10/01 25/10/01	3:00-5:00pm 2:00-3:45pm 8:30-10:00am
Project E (Malignancy and HIV/ADIS)					
21	Vera K. Mnzava	Technician. Pathology vnelson@muchs.ac.tz	Pathology (Project E)	22/10/01	8:30-10:30am
22	C.G. Massambu	Pathologist cmassambu@muchs.ac.tz	Pathology (Project E)	22/10/01	8:30-10:30am
23	Angelica Magogo	Technician. Pathology amagogo@muchs.ac.tz	Pathology (Project E)	22/10/01	8:30-10:30am
24	Hassan Chande	Pathologist hchande@muchs.ac.tz	Pathology (Project E)	22/10/01	8:30-10:30am
Project C (STDs)					
25	Judica Mbwana	Health Laboratory Scientist jmbwana@muchs.ac.tz	IDC/STDs clinic (Project C)	22/10/01	11:30-12:45pm
26	Mary Lyarum	Nursing Officer at IDC/STD clinic idc@muchs.ac.tz	IDC/STDs clinic (Project C)	22/10/01	11:30-12:45pm
27	Chalamilla Guerino	Head of IDC/STD clinic chalamilla@hotmail.com	IDC/STDs clinic (Project C)	22/10/01	11:30-12:45pm

Project J (Police officers)					
28	Mohammed Janabi	Physician mjanabi@muchs.ac.tz	Dean of Faculty of Medicine Office	22/10/01	2:30-5:00pm
Nursery Faculty					
29	Helena Lugina	Lecturer-Nursing. Acting Dean. Post-partum care Project Coordinator hlugina@muchs.ac.tz	Nursery Faculty	17/10/01	3:30-5:30pm
30	Rose S Mlay	Assist Lecture rmlay@muchs.ac.tz	Nursery Faculty	17/10/01	3:30-5:30pm
31	Sabalda Lashabari	Assist Lecture scolesh@yahoo.com	Nursery Faculty	17/10/01	3:30-5:30pm
32	Asteria L.M. Ndomba	Assist Lecture andomba@muchs.ac.tz	Nursery Faculty	17/10/01	3:30-5:30pm
33	Schakastica Ndonde	Lecture sndonde@yahoo.co.uk	Nursery Faculty	17/10/01	3:30-5:30pm
Malaria Programme					
34	Amos Massele	Professor. MALARIA program co-ordinator amassele@muchs.ac.tz	His office	18/10/01	8:30-10:30am
Others					
35	Andrew B. M. Swai	Professor. Head of the ICT unit aswai@muchs.ac.tz	His office	19/10/01	8:00-9:00am
36	Silas A Maganga	Librarian. Head of periodicals journal at MUCHS' Library smaganga@muchs.ac.tz	MUCHS college Library	19/10/01	9:00-10:00am
37	Mwiru Sima	Student at the Department of Sociology. UDSM smamwin@hotmail.com	IPH (KARP)	19/10/01	2:00-3:45pm
38	K. Datius Rweyemenus	Assistant Lecture datiusr@hotmail.com	IPH (KARP)	25/10/01	8:30-10:00am
39	Andrew Kitua	Director General NIMR akitua@nimr.or.tz	NIMR	19/10/01	5:00-7:00pm
40	R. O. Swai	Programme Manager NACP nacp@raha.com	NACP	23/10/01	
41	Roland Swai	Programmer Manager of the National AIDS control programme nacp@raha.com	NCHIV/AIDS	23/10/01	4:15-5:00pm
42	Dafrossa C. Lyimo	Ilala Hospital. General Director dafrossa27@hotmail.com	Ilala Hospital	24/10/01	10:30-12:30pm
43	Catherine B Sanga	Head o, RCHS – MoH cbsanga@hotmail.com	Ministry of Health	24/10/01	
44	Elizabeth	Librarian at UDSM	UDSM Library	25/10/01	

Appendix 4

Table 1.: TANSWED Programme – List of Publication (Articles)

By Type of Journal

I: International
R: Regional
N: National

By Project

Project A: Clinical studies or studies including HIV infected adult patients. Studies of police officers (preparation for vaccine trials).
Project B: Studies on improving the Laboratory Diagnosis and monitoring HIV-1 infection.
Project C: Studies on Sexually transmitted diseases (STDs) with emphasis on youth in relation to HIV infection and control in Dar es Salam
Project D: Epidemiology toward the control of HIV-1 infection in the Kagera region (including strengthening of capacity in epidemiology in the behavioural science)
Project E: HIV associated pathology, particularly malignancies.
Project F: Studies on mother - to – Child transmission of HIV-1 infection.

Symbols

Δ Principal project authorship
■ Project collaborated

Published articles

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
1	1987	Mhalu F, Bredberg-Rådén U, Mbena E, Pallangyo K, Kiango J, Mbise R, Nyamuryekunge K, Biberfeld G. *Prevalence of HIV infection in healthy subjects and groups of patients in Tanzania.* **AIDS, 1:217-21.**	■			Δ	■				
4	1987	Pallangyo KJ, Mbaga IM, Mugusi F, Mbena E, Mhalu F, Bredberg-Rådén U, Biberfeld G. *Clinical case definition of AIDS in African adults.* **Lancet, II:972**	■			Δ	■				
5	1988	Bredberg-Rådén U, Kiango J, Mhalu E & Biberfeld G: *Evaluation of enzyme immunoassays for anti-HIV-1 using east African sera.* **AIDS, 2: 281-285.**	■				Δ				
13	1988	Sandström A, Wall S: *AIDS/HIV-Epidemiologi - om ett nytt forskningsområdes uppgång och utbredning.* **Socialmedicinsk tidskrift, (5-6):269-75.**		■					Δ		
31	1990	Sandström A, Wall S. *Epidemiology of HIV infections. Design options with special reference to developing countries 1990.* **Scand J Inf Dis, Suppl 69:173-180.**	■						Δ		
32	1990	Killewo J, Nyamuryekunge K, Sandström A, Bredberg-Rådén U, Wall S, Mhalu F, Biberfeld G. *Prevalence of HIV-1 infection in the Kagera region of Tanzania: a population-based study* **AIDS, 4:1081-1085**	■				■		Δ		
40	1990	Feichtinger, H., Putkonen, P., Parravicini, C., Li, S.L., Kaaya, E.E., Böttiger, D., Biberfeld, G. & Biberfeld, P., *Malignant lymphomas in cynomolgus monkeys infected with SIV* **Am J Pathol, 137(6), 1311-1315.**	■							Δ	
49	1991	Mhalu F, Hirji K, Ijumba P, Shao J, Mbena E, Mwakagile D, Akim C, Senge P, Mponezya J, Bredberg-Rådén U, Biberfeld G. *A cross-sectional study of a program for HIV infection control among public house workers.* **J AIDS, 4:290-296.**	■				Δ				
50	1991	Mgone C, Mhalu F, Shao J, Britton S, Sandström A, Bredberg-Rådén U, Biberfeld G. *Prevalence of HIV-1 infection and symptomatology of AIDS in severely malnourished children in Dar es Salaam, Tanzania.* **J AIDS, 4:910-913**	■				■				Δ

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
51	1991	Killewo J.Z. *An overview of the epidemiology of HIV-1 infection in Kagera region, Tanzania.* **Tanz Med J, 6:45-48.**			■				Δ		
52	1991	Pallangyo K.J. *Clinical presentation of HIV infection and AIDS in Tanzania.* **Tanz Med J, 2;49-51**			■	Δ					
57	1991	Grankvist O, Gustafsson Å, Bredberg-Rådén U, Pallangyo K, Mhalu F, Biberfeld P, Biberfeld G, Wadell G. *Selection of primers of optimal sensitivity for the detection of HIV-1 from Africa and Europe by polymerase chain reaction.* **AIDS, 5:575-578**	■			■	Δ				
70	1992	Urassa W, Bredberg-Rådén U, Mbena E, Pålsson K, Minja E, Lema R, Pallangyo K, Mhalu F, Biberfeld G. *Alternative confirmatory strategies in HIV-1 antibody testing.* **J AIDS, 5:170-176**	■			■	Δ				
71	1992	Pallangyo, Håkanson A, Lema L, Arris E, Mteza I, Pålsson K, Yangi E, Mhalu F, Biberfeld G, Britton S. *High HIV-seroprevalence and increased HIV-associated mortality among hospitalized patients with deep bacterial infections in Dar es Salaam, Tanzania.* **AIDS, 6:971-97**	■			Δ	■				
72	1992	Kaaya EE, Parravicini C, Sundelin B, Mgaya E, Kitinya J, Lema L, Luande J, Biberfeld P. *Spindle cell ploidy and proliferation in endemic and epidemic African Kaposi's sarcoma.* ***1 Eur J Cancer. 28A N° 11:1890-1894***	■							Δ	
73	1992	Feichtinger H, Li SL, Kaaya EE, Putkonen P, Grünewald K, Weyrer K, Böttiger D, Ernberg I, Linde A, Biberfeld G, Biberfeld P. *Malignant lymphoma in experimentally SIV infected cynomolgus monkeys - A model for EBV-associated lymphomagenesis.* **J Exp Med, 176:281-286**	■							Δ	
74	1992	Feichtinger H, Kaaya EE, Li SL, Putkonen P, Ekman M, Gendelman R, Biberfeld G, Biberfeld P. *Malignant lymphoma associated with human AIDS and with SIV induced immunodeficiency in macaques.* **AIDS Res & Hum Retrovir, 8(3):339-348**	■							Δ	
75	1992	Prieto J, Kaaya EE, Juntti-Berggren L, Berggren PO, Sandler S, Biberfeld P, Patarroyo M. *Induction of intercellular adhesion molecule-1 (CD54) on isolated mouse pancreatic beta-cells by inflammatory cytokines.* **Clin Immunol Immunopathol, 65(3):247-253**	■							Δ	
76	1992	Putkonen P, Kaaya EE, Böttiger D, Li SL, Nilsson C, Biberfeld P, Biberfeld G. *Clinl features and predictive markers of disease progression in cynomolgus monkeys experimentally infected with simian immunodeficiency virus (SIVsm).* **AIDS, 6:257-263**	■							Δ	

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
91	1993	Lwihula G, Dahlgren L, Killewo J, Sandström A. *AIDS epidemic in Kagera region, Tanzania - The experiences of local people.* **AIDS CARE, 5:347-357.**	■						Δ		
92	1993	Killewo J, Sandström A, Bredberg-Rådén U, Mhalu F, Biberfeld G, Wall S. *Incidence of HIV-1 among adults in the Kagera region, Tanzania.* **Int J Epid, 22: 528-536**	■				■		Δ		
94	1993	Kaaya EE, Voevodin AF, Szalecki P, von Kogh G, Dillner J, Parravicini C, Biberfeld P. *No evidence of HPV in epidemic and endemic Kaposi's sarcoma.* **J AIDS, 6:964-965**	■							Δ	
95	1993	Kaaya EE, Li SL, Feichtinger H, Stahmer I, Putkonen P, Mandache E, Mgaya E, Biberfeld G, Biberfeld P. *Accessory cells and macrophages in the histopathology of SIVsm-infected cynomolgus monkeys.* **2 Res Virol, 144:81-92**	■							Δ	
96	1993	Li SL, Feichtinger H, Kaaya EE, Migliorini P, Putkonen P, Biberfeld G, Middeldorp JM, Biberfeld P, Ernberg I. *Expression of Epstein-Barr virus related nphomas of SIV immunosuppressed monkeys.* ***Int J Cancer, 55:609-615***	■							Δ	
97	1993	Li SL, Kaaya EE, Fechtinger H, Biberfeld G, Biberfeld P. *Immunohistochemical distribution of leukocyte antigens in lymphoid tissues of cynomolgus monkeys (Macaca fascicularis).* ***J Med Primatol, 22:213-221***	■							Δ	
98	1993	Rübsamen-Waigmann H, Grez M, von Briessen H, Dietrich U, Shroff HJ, Kaaya EE, Biberfeld P. *Kaposi's sarcoma in an Indian woman infected with HIV-1 and HIV-2.* ***AIDS Res & Hum Retrovir, 9(6):573-577***	■							Δ	
120	1994	Urassa W, Mutanda S, Bredberg-Rådén U, Mhalu F, Biberfeld G. *Evaluation of the WHO Human immunodeficiency virus (HIV) antibody testing strategy for the diagnosis of HIV infection.* ***Clin and Diagn Vir, 2:1-6***	■				Δ				
124	1994	Killewo J. Dahlgren L, Lwihula G, Sandström A. *Socio-geographical patterns of HIV-1 transmission in Kagera region, Tanzania.* ***Soc Sci Med, 38:129-134.***	■						Δ		

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
125	1994	Killewo J, Sandström A, Bredberg-Rådén U, Mhalu FS, Biberfeld G, Wall S. *Prevalence and incidence of syphilis and its association with the HIV-1 infection in a population based study in the Kagera Region of Tanzania.* **Int J STD & AIDS, 5:424-431**	■				■		Δ		
126	1994	Kaaya EE, Amir H, Kitinya J, LuendeJ, Ordones C, Biberfeld P. *AIDS –associated Kaposi´s sarcoma in Tanzania of Indian origin: Report of cases and review of literature.* ***Int J Oncol, 4:689-693***	■							Δ	
134	1995	Kini C, Ordonez C, Gendelman R, Berti E, Gallo RC, Biberfeld P. *Heterogeneity of spindle cells in Kaposi's sarcoma: Comparison of cells in lesions and in culture.* ***J AIDS Hum Retrovir, 10:295-305***	■							Δ	
135	1995	Rezikyan S, Kaaya EE, Ekman M, Voevodin AF, Feichtinger H, Putkonen P, Castanos-Velez E, Biberfeld G, Biberfeld P. *B-cell lymphomagenesis in SIV immunosuppressed cynomolgus monkeys.* ***Int J Cancer, 61:574-579***	■							Δ	
136	1995	Schalling M, Ekman E, Kaaya EE, Linde A, Biberfeld P. *A role for a new herpes virus (KSHV) in different forms of Kaposi's sarcoma.* **3 Nature Med, 1(7):707-708**	■							Δ	
137	1995	Li S L, Kaaya E E, Ekman M, Ordonez C, Feichtinger H, Putkonen P, Böttiger D, Biberfeld G, Biberfeld P. *Thymic immunopathology and progression of SIVsm infection in cynomolgus monkeys.* ***J Acquir Immune Defic Syndr Hum Retrovir, 9:1-10***	■							Δ	
139	1995	Kilewo CDS, Urassa WK, Pallangyo K, Mhalu F, Biberfeld G, Wigzell H. *Response to podophyllotoxin (Wartec) treatment of genital warts in relation to HIV-1 infection serological status among patients in Dar es Salaam, Tanzania.* ***Int J STD & AIDS, 6:544/1-3***	■			■	■	■			Δ
140	1995	Bredberg-Rådén U, Urassa E, Grankvist O, Massawe A, Lyamuya E, Kawo G Msemo G, Kazimato T, Mgone J, Mbena E, Karlsson K, Mhalu F, Biberfeld G. *Early diagnosis of HIV-1 infection in Dar es Salaam, Tanzania.* **4 Clin and Diagn Vir, 4:163-173**	■				Δ				■

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
141	1995	Bredberg-Rådén U, Urassa E, Urassa W, Grankvist O, Msemo G, Kawo G, Kazimoto T, Manji KP, Massawe A, Lyamuya E, Mbeba E, Karlsson K, Mhalu F, Biberfeld G. *Predictive markers for mother-to-child transmission of HIV-1 in Dar es Salaam, Tanzania.* ***Acquir Immune Defic Syndr Hum Retrovirol, 8:182-187***	■				Δ				■
168	1996	Lyamuya EF, Kagoma C, Mbena E.C, Urassa W.K, Pallangyo K, Mhalu F.S, Biberfeld G. *Evaluation of the FACScount TRAxTM CD4 and Dynabeads methods for CD4 lymphocyte determination in Tanzania.* ***J Immunol Methods, 195:103-112.***	■			■	Δ				
171	1996	Lyamuya E, Bredberg-Rådén U, Massawe A, Urassa E, Kawo G, Msemo G, Kazimoto T, Östborn A, Karlsson K, Mhalu F, Biberfeld G. *Performance of a modified HIV-1 p24 antigen assay for early diagnosis of HIV-1 infection in infants and prediction of mother to infant transmission of HIV-1 in Dar es Salaam, Tanzania.* ***J Acquir Immune Defic Syndr Hum Retrovir, 12:421-426.***	■				Δ				■
172	1996	Grankvist O, Walther L, Bredberg-Rådén U, Lyamuya E, Mhalu F, Gustafsson Å, Biberfeld G, Wadell G. *Nested PCR assays with novel primers yield greater sensitivity to Tanzanian HIV-1 samples than a commercial PCR detection kit (GeneAmp™).* ***J of Virol Methods, 62:131-141.***	■				Δ				
173	1996	Albini A, Aluigi MG, Benelli R, Berti E, Biberfeld P, Blasig C, Calabró ML, Calvo F, Chieco-Bianchi L, Corbellino M, Del Mistro A, Ekman M, Favero A, Hofschneider PH, Kaaya EE, Lebbé C, Morel P, Neipel F, Noonan DM, Parravicini C, Repetto L, Schalling M, Stûrzl M, Tschachler E. *Oncogenesis in HIV-infection: KSHV and Kaposi's sarcoma.* ***Int J Oncol, 9:5-8.***	■							Δ	
174	1996	Kaaya EE, Castanos-Velez E, Amir H, Lema L, Luande J, Kitinya J, Patarroyo M, Biberfeld P. *Expression of adhesion molecules in endemic and epidemic Kaposi's sarcoma.* ***Histopathology 29:337-46***	■							Δ	
175	1996	Mhalu FS, Lyamuya E. *Human immunodeficiency virus infection and AIDS in East Africa: Challenges and possibilities for prevention and control.* ***East African Medical Journal 73: 13-19.***		■			Δ				
176	1996	Urassa WK, Lyamuya EF, Mbena E, Kagoma C, Bredberg-Råden U, Pallangyo K, Magessa P, Mhalu FS, Biberfeld G. *Immunohaematological findings in Healthy and HIV-1 infected adults in Dar es Salaam, Tanzania.* ***East African Medical Journal 73:670-674.***		■		Δ	■				

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
177	1996	Mwakagile D, Swai ABM, Sandström E, Urassa E, Biberfeld G and Mhalu FS. *High frequency of sexuella transmitted diseases among pregnant women in Dar es Salaam, Tanzania; Need for intervention.* ***East African Medical Journal 73:47-50.***		■			■	Δ			
178	1997	Lisse I M, Böttiger B, Christensen B, Knudsen K, Aaby P, Gottschaus A, Urassa W, Mhalu f, Biberfeld G, Brattegaard K, Diallo K, N´gom PT. *Evaluation of T-cell Subsets by an Immunocytochemical Method Compared to Flow Cytometry in Four Countries.* ***Scand J Immunol, 45:637-644.***	■				Δ				
190	1997	Karlsson K, Massawe A, Urassa E, Kawo G, Msemo G, Kazimoto T, Mbena E, Lyamuya E, Bredberg-Rådén U, Mhalu F, Biberfeld G. *Late postnatal transmission of HIV-1 infection from mother to child in Dar es Salaam, Tanzania.* ***Pediatr Infect Dis J, 16:963-967.***	■				■				Δ
192	1997	Lyamuya E, Bredberg-Rådén U, Albert J, Grankvist O, Msangi V, Kagoma C, Mhalu F, Biberfeld G. *Comparison of in-house and commercial sample preparation and PCR amplification systems for detection of HIV-1 DNA in blood samples from Tanzania.* ***J Clin Microbiol, 35:278-280.***	■				Δ				
200	1997	Lugalla J, Comoro C, Mutembei A, Dahlgren L, Emmelin M, Killewo J, Kwesigabo G & Sandström A. *The availability and acceptability of intervention strategies against HIV /AIDS.* ***Internationales Afrikaforum; 33: 355-397.***		■					Δ		
201	1998	Kwesigabo G, Killewo J, Godoy C, Urassa W, Mbena E, Mhalu F, Biberfeld G, Wall S, Sandström. *A Decline in the prevalence of HIV-1 infection in young women in the Kagera region of Tanzania.* ***J Acquir Immune Defic Syndr Hum Retrovir, 17:262-268.***	■				■		Δ		
203	1998	Killewo JZJ, Kwesigabo G, Comoro C, Lugalla J, Mhalu F, Biberfeld G, Sandström A, Wall S. *Acceptability of voluntary HIV testing in a rural village in Kagera, Tanzania: A pilot study.* ***AIDS CARE, 10(4):431-439.***	■				■		Δ		
204	1998	Thorstensson R, Andersson S, Lindbäck S, Dias F, Mhalu F, Gaines H, Biberfeld G. *Evaluation of 14 commercial HIV-1/HIV-2 antibody assays using serum panels of different geographical origin and clinical stage including a unique seroconversion panel.* ***J of Virol Methods, 70:139-151.***	■				Δ				

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
205	1998	Urassa W, Kaaya E, Kitinya J, Lema L, Amir H, Luande J, Biberfeld G, Mhalu F, Biberfeld P. *Immunological profile of endemic and epidemic Kaposi´s sarcoma patients in Dar es Salaam, Tanzania.* ***Intern Journal of Molecular Medicine 1:979-982.***	■				Δ			■	
207	1999	Urassa W, Godoy K, Killewo JZJ, Kwesigabo G, Mbakileki A, Mhalu F, Biberfeld G. *The accuracy of alternative confirmatory strategy for detection of antibodies to HIV-1: Experience from a regional laboratory in Kagera, Tanzania.* ***J Clin Virol, 14:25-9.***	■				Δ		■		
208	1999	Kwesigabo G, Killewo JZJ, Sandström A, Winani S, Mhalu FS, Biberfeld G. *Prevalence of HIV-1 infection among hospital patients in North West Tanzania.* ***AIDS CARE, 11:87-93.***	■				■		Δ		
223	2000	Bakari M, Lyamuya E, Mugusi F, Aris E, Chale S, Magao P, Jossiah R, Janabi M, Swai A, Pallangyo N, Sandström E, Mhalu FS, Biberfeld G, Pallangyo G. *The prevalence and incidence of HIV-1 infection and syphilis in a cohort of police officers in Dar es Salaam, Tanzania: a potential population for HIV vaccine trials.* ***AIDS, 14:313-320.***	■			Δ	■				
224	2000	Kawo G, Karlsson K, Lyamuya E, Kalokola F, Fataki M, Kazimoto T, Kitundu J, Msaky H, Munubhi E, Östborn A, Bredberg-Rådén U, Swai A, Mbise R, Msengi A, Mhalu F, Biberfeld G. *Prevalence of HIV Type 1 Infection, associated clinical features and mortality among hospitalized children in Dar es Salaam, Tanzania.* ***Scand J Inf Dis, 32:357-363.***	■				■				Δ
225	2000	Kwesigabo G, Killewo JZJ, Urassa W, Mbena E, Mhalu F, Godoy C, Biberfeld G, Emmelin M, Wall S, Sandström A. *Monitoring of HIV-1 infection using pregnant women as a sentinel population: 9 years experience from Kagera region Tanzania.* ***J AIDS, 23: 410-417.***	■				■		Δ		
226	1999	Lugalla JPL, Emmelin MAC, Mutembei AK, Comoro CJ, KillewoJZJ, Kwesigabo G, Sandstrom AIM, Dahlgren LG. *The social and cultural contexts of HIV/AIDS transmission in the Kagera region, Tanzania.* ***Journal of African and Asian Studies, 4:377-402.***		■					Δ		
227	2000	Lyamuya E, Olausson-Hansson E, Albert J, Mhalu F, Biberfeld G. *Evaluation of a prototype Amplior PCR assay for detection of human immunodeficiency virus type 1 DNA in blood samples from Tanzanian adults infected with HIV-1 subtypes A, C and D.* ***J Clin Virol, 17:57-62.***	■				Δ				

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
235	2001	Mutembei A, Emmelin M, Lugalla J, Dahlgren L. *Communicating about AIDS – Changes in understanding and coping with help of language in urban Kagera, Tanzania.* ***Journal of African and Asian Studies, Accepted for publication.***		■					Δ		
237	2000	Amir H, Kaaya EE, Kwesigabo G, Biberfeld P. *Kaposi sarcoma in African women before and during HIV/AIDS epidemic.* ***Austral-Asian Journal of Cancer 1:42-48.***	■							Δ	
238	2000	Kaaya EE, Castaños-Velez E, Heiden T, Ekman M, Catrina AI, Kitinya J, Andersson LC, Biberfeld P. *Proliferation and apoptosis in the evolution of endemic acquired immunodefiency syndrome-related Kaposi´s sarcoma.* ***Med. Oncology 17:325-332***	■							Δ	
239	2000	Bakari M, Aris EA, Moshi A, Chale S, Josiah R, Magao P, Pallangyo N, Mugusi F, Sandström E, Biberfeld G, Mhalu F, Pallangyo K. *Isoniazid prophylaxis for tuberculosis prevention among HIV infected persons: acceptability, compliance and adverse effects among police officers in Dar es Salaam.* ***East African Medical Journal.***		■		Δ	■				
240	2001	Mwakagile D, Mmari E, Makwaya C, Mbwana J, Biberfeld G, Mhalu F, Sandström E. *Sexual behaviour among youths at high risk for HIV-1 infection in Dar es Salaam, Tanzania.* ***Sexually Transmitted Infections, 77:255-259.***	■					Δ			
242	2001	Amir H, Kaaya EE, Manji KP, Kwesigabo G, Biberfeld P. *Kaposis´s sarcoma before and during a human immunodefiency virus epidemic in Tanzanian children.* ***Pediatr Infect Dis J, 20(5):518-21***	■							Δ	
243	2001	Kilewo C, Massawe A, Lyamuya E, Semali I, Kalokola F, Urassa E, Giattas M, Temu F, Karlsson K, Mhalu F, Biberfeld G. *HIV counselling and testing of pregnant women in sub-saharan Africa: experiences from a study on prevention of mother-to-child HIV-1 transmission in Dar es Salaam, Tanzania.* ***J Acquir Immune Defic Syndr Hum Retrovir. In press.***	■								Δ
244	2001	Urassa W, Nozohoor S, Jaffer S, Karama K, Mhalu F, Biberfeld G. *Evalution of an alternative confirmatory strategy for the diagnosis of HIV infection based on simple rapid assays in Dar es Salaam, Tanzania.* ***J of Virol Methods. In press.***	■				Δ				

N°	Year	Authors/Title/Journal	Type of Journal			Project					
			I	R	N	A	B	C	D	E	F
246	2001	Jani, I.V., Janossy, G., Iqbal, A., Mhalu, F.S., Lyamuya, E.F., Biberfeld, G., Glencross, D.K., Scott, L., Reilly, J.T., Granger, V., Barnett, D. *Affordable CD4+ T cell counts by flow cytometry II. The use of fixed whole blood in resource-poor settings.* ***J Immunol Methods. In press.***		■			Δ				
247	2001	Urassa W, Swai A, Mbena E, Mhalu F, Biberfeld G. *Lymphocyte subsets enumeration in HIV seronegative and seropositive adults in Dar es Salaam, Tanzania: comparison of two flow cytometric methods and determination of reference values in males and females.Manuscript submitted:* ***J Immunol Methods. In press***		■			Δ				

Table 2.: TANSWED Programme List of Abstracts

By Type of Conference/presentations

I: International
R: Regional
N: National
O: Oral
P: Poster

By Project

Project A: Clinical studies or studies including HIV infected adult patients. Studies of police officers (preparation for vaccine trials).
Project B: Studies on improving the Laboratory Diagnosis and monitoring HIV-1 infection.
Project C: Studies on Sexually transmitted diseases (STDs) with emphasis on youth in relation to HIV infection and control in Dar es Salam
Project D: Epidemiology toward the control of HIV-1 infection in the Kagera region (including strengthening of capacity in epidemiology in the behavioural science)
Project E: HIV associated pathology, particularly malignancies.
Project F: Studies on mother - to – Child transmission of HIV-1 infection.

Symbols

Δ Principal project authorship
■ Project collaborated

Abstracts

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
2	1987	Mhalu F, Dahoma A, Mbena E, Maselle S, Bredberg-Rådén U, Biberfeld G. *Some Aspects on the Epidemiology of AIDS and Infections with the Human Immunodeficiency Virus in the United Republic of Tanzania. Aids in Africa, 9. Karger publication 1988. 11 pages (full paper of presentation at the II International* ***Symposium on AIDS in Africa, Naples 1987****).*	■			■			Δ				
3	1987	Mhalu F, Mbena E, Bredberg-Rådén U, Kiango J, Nyamuryekunge K, Biberfeld el al. *Prevalence of HIV antibodies in healthy subjects and groups of patients in some parts of Tanzania. Abstract TP 86.* *III International* ***Conference on AIDS, Washington.***	■			■			Δ				
8	1988	Bredberg-Rådén U, Kiango J, Mhalu F, Biberfeld G: Evaluation of commercial enzyme immunoassays for anti-HIV-1 using East African sera. *Evaluation of commercial enzyme immunoassays for anti-HIV-1 using East African sera. Abstract volume 5584 p.259.* *Presentation at the IV* ***International Conference on Aids, Stockholm.***	■			■			Δ				
9	1988	Nyamureyekunge K, Killewo J, Bredberg-Rådén U, Sandström A, Mhalu F, Biberfeld G and Wall S. *HIV infection in Kagera region, Tanzania: A population-based study.* *Abstract and poster at the IV International* ***AIDS Conference in Stockholm.***	■			■	■		■		Δ		
9.1	1989	Mgaya, E.M., Petren, A.L., Li, S.L., Kaaya, E.E. Kitinya, J.N. Luande, J., Hoffman, J. & Biberfeld, P. *Immunohistochemical characterization of cutaneous Kaposi's sarcoma (KS) in African patients with and without HIV-infection (abstract).* *IV International* ***Conference AIDS & Assoc Cancers in Africa, Marseille, France.***	■			■						Δ	
9.10	1991	Feichtinger, H., Li, S.L. Grunewald, K., Weyrer, K., Kaaya, E.E., Putkonen, P., Biberfeld, g. & Biberfeld, P. *Association of malignant lymphomas with an EBV-like virus in experimentally SIV-infected macaques (abstract).* *2nd International* ***Symposium Molecular Biol of Hematopoiesis, Innsbruck, Austria, July 14-18.***	■			■						Δ	
9.11	1991	Parravicini, C., Kaaya, E.E., Gendelman, R., De-Santiago de Aguilar, A., Ensoli, B., Gallo, R.C. & Biberfeld, P. *Spindle cells in HIV-related and endemic Kaposi's sarcoma (KS): in situ and in vitro characterization (abstract).* ***ECCO91, Florence, Italy, Oct.***	■			■						Δ	
9.12	1992	Kaaya, E.E., Urassa, W , Biberfeld, P., Luande, J., Sundelin, B., Mgaya, E., Nelson, V, Lema, L. , Kitinya, J. , Biberfeld, G. *Ploidy, proliferation and immune status in endemic and HIV-associated Kaposi's sarcoma.* ***VIII International Conference On AIDS Amsterdam, June.***	■			■						Δ	

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
9.13	1992	Biberfeld P, Feichtinger H, Li SL, Kaaya EE. Ernberg I, Voevodin AF, Putkonen P, Biberfeld G. *An EBV-like virus in SIV associated lymphomagenesis. Vth Int Symposium on Epstein-Barr virus and associated diseases.* ***Annecy-France 13-19 Sept. 1992.***	■			■						Δ	
9.14	1992	Biberfeld P, Feichtinger H, Kaaya EE, Li SL, Voevodin A, Putkonen P, Ekman M, Biberfeld G *Lymphomagenesis in acquired immunodeficiency syndrome of HIV/SIV infections.* *XIX International* ***Congress of the Int Academy of Pathology. Madrid, Spain 18-23 Oct.***	■			■						Δ	
9.15	1992	Biberfeld P, Feichtinger H, Li SL, Kaaya EE, Ernberg I, Voevodin AF, Putkonen P, Biberfeld G. *Lymphomagenesis in SIV immunosuppressed cynomolgus monkeys. 10th Ann Symposia. on Nonhuman primate models for AIDS.* ***San Juan, Puerto Rico 17-20 Nov.***	■			■						Δ	
9.16	1992	Kaaya, EE, Urassa W, Luande J, Sundelin B, Mgaya E, Lema L, nelson V, Kitinya J, Biberfeld G, Biberfeld P *proliferation and immune status in endemic and HIV-associated Kaposi's sarcoma.* ***Svenska Läkaresäkapets Riksstämma, 25-27 Nov.***			■							Δ	
9.17	1992	Kaaya E., Urassa, W., Luande J., Sundelin B., Mgaya E., Lema L. Nelson V., Kitinya J., Voevodin A., Biberfeld G., Biberfeld P. *Malignancy, immunology and HPV association of endemic and HIV-related Kaposi's sarcoma.* *VII International* ***Conference AIDS in Africa, Cameroon, Dec., 8–11.***	■			■						Δ	
9.18	1993	Biberfeld P, Feichtinger H, Li SL, Kaaya EE, Ekman M, Mesquita R, Putkonen P, Biberfeld G. *In Scientific proceedings of the XX Meeting of The European Tumor Virus Group (ETVG) Innsbruck* *SIV related induction of B cell lymphomagenesis in monkeys.* ***3-7 March 1993, Vol. 119 S1 Abst 2/27.***		■		■						Δ	
9.19	1993	Feichtinger H, Kaaya E, Fend F, Schletterer K, Ekman M, Mesquita R, Biberfeld G, Biberfeld P. *In Scientific proceedings of The XX Meeting of The European Tumor Virus Group (ETVG) Innsbruck* *Oral hairy leukoplakia in SIV-infected cynomolgus macaques.* ***3-7 March 1993, Vol. 119 S1 Abst 10/106.***		■		■						Δ	
9.2	1990	Biberfeld, P., Feichtinger, H., Li, S.L. Putkonen, P., Kaaya, E.E., Böttiger, D. & Biberfeld, G. *Lymphomagenesis in SIV immunodeficient cynomolgus monkeys (abstract).* **LTCB Ann Lab Meeting, Bethesda, USA.**			■	■						Δ	

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			I	R	N	O	P	A	B	C	D	E	F
9.20	1993	EE Kaaya, P. Biberfeld, C. Parravicini, W. Urassa, G. Biberfeld. *Heterogeneity ploidy and proliferation of spindle cells in HIV-associated (AKS) and endemic (EKS).* *IX International* ***meeting on AIDS, Berlin June 6-9.***	■			■						Δ	
9.21	1993	Biberfeld P, EE Kaaya, C. Parravicini, W. Urassa, G. Biberfeld. *Reactive proliferation of spindle cells in HIV-associated and endemic Kaposi's sarcoma.* *IX International* ***meeting on AIDS, Berlin June 6-9.***	■			■						Δ	
9.22	1993	Peter Biberfeld, H. Feichtinger, LI SL, Kaaya EE, Ekman M, Ernberg I, Voevodin A, P. Putkonen, G. Biberfeld. *Opportunistic lymphomas in SIV immunosuppressed cynomolgus monkeys.* *IX International* ***meeting on AIDS, Berlin June 6-9.***	■			■						Δ	
9.23	1993	H. Feichtinger, E. Kaaya, M. Ekman, F. Fend, G. Biberfeld P. Biberfeld. *Oral hairy leukoplakia in SIV-infected cynomolgus macaque.* *IX International* ***meeting on AIDS, Berlin June 6-9.***	■			■						Δ	
9.24	1993	Su-ling Li, Kaaya EE, Feichtinger H, Ekman M, Biberfeld G, Biberfeld P. *Thymic changes in SIVsm infected cynomolgus monkeys.* *IX International* ***meeting on AIDS, Berlin June 6-9.***	■			■						Δ	
9.25	1993	P. Biberfeld, E. Kaaya , C. Parravicini, W. Urassa, G. Biberfeld. *Heterogeneity ploidy and proliferation of spindle cells in HIV-associated (AKS) and endemic (EKS).* *Ann.* ***Meeting of LTCB, Bethesda, MD. 22-28 Aug.***			■	■						Δ	
9.26	1993	E. E. Kaaya, C. Parravicini, M. Patarroyo, P. Biberfeld. *Immunohistochemical reactivity of the endothelial panel in lymphnodes (LN) and Kaposi's sarcoma (KS) tissues.* *V International* ***Workshop and Conference on Human leukocyte differentiation antigens. Boston, Nov. 3-7***	■			■						Δ	
9.27		Rosalba Salcedo, Ephata Kaaya, Peter Biberfeld, and Manuel Patarroyo. *Comparison of CAMs- and other/novel integrin sub-panels with well-defined antibodies against adhesion molecules.* ***Boston,***			■							Δ	
9.28	1993	E. Kaaya , W. Urassa, J. Luande, E. Mgaya , L. Lema, V. Nelson , J. Kitinya ,G. Biberfeld, P. Biberfeld. *Comparative studies of endemic (EKS) and epidemic(AKS) Kaposi's sarcoma (KS) in Tanzania.* *VIII International* ***meeting on AIDS in Africa. Marrakech Dec12-16.***	■			■						Δ	

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
9.29	1996	Biberfeld P, Ekman M, Kaaya EE, Jägdahl L, Linde A, Biberfeld G. *HHV-8 and other Herpes virus in AIDS related and endemic Kaposi's sarcoma and malignant lymphoma.* *Proc XI International* ***Conference AIDS, Vancouver, July 7-12, 1996, Th272, pg. 215.***	■			■						Δ	
9.3	1990	Parravicini, C., Kaaya, E.E., Gendelman, R., Berti, E., Ensoli, B., Gallo, R.C. & Biberfeld, P. *Spindle Cell Subpopulations and HIV-1 Expression in AIDS Kaposi's Sarcoma (KS) (abstract).* ***LTCB Ann Lab Meeting, 1990, Bethesda, USA.***			■	■						Δ	
9.30	1996	Biberfeld P, Ekman M, Kaaya EE, Rezkyan S, Castanous-Velez E, Biberfeld G. *Oncogenic mechanisms in AIDS related lymphomas and Kaposi's sarcoma.* *Proc 4th Meet of the Concerted Act: Oncogenesis in HIV infection.* ***Varenna, Como Italy, October 19-20.***	■			■						Δ	
9.31	1997	Kaaya EE, Ekman M, Jie-Zhi Zou, Ernberg I, Kitinya JN, Biberfeld G, Biberfeld P. *HHV8 in Tanzanian and Swedish cases of AIDS related and endemic Kaposi's sarcoma (KS) and malignant lymphoma.* *2nd European Conference on Experimental AIDS research (ECEAR),* ***Stockholm, May31-June 3.***		■		■						Δ	
9.32	1997	Kaaya E.E, Ekman M., Hassan A, Lema L, Kitinya JN, Carneiro P, Schultz T, Biberfeld G., Biberfeld P. *Human herpes virus type 8 (HHV-8) in Kaposi's sarcoma and antibody prevalence in Tanzania.* *Xth International* ***Conference on AIDS and STD in Africa, Abidjan, 7-11 December.***	■			■						Δ	
9.33	1997	Biberfeld P, Jie-Zhi Zou, Kaaya EE, Ekman M, Ernberg I, Kitinya JN, Hassan A, Lema L, Carneiro P, Biberfeld G. *HHV-8 DNA variability in Tanzania an and Swedish AIDS and non-AIDS associated Kaposi's sarcoma and malignant lymphoma (ML).* *Xth International* ***Conference AIDS and STD in Africa. Abidjan, 7-11 December.***	■			■						Δ	
9.34	1997	Carneiro P, Hassan A, Kaaya EE, Kitinya JN, Kwesigabo G, Biberfeld P. *Kaposi's sarcoma before and after the AIDS epidemic in Tanzania.* *Xth International* ***Conference AIDS and STD in Africa. Abidjan Dec. 7-11.***	■			■						Δ	
9.35	1998	Kaaya, EE, Castanous-Velez E, Heiden T, Ekman M, Stürzl M, Zou JZ, Ernberg I, Biberfeld P. *HHV-8, proliferation apoptosis and ploidy in Kaposi's sarcoma pathogenesis.* *3rd European* ***Conference on Experimental AIDS Research (ECEAR), Feb. 28 - March 3, 1998, Munich, Germany.***		■		■						Δ	

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
9.36	1998	Kaaya EE, Biberfeld P, Castanous-Velez E, Heidem T, Stürzl M, Zhou JZ, Kitinya JN. *HHV-8 proliferation apoptosis and ploidy in epidemic Kaposi's sarcoma (AKS) endemic (EKS) and classical (CKS) Kaposi's sarcoma (KS).* *12th World* ***Conference on AIDS, Geneva June 28-July 3, 1998.***	■			■							Δ	
9.37	1998	Kaaya EE, Castanous-Velz E, Heiden T, Ekman M, Lema L, Amir H, Luande J, Biberfeld P. *HHV-8 in Kaposi's sarcoma Pathogenesis.* *National Multisectoral* ***AIDS conference, Arusha, December, 1998.***			■	■							Δ	
9.38	1998	Chande H, Kaaya EE, Kitinya JN, Biberfeld P. *Cytological diagnosis of various body sites at MMC.* *National Multisectoral* ***AIDS conference, Arusha, December.***			■	■							Δ	
9.39	1998	Biberfeld P, Kaaya EE, Luande J, Castanous-Velez E, Ensoli B. *Pathogenic factors in Kaposi's sarcoma development* *Revisited National Multisectoral* ***AIDS conference, Arusha, December.***			■	■							Δ	
9.4	1990	Kaaya, E.E., Parravicini, C., Mgaya, E., Luande, J., Kitinya, J. & Biberfeld, P. *The spindle cell compartment in Kaposi's sarcoma (KS) lesions (abstract).* *Vth International* ***Conference on AIDS in Africa, Kinshasa, Zaire, Dec.***	■			■							Δ	
9.40	1998	Amir H, Kaaya EE, Kwesigabo G, Biberfeld P. *Clinical characteristics of Kaposi's sarcoma in African women during the AIDS epidemic.* *National Multisectoral* ***AIDS conference, Arusha, December.***			■	■					■		Δ	
9.41	1999	Kaaya EE, Castanous-Velez E, Heiden T, Ekman N, Kitinya J, Biberfeld P. *The aetiology of AIDS-related and –non-AIDS related Kaposi's sarcoma.* *Proc 17ttth Annual Joint Scientific* ***Conference NIMR Arusha February 1999.***			■	■							Δ	
9.42	1999	Kaaya EE, Ekman M, Jie-Zhi Zou, Ernberg I, Kitinya JN, Biberfeld G, Biberfeld P. *The aetiology of endemic , classical and epidemic Kaposi's sarcoma.* ***Geomedicine in Eastern and Southern Africa, Nairobi June.***		■		■							Δ	

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			I	R	N	O	P	A	B	C	D	E	F
9.43	1999	Kaaya EE, Biberfeld G, Massambu L, Kitinya J, Biberfeld P. *HHV-8 in Kaposi's sarcoma.* *XI International* ***Conference AIDS STD in Africa. Lusaka 12-16 September.***	■			■						Δ	
9.5	1990	Parravicini, C., Kaaya, E.E., Nakamura, S., Berti, E. Ensoli, B., Gallo, R.C. & Biberfeld, P. *Characterization of tumour-spindle cells in HIV-associated, endemic Kaposi's sarcoma (KS) and derived cell cultures (abstract).* *1st International* ***Symposium on AIDS and Reproduction, Genoa, Italy, Dec 12-15.***	■			■						Δ	
9.6	1991	Biberfeld, P., Feichtinger, H., Li, S.L., Kaaya, E.E., Gendelman, R., Grunewald, K., Putkonen, P., Ablashi, D. & Biberfeld, G. *EBV-associated lymphomagenesis in SIV-immunosuppressed monkeys (abstract).* ***LTCB Ann Lab Meeting, Bethesda, USA.***			■	■						Δ	
9.7	1991	Biberfeld, P., Parravicini, C., Kaaya, E.E., et al. *Characterization of spindle cells in HIV-related and endemic Kaposi's sarcoma (KS) (abstract).* *IVth World* ***Congress on Cancers of the Skin, New York, USA, April 17-20.***	■			■						Δ	
9.8	1991	Kaaya E.E., Li, S.L., Putkonen, P., Feichtinger, H., Parravicini, C., Ekman, M. & Biberfeld, P. *Generalized giant cell disease in SIV-infected cynomolgus monkeys (abstract).* *VII Int* ***Conference on AIDS, Florence, Italy, June 16-21.***	■			■						Δ	
9.9	1991	Parravicini, C., Kaaya, E.E., Gendelman, R., Berti, E., Nakamura, S., Ensoli, B., Gallo, R.C. & Biberfeld, P. *Spindle cells in HIV-related and endemic Kaposi's sarcoma (KS) (abstract).* *VII International* ***Conference on AIDS, Florence, Italy, June 16-21.***	■			■						Δ	
10	1988	Killewo J, Nyamureyekunge K, Sandström A, Bredberg-Rådén U, Wall S, Biberfeld G, Mhalu F. *Risk factors for HIV infection in a population based survey in Tanzania.* *Abstract and poster at the IV* ***International AIDS Conference in Stockholm.***	■			■	■	■			Δ		
11	1988	Lwihula GK, Nguma JK, Dahlgren L *A social cultural perspective of HIV transmissions in the Kagera region in Tanzania.* *Abstract and poster at the IV International* ***AIDS Conference in Stockholm.***	■			■	■				Δ		
12	1988	Sandström A, Killewo J, Wall S. *On the occurrence of HIV epidemiology.* *Poster presented at the IV International* ***AIDS Conference, Stockholm 1988.***	■				■				Δ		

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			I	R	N	O	P	A	B	C	D	E	F
14	1988	Mhalu F, Shao J.F. Bredberg-Rådén U, Akim C, Senge P, Mbena E, Biberfeld G. *Rising prevalence of HIV infection and general attitude to condom utilisation among restaurant and bar workers in Dar es Salaam city. Abstract volume PS 7.3 p.34.* *Oral presentation at the III International* ***Conference on AIDS in Africa, September, Arusha, Tanzania.***	■			■			Δ				
15	1988	Bredberg-Rådén U, Helgesson M, Mbena E, Lema RA, Mhalu FS, Biberfeld G. *Evaluation of commercial immunoassays for anti-HIV-1 using Tanzanian sera. Abstract volume W 1.6 p.10.* *Oral presentation at the IIIrd International* ***Conference on AIDS in Africa, September, Arusha, Tanzania.***	■			■			Δ				
16	1988	Mgone C.S., Mhalu F, Shao J.F., Britton S, Sandström A, Bredberg-Rådén U, Biberfeld G. *Prevalence of HIV infection and symptomatology of AIDS in severely malnourished children. Abstract volume W 3.5 p.26.* *Paper presented at the III International* ***Conference on AIDS in Africa. September, Arusha.***	■			■			■				Δ
17	1988	Killewo J, Nyamuryekunge K, Sandström A, Bredberg-Rådén U, Wall S, Mhalu FS and Biberfeld G. *Prevalence of human immunodeficiency virus (HIV) infection in the Kagera region of Tanzania.* *Paper presented at the III International* ***Conference on AIDS and Associated Cancers in Africa in Arusha, Tanzania, September 16-18.***	■			■			■		Δ		
18	1988	Lwihula G. *Perceptions on AIDS and proposed intervention measures against AIDS disease among secondary school students in Kagera region Tanzania.* *Poster presented at the III International* ***Conference on AIDS and Associated Cancers in Africa in Arusha, Tanzania.***	■				■				Δ		
19	1988	Lwihula G. *The origin and development of AIDS disease in Tanzania with reference to Kagera region.* *Poster presented at the III International* ***Conference on AIDS and Associated Cancers in Africa in Arusha, Tanzania.***	■				■				Δ		
21	1989	Mhalu F.S, Akim C, Senge P, Shao J, Mponezya H, Mbena E, Ijumba P, Bredberg-Råden U, Biberfeld G. *Adoption of safer sexual behaviour by an HIV high risk group of bar and restaurant workers in Dar es Salaam, Tanzania. Abstract book TG011 pp.978.* *Oral presentation at the V International* ***Conference on AIDS, Montreal, Canada 4-9 June.***	■			■			Δ				
22	1989	Thorstensson R, Mhalu FS, Andreasson P-Å, Buck T, Brust S, Biberfeld G et al. *Evaluation of a synthetic peptide EIA for detection of antibodies to HIV-1 and HIV-2. Abstract volume TBP 104 p.304.* *Poster presented at the Vth International* ***AIDS Conference, June, Montreal, Canada.***	■			■			Δ				

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			I	R	N	O	P	A	B	C	D	E	F
23	1989	Akim C, Mhalu F.S, Senge P, Shao J, Bredberg-Råden U, Ijumba P, Mbena E, Mponezya H, Mwakagile D, Biberfeld G. *Determinants of the effectiveness of intervention measures for reduction of HIV transmission in a cohort of bar and restaurant workers in Dar es Salaam. Abstract volume 027 pp. 20.* *Presented at the IV International* ***Conference on AIDS and Associated Cancers in Africa, Marseille, France October 18-20.***	■			■			Δ				
24	1989	Urassa W, Bredberg-Råden U, Mbena E, Pålsson K, Lema R.A, Mhalu F.S, Biberfeld G. *Field evaluation of six HIV-1 antibody screening assays in Dar es Salaam, Tanzania. Abstract volume 111 pp. 61.* *Proceedings of the IV International* ***Conference on AIDS and Associated Cancers in Africa, Marseille, France October 18-20.***	■			■			Δ				
25	1989	Grankvist O, Gustafsson Å, Biberfeld P, Bredberg-Rådén U, Pallangyo K, Mhalu F.S, Biberfeld G, Wadell G. *Detection of African and European HIV isolates by PCR. Abstract volume 141 pp. 76.* *Proceedings of the IV International* ***Conference on AIDS and Associated Cancers in Africa, Marseille, France October 18-20.***	■			■			Δ				
27	1989	Pallangyo K, Senge P, Mwakagile D, Håkanson A, Mhalu F.S, Biberfeld G, Britton S. *Prevalence of HIV-infection and other STD's among hotel and restaurant workers in Dar es Salaam, Tanzania. Abstract volume 205 pp. 109* *Poster presented at the IV International* ***Conference on AIDS and Associated Cancers in Africa, Marseille, France October 18-20.***	■				■	Δ	■				
29	1989	Lwihula G. *Sexuality and HIV transmission in Kagera region, Tanzania.* *Poster presented at the Vth International* ***Conference on AIDS in Montreal, Canada, June.***	■				■				Δ		
30	1989	Sandström A, Killewo J, Shamebo D, Wall S. *Establishing a community study-base as a point of departure of an epidemiological approach to primary health care.* *Paper presented at the* ***IEA African Regional Conference, Harare, Zimbabwe.***		■		■					Δ		
33	1990	Killewo J, Sandström A, Bredberg-Rådén U, Pålsson K, Wall S, Mhalu F, Biberfeld G et al. *Incidence of HIV infection in Kagera region, Tanzania: A population-based study. Abstract Nº T.O.B.2.* *Presented at the V International* ***Conference on AIDS in Africa, Kinshasa, Zaire, October 10-12.***	■			■			■		Δ		
34	1990	Killewo J, Dahlgren L, Sandström A, Wall S. *Risk factors for HIV infection in Kagera region, Tanzania. Abstract Nº T.P.E.49.* *Poster presented at the V International* ***Conference on AIDS in Africa, Kinshasa, Zaire.***	■				■				Δ		

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
35	1990	Mhalu F, Hirji K, Ijumba P, Shao J, Mbena E, Mwakagile D, Akim C, Mponezya H, Bredberg-Rådén U, Biberfeld G *An assessment of intervention measures for HIV infection control among bar and restaurant workers. Abstract Nº F.O.C.5.* *Presented at the V International* ***Conference on AIDS in Africa, Kinshasa, Zaire, October 10-12.***	■			■			Δ				
36	1990	Urassa W, Bredberg-Rådén U, Mbena E, Pålsson K, Mhalu F, Biberfeld G. *Evaluation of alternative confirmatory strategies for anti-HIV-1 using four ELISAs and two simple tests on Tanzanian sera. Abstract Nº W.O.B.3.* *Presented at the V International* ***Conference on AIDS in Africa, Kinshasa, Zaire, October 10-12.***	■			■			Δ				
37	1990	Urassa E, Mhalu F, Mbena E, Biberfeld G, Bredberg-Rådén U, Kawo. *Prevalence of HIV-1 infection among pregnant women in Dar es Salaam, Tanzania. Abstract Nº T.P.E.22.* *Poster presented at the V International* ***Conference on AIDS in Africa, Kinshasa, Zaire, October 10-12.***	■				■		■				Δ
38	1990	Lwihula G. *Sexual practices and patterns of interaction in the Kagera area with reference to the spread of HIV.* *Paper presented at a seminar on Anthropological studies relevant to Sexual Transmission of HIV at* ***Sandbjerg Centre, Sonderborg, Denmark.***			■	■					Δ		
39	1990	Pallangyo K, Håkanson A, Mtesa I, Lema L, Minjas J, Bredberg-Rådén U, Mhalu F, Biberfeld G, Britton S. *HIV infection and its influence on outcome among adult patients with malaria, meningitis, pneumonia, pyomyositis or tuberculosis in Dar es Salaam, Tanzania. Abstract Nº F.P.B.41* *Poster presented at the V International* ***Conference on AIDS in Africa, Kinshasa, Zaire, October 10-12.***	■				■	Δ	■				
47	1991	Pallangyo K, Omar B, Håkanson A, Mwakagile D, Pålsson K, Mhalu F, Biberfeld G, et al. *The prevalence of sexually transmitted diseases (STD) including HIV in a cohort of hotel workers in Dar es Salaam. Abstract Nº M.C.3214* *Poster presented at the VII International* ***Conference on AIDS, Florence, Italy, June 16-21.***	■				■	Δ	■				
48	1991	Mhalu F, Ngaiza M, Swai ABM, Mwakagile D, Bredberg-Rådén U, Biberfeld G, et al. *Factors associated with HIV infection among a sample of bar and restaurant workers in Dar es Salaam, Tanzania. Abstract Nº W.C.3087.* *Poster presented at the VII International* ***Conference on AIDS, Florence, Italy, June 16-21.***	■				■		Δ				

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
53	1991	Urassa W, Bredberg-Rådén U, Mbena E, Pålsson K, Mhalu F, Biberfeld G. *Evaluation of alternative confirmatory strategies for anti-HIV-1 using four ELISAs and two simple tests on Tanzanian sera.* ***Tanz Med J. Vol 6 Nº 2; 76.***			■				Δ				
54	1991	Urassa E, Mhalu F, Mbena E, Runyoro D, Biberfeld G, Bredberg-Rådén U. *AIDS and HIV infection in obstetrics.* **Tanz Med J. Vol 6 Nº 2; 77**			■				■				Δ
55	1991	Urassa W, Mbena E, Pallangyo K, Mhalu F, Biberfeld G. *Experience in flow cytometric determination of T-lymphocyte subsets as prognostic markers in HIV-1 infected individuals.* ***Tanz Med J. Vol 6 Nº 2; 78.***			■			■	Δ				
56	1991	Mhalu F, Ijumba P, Shao J, Mbena E, Akim C, Senge P, Mponezya H, Bredberg-Rådén U, Biberfeld G. *Determination of the effectiveness of intervention measures for reduction of HIV-1 transmission in a cohort of bar and restaurant workers in Dar es Salaam.* ***Tanz Med J. Vol 6 Nº 2; 79.***			■			■	Δ				
58	1991	Urassa W, Bredberg-Rådén U, Mbena E, Pallangyo K, Shao J, Mhalu F, Biberfeld G. *T-lymphocyte subsets and beta-2 microglobulin (B-2M) levels in HIV-1 infected patients: their usefullness as prognostic markers for HIV infection in Africa. Abstract Nº T.TR.226.* *Presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■			■		■	Δ				
59	1991	Mhalu F, Chikwindo N, Swai A, Kawawa H, Meena F, Mwakagile D, Bredberg-Rådén U, Mbena F, Shao J, Biberfeld G, et al. *Voluntary counselling and testing for HIV infection towards the control of HIV transmission among bar and restaurant workers in Dar es Salaam. Abstract Nº W.O.119.* *Presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■			■			Δ				
60	1991	Mhalu F. *Options for AIDS control in Subsahara Africa. Abstract Nº T.O.119.* *VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■			■			Δ				
61	1991	Ngaiza M, Mhalu F, Swai A, Mwakagile D, Shao J, Meena F, Bredberg-Rådén U, Biberfeld G, et al. *Socio-economic factors underlying HIV infection among a sample of female public house workers in Dar es Salaam, Tanzania, 1990. Abstract Nº T.O.118.* *VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■			■			Δ				

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
62	1991	Pallangyo K, Håkanson A, Arris E, Nalyanga V, Shemagoda D, Pålsson K, Mhalu F, Biberfeld G, Britton S. *Influence of HIV infection on parasite-density and outcome among hospitalized patients with cerebral and non-cerebral malaria in Dar es Salaam, Tanzania. Abstract Nº W.A.211* *Poster presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■				■	Δ	■				
63	1991	Bredberg-Rådén U, Urassa E, Mbena E, Grankvist O, Mhalu F, Biberfeld G. *PCR for the demonstration of vertical transmission of HIV-1 in Tanzania. Abstract Nº T.A.175.* *Poster presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■				■		Δ				■
64	1991	Urassa E, Mhalu F, Mbena E, Mtavangu R, Kileo C, Biberfeld G. *The role of HIV infection in pregnancy wastage. Abstract Nº M.A.248.* *Poster presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■				■		■				Δ
65	1991	Mbena E, Urassa W, Bredberg-Rådén U, Pålsson K, Minja E, Maya H, Magessa P, Pallangyo K, Mhalu F, Biberfeld G. *Evaluation of a rapid whole blood agglutination test (Agen) for the detection of antibodies to HIV-1 and HIV-2 in Dar es Salaam. Abstract Nº M.A.115.* *Poster presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■				■		Δ				
66	1991	Mwakagile D, Mbwana J, Roggen E, Swai A, Mbena E, Piot P, Bredberg-Rådén U, Biberfeld G, Mhalu F, et al. *Prevalence of antibodies against haemophilus ducreyi among bar and restaurant workers with a high prevalence of HIV infection. Abstract Nº W.A.145.* *Poster presentation at the VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■				■		Δ				
68	1991	Mwakagile D, Swai A, Mwambingu S, Mbwana J, Kitange J, Mbena E, Biberfeld G, Mhalu F. *Socio-epidemiological and microbiological aspects of sexually transmitted diseases and HIV infection in Dar es Salaam, Tanzania. Abstract Nº W.A.144.* *VI International* ***Conference on AIDS in Africa, Dakar, Senegal, December 16-19.***	■			■			■	Δ			
80	1992	Mwakagile DSM, Swai ABM, Pallangyo KJ, Mhalu FS. *Trend of anogenital warts among patients seen at a referral clinic for sexually transmitted diseases in Dar es Salaam, Tanzania. Abstract Nº WP190.* *Poster presented at the VII International* ***Conference on AIDS in Africa, Yaoundé, Cameroun.***	■			■				Δ			

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
81	1992	Mwakagile DSM, Mwambingu S, Swai ABM, Mbwana J, Mkuna R, Biberfeld G, Mhalu F, et al. *Social and demographic studies on patients with sexually transmitted diseases in Dar es Salaam, Tanzania. Abstract Nº WP202.* *Poster presented at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■				■		■	Δ			
82	1992	Andersson S, Mhalu F, Dias F, Biberfeld G, Thorstensson R. *Evaluation of 7 combined anti-HIV-1/HIV-2 ELISAs. Abstract Nº WP067.* *Poster presented at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■				■		Δ				
84	1992	Thorstensson R, Urassa WK, Dias F, Matunda SM, Linder H, Mäkitalo B, Pallangyo K, Mhalu F, Biberfeld G, et al. *Field evaluation of recombigen HIV-1/HIV-2 rapid test device. Abstract Nº W.RT.007.* *Presentation at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■			■			Δ				
85	1992	Urassa WK, Matunda SM, Bredberg-Rådén U, Mhalu FS, Biberfeld G. *Evaluation of the WHO HIV antibody testing strategy for the diagnosis of HIV infection. Abstract Nº TO 030.* *Presentation at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■			■			Δ				
86	1992	Pallangyo K, Swai ABM, Omari B, Mwakagile DS, Mbena E, Mattunda S, Mhalu FS, Biberfeld G, Britton S. *Prospective study of prevalence and incidence of HIV infection and other STDs in hotel workers in Dar es Salaam. Abstract Nº TO 022.* *Presentation at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■			■		Δ	■				
87	1992	Kwesigabo G, Kilewo J, Sandström A. *The accuracy of sentinel surveillance systems in monitoring the prevalence of HIV-1 infection. Abstract Nº TP031.* *Poster presented at the VII International* ***Conference on AIDS in Africa.***	■				■				Δ		
88	1992	*Mhalu F, Swai A, Mwakagile D, Senge P, Chua C, Bredberg-Rådén U, Shao J, Mbena E, Biberfeld G.* *Surveillance and control of HIV-1 transmission among female barworkers in Dar es Salaam 1986-1991. Abstract Nº TP108.* *Poster presented at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■				■		Δ				
89	1992	Meena F, Mung'ong'o A, Chikwindo N, Chuwa H, Mbena E, Mwakagile D, Mhalu F, Biberfeld G, et al. *Counselling and testing for HIV infection an essential strategy in the control of HIV transmission among bar workers. Abstract Nº TP125.* *Poster presented at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■				■		Δ				

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			I	R	N	O	P	A	B	C	D	E	F
90	1992	Bredberg-Rådén U, Urassa E, Massawe A, Kawo G, Urassa W, Mbena E, Grankvist O, Mhalu FS, Biberfeld G. *Early diagnosis of HIV-1 infection in infants in Tanzania. Abstract N° T.RT.023.* *Presentation at the VII International* ***Conference on AIDS in Africa, December 8-11, Yaoundé, Cameroun.***	■			■			Δ				■
103	1993	Bredberg-Rådén U, Urassa W, Urassa E, Massawe A, Mhalu F, Biberfeld, et al. *Predictive markers of mother-to-child transmission of HIV-1 in Tanzania.* *Presentation at the IX International* ***Conference on AIDS, June 6-11, Berlin, Germany.***	■			■			Δ				■
104	1993	Bredberg-Rådén U, Urassa E, Massawe A, Msemo G, Kawo G, Urassa W, Mbena E, Grankvist O, Mhalu FS, Biberfeld G. *Early diagnosis of HIV-1 infection in infants in Tanzania. Abstract N° 25.* *Presentation at the 2nd International* ***Conference on HIV in Children and Mothers, September 7-10, Edinburgh, Scotland.***	■			■			Δ				■
105	1993	Mwakagile D, Swai A, Kitange J, Mbena E, Mwambingu S, Mbwana J, Bredberg-Rådén U, Biberfeld G, Mhalu F. *Epidemiology of STDs in Dar es Salaam, Tanzania. Abstract N° M.OP.58.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			■	Δ			
106	1993	Kwesigabo G, Killewo J, Sandström A, Winani S, Biberfeld G, Mhalu F. *Prevalence of HIV-1 infection among hospitalized patients in Bukoba Hospital - Tanzania. Abstract N° M.OP.57.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			■		Δ		
107	1993	Pallangyo K, Swai A, Omari B, Rwechungura A, Nduvambo E, Mbena E, Mattunda S, Urassa W, Mwakagile D, Mhalu F, Sandström E, Biberfeld G, Britton S. *Trend of HIV infection in a population of hotel workers in Dar-es-Salaam. Abstract N° T.RT.025* *Presented at the VIIIth International* ***Conference on AIDS in Africa &*** *VIIIth African* ***Conference on STDs, December 12-16, Marrakech.***	■			■		Δ	■				
108	1993	Pallangyo K, Swai A, Sandström E, Omari B, Rwechungura A, Nduvambo E, Mbena E, Mattunda S, Urassa W, Mwakagile D, Mhalu F, Biberfeld G, Britton S. *Study of the natural history of HIV infection in Dar-es-Salaam. Abstract N° T.PA.003* *Presented at the VIIIth International* ***Conference on AIDS in Africa &*** *VIIIth African* ***Conference on STDs, December 12-16, Marrakech.***	■			■		Δ	■				

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			I	R	N	O	P	A	B	C	D	E	F
109	1993	Killewo J, Sandström A, Kwesigabo G, Biberfeld G, Mhalu F. *Acceptability of voluntary HIV testing in a rural village in Tanzania: A pilot study. Abstract N° TH.RT.007.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			■		Δ		
111	1993	Massawe AW, Karlsson K, Urassa EJN, Kawo G, Msemo G, Kazimoto T, Swai ABM, Mbena E, Bredberg-Rådén U, Mhalu FS, Biberfeld G. *Vertical transmission of HIV-1 infection and mortality in infants of HIV positive mothers in Dar-es-Salaam, Tanzania. Abstract N° M.OP.10.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			■				Δ
112	1993	Mwakagile D, Mkuna R, Swai ABM, Msekwa J, Sandström E, Kagoma C, Nyanda P, Biberfeld G, Mhalu F. *Presented at the VIIIth International Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16 1993, Marrakech. Abstract N° M.OP.27.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			■	Δ			
113	1993	Godoy K, Thorstensson R, Mhalu F, Dias F, Biberfeld G. *Evaluation of a new rapid HIV-1/HIV-2 enzyme immuno assay (Bionor). Abstract N° W.PA.017.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			Δ				
114	1993	Comoro CJ, Lugalla JLP, Mutembei A, Dahlgren L. *Availability and acceptability of intervention strategies against AIDS and HIV-1 infection in Kagera region, Tanzania.* *Presented at the VIIIth International Conference on AIDS in Africa & VIIIth* ***African Conference on STDs.***	■			■					Δ		
115	1993	Comoro CJ, Mutembei A, Lugalla JLP, Dahlgren L. *Gender oppression, sex, changing customs and the spread of AIDS in Kagera, Tanzania.* Presented at the VIIIth International Conference on AIDS in Africa & VIIIth **African Conference on STDs.**	■			■					Δ		
117	1993	Lisse I, Urassa W. *Evaluation of T cell subsets by immunocytochemical method, cytosphere technology and flow cytometry in Tanzania and Côte d'Ivoire. Abstract N° W.RT.020.* *Presented at the VIIIth International* ***Conference on AIDS in Africa & VIIIth African Conference on STDs, December 12-16, Marrakech.***	■			■			Δ				

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			I	R	N	O	P	A	B	C	D	E	F
118	1993	Lyamuya EF, Mbena EC, Urassa WK, Mhalu FS, Pallangyo K, Biberfeld G. *Evaluation of the TRAx CD4 ELISA and the Dynabeads methods for CD4 lymphocyte determination in Tanzania. Abstract N° W.RT.022.* *Presented at the VIIIth International* ***Conference on AIDS in Africa &*** *VIIIth African* ***Conference on STDs, December 12-16, Marrakech.***				■		■	Δ					
121	1994	Urassa W, Mhalu FS. *Laboratory diagnosis of sexually transmitted diseases including human immunodefiency virus infection.* *Proceedings of the 12th Annual Joint Scientific* ***Conference of the National Institutet for Medical Research (NIMRF). Arusha, Tanzania 21-23 February.***				■			Δ	■			
128	1994	Comoro CJ. *Practices/Behavioural and Cultural issues in AIDS.* *Presented at the Regional* ***Conference of Health Ministers of East African Countries Arusha.***			■						Δ		
142	1993	Killowo JZJ, Comoro CJ. *AIDS as a disaster, myths and responses. Proceedings of the joint 12th Annual TPHA and Second biennial ECSAPHA scientific* ***conference on Disasters, accidents of the Tanzania Public Health association held in Arusha, Tanzania.***				■					Δ		
143	1995	Comoro CJ, Lugalla JLP, Mutembei AK, Dahlgren L. *A socio-cultural and institutional background influencing the acceptability of intervention strategies against AIDS and HIV in Kagera region, Tanzania.* *Proceedings of the12th Annual Joint Scientific* ***Conference of the NIMR, Arusha, Tanzania.***				■					Δ		
144	1995	Biberfeld P, Schalling M, Ekman M, Kaaya EE, Linde A. *Herpes virus sequences in epidemic and endemic Kaposi´s sarcoma.* *21st ETVG-Meeting, Innsbruck, Austria.*				■						Δ	
150	1995	Lyamuya E, Bredberg-Rådén U, Massawe A, Urassa E, Kawo G, Msemo G, Kazimoto T, Östborn A, , Karlsson K, Mhalu F, Biberfeld G. *A modified HIV-1 p24 antigen assay for early diagnosis of HIV-1 infection in infants and prediction of mother to infant transmission of HIV-1 in Dar es Salaam, Tanzania. Abstract N° TuA135.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***				■			Δ				■	
152	1995	Comoro CJ, Dahlgren L, Lugalla JLP, Mutembei AK, Emmelin M. *AIDS, myth and sexuality: an ethnographic narrative from Kagera region, Tanzania. Abstract N° WeD800.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa.***				■					Δ		

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
155	1995	Lugina H, Mwanga F, Makwaya C, Mwakagile D, Mhalu F, Biberfeld G, Sandström E. *Health seeking behaviour towards the control of sexually transmitted diseases among women of reproductive age. Abstract N° WeD877.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■			■	Δ			
156	1995	Massawe AW, Karlsson K, Urassa EJN, Kawo G, Msemo G, Kasimoto T, Swai ABM, Mbena E, Bredberg-Rådén U, Mhalu F, Biberfeld G. *Late postnatal transmission of HIV-1 infection from mother to child in Dar es Salaam, Tanzania. Abstract N° ThC284.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■			■				Δ
157	1995	Mhalu F, Balampana P, Makwaya C, Massay M, Mkuna R, Msekwa J, Urassa E, Mwakagile D, Mbwana J, Biberfeld G, Sandström E. *Benefits of integrating sexually transmitted disease services in reproductive health clinics for women. Abstract N° WeB199.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, Kampala.***	■			■				Δ			
158	1995	Mutembei AK, Comoro CJ, Dahlgren L, Lugalla JLP, Emmelin M. *Metaphorical expressions on AIDS: Changes in the reaction about the pandemic in Kagera, Tanzania.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, Kampala.***	■			■					Δ		
159	1995	Pallangyo K, Lyamuya E, Swai A, Janabi M, Ruhamya J, Batenga G, Felician F, Patrick M, Pallangya N, Urassa W, Mbwana J, Kagoma C, Mhalu F, Sandström E, Biberfeld G. *Are police officers a suitable population for HIV-1 vaccine trials? Abstract N° WeC792* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■		Δ	■				
160	1995	Rutaindurwa G, Mwakagile D, Mbwana J, Kagoma C, Mwambingu S, Mkuna R, Biberfeld G, Sandström E, Mhalu F. *Acceptance of patient with sexually transmitted diseases to refer their sex partners for treatment. Abstract N° WeB200.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■			■	Δ			
161	1995	Thorstensson R, Godoy K, Mhalu F, Diaz F, Biberfeld G. *Evaluation of 12 HIV-1/HIV-2 antibody assays. Abstract N° MoA405.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■				Δ			
162	1995	Urassa WK, Godoy K, Kagoma C, Lyamuya EF, Maya H, Pallangyo K, Magesa P, Mhalu FS, Biberfeld G. *Field evaluation of two rapid simple anti-HIV tests and an alternative strategy for HIV antibody testing in Dar es Salaam, Tanzania. Abstract N° ?* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■		■	Δ				

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			I	R	N	O	P	A	B	C	D	E	F
163	1995	Urassa WK, Pallangyo K, Lyamuya E, Mbena E, Swai A, Bredberg-Rådén U, Sandström E, Mhalu FS, Biberfeld G. *Levels and variability of lymhocyte subsets and Beta-2 microglobin among HIV-1 seronegative individuals in relation to gender in Dar es Salaam, Tanzania. Abstract N° WeA765.* *Presented at the IXth International* ***Conference on AIDS and STD in Africa, December 11-14, Kampala.***	■			■		■	Δ					
164	1996	Kwesigabo G et al. *Declining prevalence of HIV-1 infection among young women in Bukoba town Tanzania: Effect of on-going intervention measures?* **Presented at the Health and Social Change in Africa Conference.** At Jimmy Fund Auditorium, Dana Faber Cancer Institute.			■	■					Δ		
165	1996	Bredberg-Rådén U, Lyamuya E, Albert J, Grankvist O, Mhalu F, Biberfeld G. *Evaluation of two DNA preparation procedures, two in-house HIV-1 PCR assays and the Amplicor HIV-1 test (Roche) using Tanzanian samples. Abstract 148-PW9.* *First European* ***Conference on Experimental AIDS Research, Cannes, France, March.***		■		■			Δ				
166	1996	Lyamuya EF, Urassa E, Mbena E, Kagoma C, Biberfeld G, Mhalu F. *Stabilization of HIV-1 seroprevalence in pregnant women in Dar es Salaam, Tanzania: Towards reaching a plateau phase? Abstract N° TuC2463.* *Presented at the XI International* ***Conference on AIDS, July 7-12, Vancouver.***	■			■			Δ				■
167	1996	Lyamuya EF, Mhalu FS, Schechter M, Eccheveria de Perez G, Wasi C, Biberfeld G, Vercauteren G. *Vercauteren G. Multicentre evaluation of alternative methods for CD4 lymphocyte determination.* *Abstract N° MoA513.* *Presented at the XI International* ***Conference on AIDS. July 7-12. Vancouver.***	■			■			Δ				
180	1997	Bakari M, Lyamuya E, Aris E, Chale S, Mugusi F, Josiah R, Magao P, Urassa W, Mhalu F, Pallangyo N, Sandström E, Biberfeld G, Pallangyo K. *Incidence of HIV-1 infection and syphilis in a cohort of police officers in Dar es Salaam, Tanzania. Abstract N° B406* *Xth International* ***Conference on AIDS and STD in Africa. Abidjan, Côte d'Ivoire, Dec 1997.***	■			■		Δ	■				
183	1997	Emmelin M, Comoro CJ, Dahlgren L, Killewo JZJ, Kwesigabo G, Mutembei A, Sandstrom A. *Long term affects of voluntary HIV testing with counselling in a rural village in Kagera Tanzania.* *Xth International* ***conference on AIDS and STD in Africa. Abidjan, Cote d´Ivoire.***	■			■					Δ		

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
186	1997	Kawo G, Karlsson K, Lyamuya E, Fataki M, Kazimoto T, Kalokola F, Kitundu J, Munubhi E, Msaky H, Östborn A, Bredberg-Rådén U, Swai A, Mbise R, Msengi A, Mhalu F, Biberfeld G. *Prevalence of HIV-1 infection and HIV-associated clinical features among hospitalized children in Dar es Salaam, Tanzania. Abstract N° B354.* *Xth International* ***Conference on AIDS and STD in Africa. Abidjan, Côte d'Ivoire, Dec.***	■			■			■				Δ
187	1997	Lyamuya E, Bredberg-Rådén U, Albert J, Kalliorinne P, Mhalu F, Biberfeld G. *Determination of HIV-1 subtypes in Tanzania by heteroduplex mobility assay (HMA). Abstract N° A400...* *Xth International* ***Conference on AIDS and STD in Africa. Abidjan, Côte d'Ivoire, Dec.***	■			■			Δ				
188	1997	Mbwana J, Masesa J, Mhalu F, Mwakagile D, sandström E. *Gonococcal susceptibility monitoring in Dar es Salaam, Tanzania. Abstract N° B672.* *Xth International* ***Conference on AIDS and STD in Africa. Abidjan, Côte d'Ivoire, Dec.***	■			■			Δ	■			
189	1997	Mwakagile D, Hussein F, Makwaya C, Mhalu F, Biberfeld G, Sandström E. *Characteristics of youths attending an STD clinic in Dar es Salaam, Tanzania. Abstract N° B489.* *Xth International* ***Conference on AIDS and STD in Africa. Abidjan, Côte d'Ivoire, Dec.***	■			■			■	Δ			
191	1997	Thorstensson R, Andersson S, Lindbäck S, Mhalu F, Dias F, Gaines H, Biberfeld G. *Evaluation of 15 HIV-1/HIV-2 antibody assays using serum panels of different geografical origins and clinical stages including a unique seroconversion panel. Abstract N° A117.* *Xth International* ***Conference on AIDS and STD in Africa. Abidjan, Côte d'Ivoire, Dec.***	■			■			Δ				
193	1998	Amir H., Kaaya EE., Kwesigabo G. Biberfeld P. *Clinical characteristics of Kaposi´s sarcoma in African women during the AIDS epidemic.* *National Multisectorial* ***AIDS conference in Tanzania. Arusha, Tanzania.***			■	■					■	Δ	
194	1998	Kwesigabo G, Killewo JZJ, Makwaya C, Urassa W, Mhalu F, Biberfeld G, Sandström A. *Decline in the prevalence and incidence of HIV-1 infection in population-based studies in Bukoba Urban, Kagera, Tanzania. Abstract N° 13114.* *12th World* ***AIDS Coference Geneva, June 28-July 3.***	■			■			■		Δ		
195	1998	Lyamuya E, Bredberg-Rådén U, Kalliorinne P, Olausson-Hansson E, Albert J, Mhalu F, Biberfeld G. *Genetic diversity of HIV-1 in Tanzania: use of heteroduplex mobility assay (HMA) for HIV-1 subtyping. Abstract N° 13110.* *12th World* ***AIDS Conference Geneva June 28-July 3.***	■			■			Δ				

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			I	R	N	O	P	A	B	C	D	E	F
196	1998	Mwakagile D, Mmari E, Makwaya C, Mhalu F, Biberfeld G, Sandström E. *Unusual characteristics of adolescents and youths attending a new special STD clinic for them in Dar es Salaam; a preliminary report. Abstract N° 22203.* *12th Worls* ***AIDS Conference Geneva June 28-July 3.***	■			■			■	Δ			
197	1998	Lyamuya E, Olausson-Hansson E, Albert J, Mhalu F, Biberfeld G. *Evaluation of an experimental Amplicor DNA PCR assay for the detection of HIV-1 DNA in blood samples from Tanzanian adults. Abstract N° 41155.* *12th World* ***AIDS Conference Geneva June 28-July 3.***	■			■			Δ				
198	1998	Pallangyo K, Bakari M, Lyamuya E, Mhalu F, Pallangyo N, Sandström E, Biberfeld G. *Incidence of HIV-1 infection and associated risk factors in a cohort of police officers in Dar es Salaam, Tanzania. Abstract N° 13108* *12th World* ***AIDS Conference Geneva June 28-July 3.***	■			■		Δ	■				
202	1998	Kwesigabo G, Killewo JZJ, Makwaya C, Urassa W, Mbena E, Mhalu F, Godoy K, Biberfeld G, Emmelin M, Wall S, Sandstrom A. *Monitoring of HIV-1 infection using sentinel populations: Experiences from Kagera region Tanzania.* *National Multisectoral* ***AIDS Conference Arusha Tanzania. 11-16 December.***			■	■			■		Δ		
206	1998	Urassa W, Mbena E, Mhalu F, Biberfeld G. *Reference values of lymphocyte subsets among healthy HIV seronegative adults in Dar es Salaam. Abstract N° 07.* *Presented at the National Multisectoral* ***AIDS conference in Tanzania, Arusha Dec.***			■	■			Δ				
209	1999	Massave A, Karlsson K, Lyamuya E, Kilewo C, Mhalu F, Biberfeld G et al. *Postnatal HIV transmission and breastfeeding in Dar es Salaam, Tanzania. Abstract N° 13ET5-3 page 16.* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■			■				Δ
210	1999	Kilewo C, Massawe A, Lyamuya E, Kalokola V, Urassa E, Semali I, Karlsson K, Mhalu F, Biberfeld G. *HIV testing of pregnant women in sub Sahara Africa: The Petra experience Dar es Salaam, Tanzania. Abstract N° 13PT 31-36 page 31.* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■			■				Δ
211	1999	Lyamuya E, Massawe A, Kilewo C, Karlsson K, Semali I, Mhalu F, Biberfeld G. *Lymphocyte subsets in relation to mortality in perinatally HIV-1 infected children in Dar es Salaam, Tanzania. Abstract N° 13PT5 2-4 page 47.* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■			Δ				■

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
212	1999	Mhalu F, Swai R, Pallangyo K, Gasarasi D, Kaijage F, Maselle S et al. *Expansion of national response against AIDS and HIV infection through a multisectoral AIDS conference. Experience from Tanzania. Abstract N° 14BT 2-2 page 57.* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■			Δ				
213	1999	Aris E, Moshi A, Bakari M, Chale S, Josiah R, Magao P, Pallangyo N, Sandström E, Biberfeld G, Mugusi F, Pallangyo K. *Prevalence of active tuberculosis among asymptomatic HIV-1 infected persons evaluated for INH prophylaxis in Dar es Salaam, Tanzania. Abstract N° 14PT55-22 page 100* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■		Δ	■				
214	1999	Malakasuka E, Mtanda M, Mmari E, Chalamila C, Mwakagile D, Mhalu F, Sandström E. *Individual and group counselling at a clinic specifically established for youths: The Dar es Salaam experience. Abstract N° 15PT15-8 page 122.* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■			■	Δ			
215	1999	Josiah R, Mugusi F, Moshi A, Chale S, Bakari M, Aris E, Magao P, Pallangyo N, Sandström E, Mhalu F, Biberfeld G, Pallangyo K. *Factors affecting response to voluntary councelling and HIV testing: Experience from a cohort of police officers in Dar es Salaam. Abstract N° 14DT4-1 page 64* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■		Δ	■				
217	1999	Urassa W, Mbena E, Mhalu F, Biberfeld G. *Reference values of lymphocyte subsets and natural killer cells among healthy HIV seronegative adults in Dar es Salaam. Abstract N° 13PT52-1 page 47.* *XIth International* ***Conference on AIDS/STDs in Africa. Lusaka, Zambia, 12-16 September.***	■			■			Δ				
219	1999	**Emmelin M, Comoro C, Mutembei A, Lugalla J, Killewo J, Kwesigabo G, Sandström A; Dahlgren L.** *The social transmission route of HIV-1 infection - The role of high risk environments in the rural area of the Kagera Region, Tanzania. Abstract No 14PT33-1.* *XIth International* ***Conference on AIDS and STDs in Africa, Lusaka Zambia.***	■			■					Δ		
220	1999	Kwesigabo G, Killewo JZJ, Makwaya C, Urassa W, Mbena E, Mhalu F, Godoy C, Biberfeld G, Lugalla JLP, Emmelin M, Wall S, Sandstrom A. *Decline in the prevalence and incidence of HIV-1 infection in Kagera Region Tanzania: A result of behavioural change? Resistance to behavioral changes to reduce HIV/AIDS infection in Predominantly heterosexual epidemics in Third world countries Conference held the National Australian University Canberra,* ***Australia April 28th to 30th 1999.***			■	■			■		Δ		

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
221	1999	Killewo JZJ, Kwesigabo G, Makwaya CK, Mutembei A, Emmelin M, Dahlgren L, Wall S, Sandstrom A. *Evaluation of AIDS related intervations as a learning tool for course participants. Abstract No 15PT38-1.* *XIth International* ***Conference on AIDS and STDs in Africa, 12-16 September, Lusaka Zambia.***	■			■			■		Δ		
222	1999	Kwesigabo G, Killewo JZJ, Makwaya C, Urassa W, Mbena E, Wall S, Sandstrom A. *Monitoring of HIV-1 infection prevalence and trends in the general population using pregnant women as a sentinel population: Experiences from the Kagera Region of Tanzania. Abstract No 14ET3-3.* *XIth International* ***Conference on AIDS and STDs in Africa, 12-16 September, Lusaka Zambia.***	■			■			■		Δ		
228	2000	Bakari M, Aris E, Chale S, Josiah R, Magao P, Moshi A, Mugusi F, Pallangyo N, Lyamuya E, Sandström E, Biberfeld G, Mhalu F, Pallangyo K. *The prevalence and pattern of skin diseases among HIV infected police officers in Dar es Salaam, Tanzania. (Abstract)* *XIII International* ***AIDS Conference in Durban, South Africa.***	■			■		Δ	■				
229	2000	Chale S, Bakari M, Aris E, Moshi A, Magao P, Mugusi F, Josiah R, Pallangyo N, Lyamuya E. *Field lessons in preparing a cohort for HIV vaccine trials; experience with police officers in Dar es Salaam, Tanzania. (Abstract)* *XIII International* ***AIDS Conference. Durban, South Africa.***	■			■		Δ	■				
232	2000	Mugusi F, Josiah R, Moshhi A, Chale S, Bakari M, Aris E, Magao P, Pallangyo N, Sandström E, Mhalu F, Biberfeld G, Pallangyo K. *Pulmonary tuberculosis and abnormal radiographic appearances in a cohort of police officers being prepared for a HIV vaccine in Dar es Salaam, Tanzania. (Abstract)* *XIII International* ***AIDS Conference. Durban, South Africa.***	■			■		Δ	■				
233	2000	Urassa W, Nozohour S, Karama K, Sufi F, Mhalu F, Biberfeld G. *Evaluation of an alternative confirmatory strategy for HIV infection based on simple rapid assays in Tanzania. (Abstract)* *XIII International* ***AIDS Conference. Durban, South Africa.***	■			■			Δ				
250	2001	Urassa, W., Bakari, M., Sandström, E., Swai, A., Pallangyo, K., Mbena E., Mhalu, F., Biberfeld, G. *Rate of decline of absolute and percent CD4+ T lymphocytes in HIV infected adults: Tanzanian experience. Abstract.* *XII International* ***Conference on AIDS/STD in Africa, Ouagadougou, Burkina Faso. December.***	■			■		■	Δ				
251	2001	Chalamilla, G., Mbwana, J., Mhalu, F.S., Mmari, E., Swai, A., Sandström, E. *Patterns of sexually transmitted infections (STIs) in youths and adolescents in Dar es Salaam, Tanzania. Abstract.* *XII International* ***Conference on AIDS/STD in Africa, Ouagadougou, Burkina Faso.***	■			■				Δ			

N°	Year	Authors/Title/Conference/Place	Type of Conf/Present.					Project					
			I	R	N	O	P	A	B	C	D	E	F
252	2001	Chalamilla, G., Mbwana, J., Mhalu, F.S., Lyamuya, E., Swai, A. Sandström, E. *Treatment outcome of urethral discharge syndrome in the male in Dar es Salaam, Tanzania. Abstract.* *XII International* ***Conference on AIDS/STD in Africa, Ouagadougou, Burkina Faso.***	■			■				Δ			
253	2001	Mbwana, J., Mhalu, F., Moshiro, C., Sandström. E. *Antimicrobial susceptibilities of recent N.gonorrhoeae strains in Dar es Salaam, Tanzania: implications for modification of current treatment guidelines. Abstract.* *XII International* ***Conference on AIDS/STD in Africa, Ouagadougou, Burkina Faso.***	■			■			■	Δ			
255	2001	Bakari, M., Urassa, W., Swai, A., Pallangyo, K., Mbena, E., Mhalu, F., Biberfeld, G., Sandström, E. *Natural course of HIV-1 infection in Dar es Salaam, Tanzania; Clinical events in relation to CD4+ lymphocyte counts. Abstract.* *XII International* ***Conference on AIDS/STD in Africa, Ouagadougou, Burkina Faso. December.***	■			■		Δ	■				

Table 3.: Reproductive Health Programme (Articles)

By Type of Journal

I: International
R: Regional
N: National

By Project

Project A: Maternal Mortality: a community-based study in Dar es Salaam, Tanzania.
Project B: Assessment of a programme for prevention and management of anaemia in pregnancy at primary health care level in Dar es Salaam, Tanzania.
Project C: Recognition of risk factors by mothers during pregnancy
Project D: Mother's concerns expressed at one and six weeks postpartum follow-up in Dar es Salaam / The impact of a post partum promotion and support programme in Dar es Salaam, Tanzania
Project E: Quality of MCH/FP/Delivery services in decentralised and non-decentralised context in Rufiji and Kisarawe districts, Tanzania

Symbols

Δ Principal project authorship
■ Project collaborated

Published articles

N°	Year	Authors/Title/Journal	Type of Journal			Project				
			I	R	N	A	B	C	D	E
1	1994	Urassa E, Massawe S, Mgaya H, Lindmark G and Nyström L. *Female mortality in reproductive ages in Ilala District, Dar-es-Salaam, Tanzania 1991-1992.* ***East African Med J, 71(4); 226-231, 1994.***		■		Δ				
2	1994	Mlay R, Massawe S, Lindmark G, Nyström L. *Recognition of risk factors in pregnancy among women attending antenatal clinic at Mbagala, Dar es Salaam.* ***East African Med J, 71: 60-64, 1994.***		■				Δ		
3	1994	Lugina HI, Sommerfeld DMP. *Postpartum concerns: a study of Tanzanian mothers.* ***Health Care International, 15:225-233, 1994***.	■						Δ	

N°	Year	Authors/Title/Journal	Type of Journal			Project				
			I	R	N	A	B	C	D	E
4	1995	Urassa E, Lindmark G and Nyström L. *Maternal Mortality in Dar-es Salaam, Tanzania: Socioeconomic, obstetric history and accessibility of health care factors.* ***Afr J Health Sci, 2: 242-49, 1995.***	■			Δ				
5	1995	Massawe S, Urassa E, Lindmark G and Nyström L. *Anaemia in Pregnancy: Perceptions of patients in Dar-es-Salaam.* ***East African Med J, 72(8):498-503, 1995.***		■			Δ			
6	1996	Urassa E, Massawe S, Lindmark G and Nyström L. *Maternal Mortality in Tanzania: medical causes are interrelated with socio-economic and cultural factors* ***S Afr Med J, 86:436-444, 1996.***		■		Δ				
7	1996	Massawe S, Urassa E, Lindmark G, Möller B and Nyström L. *Anaemia in pregnancy: a major health problem with implications for maternal health care.* ***Afr J Health Sci, 3: 126-132, 1996.***	■				Δ			
8	1997	Urassa E, Massawe S, Lindmark G and Nyström L. *Operational factors affecting maternal mortality in Tanzania.* ***Health Policy and Planning, 12: 50-57, 1997.***	■			Δ				
9	1999	Massawe SN, Urassa ENJ, Mmari M, Ronquist G, Lindmark G, and Nyström L. *The complexity of pregnancy anemia in Dar-es-Salaam.* ***Gyn Obstet Invest, 47:76-82, 1999.***	■				Δ			
10	1999	Massawe S, Urassa E, Lindmark G, Nyström L. *Effectiveness of primary level antenatal care in decreasing anemia at term in Tanzania.* ***Acta Obstet Gynecol Scand, 78: 573-579, 1999***	■				Δ			
11	in press	Lugina HI, Christensson K, Massawe S, Nyström L, Lindmark G. *Change in maternal concerns during the postpartum period: a study of primiparous mothers in Dar es Salaam.* ***J Midwifery Women Health.***	■						Δ	
12	in press	Lugina HI, Johansson E, Lindmark G, Christensson K. *Developing a theoretical framework on postpartum care from Tanzanian midwives' views on their role.* ***J Midwifery Women Health.***	■						Δ	
13	in press	Lugina HI, Johansson E, Lindmark G, Christensson K. *Tanzanian midwives' views on becoming a good resource and support person for postpartum women.* ***J Midwifery Women Health.***	■						Δ	
14	under revision	Massawe S, Urassa E, Lindmark G, Nyström L. *Anaemia - a chronic reproductive health problem in women in Dar-es-Salaam, Tanzania.* ***Acta Tropica, Submitted***	■				Δ			

N°	Year	Authors/Title/Journal	Type of Journal			Project				
			I	R	N	A	B	C	D	E
15	Submitted	Lugina HI, Nyström L, Christenson K, Lindmark G. *Interview and card sort: impact of order of method administration and sensitivity for assessing mothers concerns in the postpartum period.* ***Journal of Advanced Nursing.***	■						Δ	
16	Submitted	Massawe S, Ronquist G, Nyström L, Lindmark G. *Iron status and sideropenic anaemia in adolescents in a Tanzanina suburban area.*					Δ			
17	Submitted	Urassa D, Carlstedt A, Nyström L, Massawe S, Lindmark G. *Quality assessment of the antenatal program for anaemia in rural Tanzania.*								Δ
18	Manuscripts	*Urassa E, Massawe S, Lindmark G and Nyström L. Survival patterns and coping mechanisms of children after maternal deaths.*				Δ				
19	Manuscripts	Urassa E, Massawe S, Lindmark G and Nyström L. Maternal mortality serveillance in Ilala district, Tanzania 1991-95. Need for a comprehensive approach.				Δ				
20	Manuscripts	Mlay Rose, Lindmark G, Nyström L, Christensson K. Survival for self and fetus: Tanzanian women's perceptions of what is needed for healthy pregnancy.						Δ		
21	Manuscripts	Urassa D, Carlstedt A, Nyström L, Msamanga G J, Lindmark G. Management of hypertension as a quality indicator of antenatal care in rural Tanzania								Δ
22	Manuscripts	Urassa D, Carlstedt A, Nyström L, Massawe S, Lindmark G. Process indicators and quality of obstetric care in Rufiji district, Tanzania.								Δ

Table 4.: Reproductive Health Programme List of Abstracts

By Type of Conference/presentations

I: International
R: Regional
N: National
O: Oral
P: Poster

By Project

Project A: Maternal Mortality: a community-based study in Dar es Salaam, Tanzania.
Project B: Assessment of a programme for prevention and management of anaemia in pregnancy at primary health care level in Dar es Salaam, Tanzania.
Project C: Recognition of risk factors by mothers during pregnancy
Project D: Mother's concerns expressed at one and six weeks postpartum follow-up in Dar es Salaam/The impact of a post partum promotion and support programme in Dar es Salaam, Tanzania
Project E: Quality of MCH/FP/Delivery services in decentralised and non-decentralised context in Rufiji and Kisarawe districts, Tanzania

Symbols

Δ Principal project authorship
■ Project collaborated

Abstracts

N°	Year	Authors/Title/Conference/Place	Type of Abstracts					Project				
			I	R	N	O	P	A	B	C	D	E
1	1992	Urassa E, Massawe S, Mgaya H, Nyemi S, Lindmark G and Nyström L. *Female deaths in Ilala district, Dar-es-Salaam.* *National Institute for Medical Research, 10th joint Annual Scientific Conference,* ***Arusha 19-24 February 1992.***			■	Δ		Δ				
2	1993	Urassa EJN, Massawe S, Mgaya H, Lindmark G and Nyström L. *Female deaths in Ilala district, Dar-es-Salaam, Tanzania.* *3rd SAREC Regional Workshop on Reproductive Health (East, Central and Southern Africa).* ***Lusaka, Zambia, March 1993***		■		Δ		Δ				

N°	Year	Authors/Title/Conference/Place	Type of Abstracts					Project				
			I	R	N	O	P	A	B	C	D	E
3	1993	Mlay R, Massawe S, Lindmark G and Nyström L. *Recognition of risk factors among pregnant women attending the antenatal care clinic at Mbagala in Dar-es-Salaam. 3rd SAREC Regional Workshop on Reproductive Health (East, Central and Southern Africa).* ***Lusaka, Zambia, March 1993.***		■		Δ				Δ		
4	1993	Massawe S, Urasse E, Lindmark G and Nyström L. *Perceptions and experiences of anaemia in pregnancy amongst pregnant women in Dar-es-Salaam. 3rd SAREC Regional Workshop on Reproductive Health (East, Central and Southern Africa).* ***Lusaka, Zambia, March 1993***		■		Δ			Δ			
5	1994	Lugina H, Mwanga F, Massawe S, Lindmark G and Nyström L. *Mothers concerns expressed at one and six weeks postpartum* *4th SAREC International Workshop on Reproductive Health in Africa,* ***Maputo, Mozambique, March 1994.***		■		Δ					Δ	
6	1994	Urassa E, Massawe S, Lindmark G and Nyström L. *Maternal mortality in Dar-es-Salaam.* *4th SAREC International Workshop on Reproductive Health in Africa,* ***Maputo, Mozambique, March 1994.***		■		Δ		Δ				
7	1994	Urassa E, Massawe S, Lindmark G and Nyström L. *Abortion and maternal deaths in Ilala district, Dar-es-Salaam.* *4th SAREC International Workshop on Reproductive Health in Africa,* ***Maputo, Mozambique, March 1994.***		■		Δ		Δ				
8	1994	Urassa E J N, Massawe S, Lindmark G and Nyström L. *Maternal Mortality in Dar-es-Salaam. Proc XIV FIGO World Conference,* ***Montreal 1994.***	■			Δ		Δ				
9	1994	S. Massawe, E. Urassa, Lindmark G, Nyström L. Anaemia in pregnancy in Dar es Salaam. ***FIGO conference Montreal 1994.***	■			Δ			Δ			
10	1995	Asser I, Massawe S, Lindmark G and Nyström L. *A comparison of complications between postpartum and interval intrauterine device insertions at Muhimbili Medical Centre, Dar-es-Salaam, Tanzania. 5th SAREC Regional Reproductive Health Workshop, Nyanga,* ***Zimbabwe, March 1995.***		■		Δ						
11	1995	Massawe S, Urassa E, Mmari M, Lindmark G and Nyström L. *The aetiology of anaemia in pregnancy in Dar-es-Salaam, with special reference to the contribution of malaria to anaemia during pregnancy. 5th SAREC Regional Reproductive Health Workshop, Nyanga,* ***Zimbabwe, March 1995.***		■		Δ			Δ			
12	1995	S. Massawe, E. Urassa, Lindmark G, Nyström L. Anaemia in pregnancy: Perceptions and experience of women in Dar es Salaam. Medical women institutional (MWTA) congress The ***Hagne. 1995.***	■			Δ			Δ			

N°	Year	Authors/Title/Conference/Place	Type of Abstracts					Project				
			I	R	N	O	P	A	B	C	D	E
13	1996	Lugina H, Mwanga F, Massawe S, Lindmark G, Nyström L, Christensson K. Postpartum midwife care; mother concern expressed at one and six week postpartum follow-up in: Dar es Salaam 6th SAREC Regional Reproductive Health Workshop- 18th-22 March. ***Dar es Salaam, Tanzania, 1996.***			■	Δ					Δ	
14	1996	Urassa E. Follow-up of families of maternal deaths. 6th SAREC Regional Reproductive Health Workshop 18th-22 March. 1996, ***Dar es Salaam, Tanzania.***			■	Δ		Δ				
15	1996	Massawe S, Urassa E, Lindmark, G and Nyström L. Effectiveness of Anaemia Control program in Antenatal clinic at Primary Health Care level in Dar es Salaam 18th-22 March, 1996, ***Dar es Salaam, Tanzania.***			■	Δ			Δ			
16	1997	Massawe S, Urassa E, Lindmark G, Nyström L. *Effectiveness of an antenatal programme on maternal anaemia in Tanzania.* *Proc XV FIGO World Conference,* ***Copenhagen 1997****.*	■			Δ			Δ			
17	1997	Asser I, Massawe S, Lindmark G. *Rape victims in Dar-es-Salaam, Tanzania* *Proc XV FIGO World Conference,* ***Copenhagen, 1997***	■			Δ						
18	1997	Urassa E, Massawe S, Lindmark G, Nyström L. *Survival and copying mechanisms of families after maternal death.* *Proc XV FIGO World Conference,* ***Copenhagen 1997.***	■			Δ		Δ				
19	1997	S.M. Massawe EIN Urassa, G Lindmark, L Nyström. Effectiveness of maternal program on maternal anaemia. Pan African Maternal and Child Health Conference (PAFMACH) September 1997. ***Johannesburg South Africa.***	■			Δ			Δ			
20	2000	Urassa D, Carlstedt A, Lindmark G. *Antenatal care in rural Africa - is there a benefit?* *Proc XVI FIGO World Conference,* ***Washington September 3-8, 2000.***	■			Δ						Δ
21	2000	E. Hizza Rape and Child Sexual abuse. 3th ECSAOGS scientific conference 6th-8th March, 2000, ***Dar es Salaam, Tanzania.***		■		Δ						
22	2000	Kapona F et al –Reproductive Health Database, a tool for monitor and evaluation. 3th ECSAOGS Scientific conference 6th-8th March, 2000 ***Dar es Salaam, Tanzania.***		■		Δ						
23	2000	D. Urraza et al. Antenatal Care in rural Tanzania. Is there a benefit? 3th ECSAOGS scientific conference 6th-8th March, 2000. ***Dar es Salaam, Tanzania.***		■		Δ						Δ
24	2000	Sirel Massawe. *Anaemia in women of reproductive age in Tanzania.* Co-author Ernest Urassa, Gunilla Lindmark, Lennarth Nyström. Proceeding from NORFA workshop on Reproductive Health Research in Gotland 23-27th in ***Stockholm 2000.***	■			Δ			Δ			

Appendix 5

Various Forms of Capacity Strengthening by Departments

Department of Microbiology/Immunology, MUCHS

1. Mhalu, Fred. MD. Professor. Department of Microbiology and Immunology, MUCHS. Program Coordinator since 1986.

2. Lyamuya, Eligius. MD, M. Med, PhD. Associate Professor Head of Department of Microbiology/Immunology, MUCHS. (see list of PhD degrees).

3. Urassa, Willy. MD, M. Med, M.Sc. Senior Lecturer, Department of Microbiology/Immunology, MUCHS (see list of M.Sc degrees).

4. Mwakagile, Davis, MD, M. Med. Department of Microbiology/Immunology. Promoted from Lecturer to Senior Lecturer through project publications.

5. Mbena, Ephrain, M.Sc. Health lab. Scientist. Department of Microbiology/Immunology, MUCHS (see list of M.Sc. degrees). Visited SMI for training.

6. Mbwana, Judica. M.Sc. Health lab. Scientist. Department of Mircobiology/Immunology, MUCHS (see list of M.Sc. degrees).

7. Ijumba, P. Microbiologist. Promoted from Assistant Lecturer to Lecturer partly through the TANSWED programme. Went abroad with husband.

8. Msangi, Viola. Lab. Technologist. Department of Microbiology/Immunology, MUCHS. Visited SMI, Stockholm twice for training in immunological and virological HIV work. Still working part time within the TANSWED projects.

9. Kagoma, Charles. Lab. Technologist, previously at MUCHS. Received training at SMI. Now WORKING WITH ONE OF THE American research projects at MUCHS.

10. Karama, Kulthum. Lab. Technologist, previously at MUCHS. Received training at SMI. Now studying for a B.Sc. degree in England (not within the TANSWED programme).

11. Matunda, Sylvester. Lab. Technologist previously at MUCHS. Received training at SMI. Has left MUCHS.

Department of Internal Medicine

1. Pallangyo, Kisali. MD Professor, Depart. of Internal Medicine, MUCHS. Dean of MUCHS. Principal investigator of Project 1 (natural history) and J (studies of police officers mainly for preparation for HIV vaccine trials. Promoted from lecturer to senior lecturer associate professor to professor mainly through work within the TRANSWED programme.

2. Swai, Andrew. MD, M Med. Professor. Dept of Internal Medicine. Working mainly with data management and statistics in the TRANSWED programme. Promoted from associate professor to professor through work within the project.

3. Bakari, Muhammed. M, M MED. Dept of Internal Medicine. Registered PhD student at Karolinska Institute (Projects 1 and J).

4. Aris, Eric. MD, M MED Dept of Internal Medicine

5. Chale, Stella, MD, M MED. Dept of Internal Medicine

6. Jossiah, P. MD, Dept of Internal Medicine

7. Magao, P. MD, Dept of Internal Medicine

8. Moshi, Adelaide. MD, M Med. Dept of Internal Medicine

9. Mugusi, Ferdinand. MD, M Med. Dept of Internal Medicine

Departments of Pathology and Surgery. Tanzania Tumor Centre

1. Kitinya, James. MD Professor. Dept of Pathology, MUCHS. Promoted from associate professor to professor partly through work within TRANSWED programme. Retired but is still active within the TANSWED programme.

2. Kaaya, Ephata. MD, PhD. Associate professor. Head of the Dept of Pathology (See list of PhD degrees) – Did a PhD within the project.

3. Mgaya, Edward. MD, M MED. Dept of Pathology. Research training at Karolinska Institute/Hospital. Promoted from lecturer to senior lecturer partly through work within the project.

4. Massambu, Charles D.Ds (dentist) M Med. Dept of Pathology. Registered for MSc degree at the Karolinska Institute.

5. Chande, Hassan. MD. Cytologist, Pathologist at Dept. of Pathology, MUCHS. Training in cytology at the Karolinska Institute.

6. Luande, Jeff. MD. Oncologist, Tanzania Tumor Centre.

7. Lema, Leonard. MD, M.Med. Surgeon. MUCHS. Promoted from Senior Lecturer to Associate Professor partly through research in the TANSWED project.

8. Amir, Hassan. MD. Surgeon. MUCHS. Promoted from Associate Professor partly through the work within the project. Resigned on medical grounds. Left for Canada.

9. Carneiro P. MD. Paediatric Surgeon, MUCHS. Promoted to Associate Professor partly through work within the project.

Laboratory Technologists

10. Nelson. Vera. Lab. Technologist. Dept. of Pathology, MUCHS. Received training at the Immunopathology laboratory at Karolinska Hospital/Institute.

11. Magogo, Angelica. Lab. Technologist. Dept of Pathology, MUCHS. Received training at the Immunopathology laboratory Karolinska Hospital/Institute.

Funded by SAREC under thematic programme
Project F. HIV infection in women and children. Mother-to-child transmission (MTCT) of HIV. Department of Paediatrics and Obstetrics

1. Urassa, Ernest. MD, Obstetrician. Died 2001. was for several years principal investigator of HIV projects related to obstetrics/gynecology. Was then mainly involved in the SAREC supported projects on Reproductive health. Was promoted from senior lecturer to associated professor partly through work within the TANSWED projects.

2. Kilewo, Charles. MD, M MED. Obstetrician. Dept. of Obstetrics/Gynecology. Now one of the principal investigators of the projects on MTCT of HIV including the SAREC supported MITRA study. Was also one of the principal investigators in the WHO/UNAIDS coordinated SAREC supported PETRA trial (prevention of MTCT of HIV by antiretroviral treatment). Registered as PhD student at the Karolinska Institute in infections disease control (Swedish supervisor Gunnel Biberfeld. Tanzania supervisors Fred Mhalu, Andrew Swai). Registered beginning 2001.

3. Massawe, Augustine. MD. Peadiatrician. One of the principal investigators of the project on MTCT including the MITRA study and the previous PETRA trial. Promoted from lecturer to senior lecturer partly through work within the SAREC supported projects.

4. Mgone, Charles. MD, M Med. Paediatrician. Participated in the early peadiatric studies. Was promoted from senior lecturer to associate professor partly through the project. Left for PhD studies in genetics in England and went subsequently to New Guinea. He went to London.

5. Msemo, Gerladine. MD. Pedatrician, MUCHS. Previously in Paediatrics TANSWED studies. Now in the MITRA study.

6. Kazimoto, T. MD. Pediatrian, MUCHS. Participating in the Paediatric TANSWED studies. Participated also in the PETRA trial. Promoted from lecturer to senior lecturer partly through the SAREC supported projects.

7. Kalokola, F. MD. Pediatrician. Promoted to senior lecturer partly through work in the project. Now participating in the SAREC supported MITRA study.

8. Dr. N. G. Kawo. Left for private business.

The MTCT PETRA study (Prevention of mother-to-child transmission of HIV) same mothers and same babies as in TANSWED.

Strengthening of infrastructure at MUCHS and conferences organised

1. Laboratory equipment: flow cytometer, coulter counter MD18, beta-plate, PCR machine, safely hoods, generators, freezers (including -70^0 and -20^0).

2. Laboratory refurbishment: HIV serology laboratory, cellular immunology laboratories (2 rooms), PCR facilities (3 rooms).

3. Containers for storage

4. Container office for epidemiology

5. Furnished several offices (furniture from SBL/SMI)

6. Refurbishment of a clinic for the PETRA trial and follow up mother-to-child pairs in project F.
7. Refurbishment of a room at the maternity block
8. Refurbishment of an STD clinic at Muhimbili Hospital and in the city.
9. Office equipment: computers, printers, fax machine.
10. Vehicles
11. Journal subscriptions which are for use by the program e.g AIDS, international journal AIDS and STDs.

Abridged Conferences organized in Tanzania

1. 1988 3rd Int. Conference on AIDS in Africa. Arusha. Tanzania. Conference chair Fred Mhalu. Frist AIDS in Africa conference held in 'Africa. Initiated through the TANSWED collaborative project.
2. 1998 1st Multisectional AIDS conference in Tanzania (Arusha) . Report.
3. 2000, March. Clinical AIDS/HIV management seminar. Proceedings.
4. 2001, July 16–18. National workshop on HIV vaccine strategy plan for Tanzania (held in Bahari Beach, Dar es Salaam).

Dept of Epidemiology and Biostatistics

Staff support

1. Japhet Killewo was trained in Epidemiology and field research methodology in Umea (1988).
2. George Lwihula was trained in Epidemiology field research Methodology in Umea (1998).
3. Japhet Killewo was trained in advanced research methods in London (1989).
4. Various support staff (ten) from Muhimbili Medical Centre were trained on word processing (1989).
5. 25 Researchers from Muhimbili Medical Centre were trained on the use of microcomputers in research (These were from SAREC-sponsored research projects (1989).
6. Gideon Kwesigabo was trained in Epidemiology and field research methodology in Umea (1990).
7. Japhet Killewo was trained in advanced methods of Epidemiology: New England Inc., Tufts University Cambridge, MA USA (1992)
8. Dr. Samson Winani was trained in field research methodology in Umea (1992)
9. Japhet Killewo completed his PhD programme (1994).
10. Gideon Kwesigabo was trained in Health Systems Research for Development in the Karolinska Institute, Stockholm, Sweden (1993)

11. Gideon Kwesigabo was trained in Epidemiology field research methodology part II in Umea (1994).

12. Cyprian Makwaya was trained in Epidemiology and field research methodology Umeå (1995).

13. Innocent Semali was trained in Epidemiology and field research methodology in the Umeå (1995).

14. Saidi Kapiga was trained in Epidemiology and field research methodology in the Umeå (1995).

15. Sylvester Joel visited Umeå University to attend the Epidemiology and field research methodology course (1996).

16. Japhet Killewo was promoted from Senior Lecturer to Associate professor due to publications from KARP (1996)

17. Rose Mpembeni completed her short course in reproductive health Epidemiology in the University of London, UK (1996).

18. Gideon Kwesigabo attended short courses in advanced Biostatistics and Epidemiology at the Tufts University, Cambridge, USA (1996).

19. Aldin Mutembei was trained in Epidemiology and field research methodology in Umea (1997).

20. Gideon Kwesigabo was supported by SAREC to be attached to the Harvard medical school in Boston USA where he spent three months as a research fellow (1999).

21. Gideon Kwesigabo completed his PhD programme in Umea (2001)

Other support

1. Support for computer room(renovation and computer purchase) for department of epidemiology and bio-statistics
2. Renovation of Community Medicine lecture room
3. Renovation of MSc. TDC lecture room
4. Purchase of audiovisuals for departmental use in teaching
5. Renovation of container offices in the department and in Kagera.

LIST OF PARTICIPANTS THAT HAVE TAKEN THE "SUMMER COURSE" IN EPIDEMIOLOGY AND FIELD RESEARCH METHODOLOGY AT EPIDEMIOLOGY, DEPT OF PUBLIC HEALTH AND CLINICAL MEDICINE 1988-2000

Namn	Instadress	Ort	Land	Kursår
Japhet Killewo	Muhimbili Medical Centre	Dar-es-Salaam	Tanzania	1988
Reverianus Gabone	Mwanza medical Research	Mwaza	Tanzania	1988
Nicolas Valerian	Tanzania Food and Nutrition	Dar-es-Salaam	Tanzania	1988
Petrida Yjumba	Dept of Microbiology and	Dar-es-Salaam	Tanzania	1989
Ernest Urassa	Dept of Obstetrics &	Dar-es-Salaam	Tanzania	1990
Judith Mutamba	Nutrition Unit, Ministry of	Dar-es-Salaam	Tanzania	1990
Gideon Kwesigabo	Dept of Epidemiology and	Dar-es-Salaam	Tanzania	1990 + 1994
Rose Kingamkono	Tanzania Food and Nutrition	Dar-es-Salaam	Tanzania	1990 + 1994
Willy Urassa	Dept of Microbiology &	Dar-es-Salaam	Tanzania	1990 + 1994
Siriel Massawe	Dept of Obstetrics and	Dar-es-Salaam	Tanzania	1990
George Lwihula	Muhimbili Medical Centre,	Dar-es-Salaam	Tanzania	1990
Grace Kawo	Dept of Pediatrics & Child	Dar-es-Salaam	Tanzania	1992 + 1995
Charles Killewo	Muhimbili Medical Centre	Dar-es-Salaam	Tanzania	1992
Wilbald Lorri	Tanzania Food & Nutrition	Dar-es-Salaam	Tanzania	1992
Karim Manji	Muhimbili Medical Centre	Dar-es-Salaam	Tanzania	1992
Augustine Massawe	Muhimbili Medical Centre	Dar-es-Salaam	Tanzania	1992 + 1994
Samson Winani	Kagera Regional Hospital	Bukoba	Tanzania	1992
Simon Rupia Tatala	Tanania Food and Nutrition	Dar-es-Salaam	Tanzania	1993
Godfrey Mbaruku	Regional Hospital, Maweni	Kigoma	Tanzania	1994
Muhammad Bakari	Dept of Internal Medicine	Dar-es-Salaam	Tanzania	1995
Indidra Asser	Dept of Obstetrics &	Dar-es-Salaam	Tanzania	1995
Wincesiaus Bategeki	Tanzania Food and Nutrition	Dar-es-Salaam	Tanzania	1995
Sylvia Kaya	Department of Psychiatry	Dar-es-Salaam	Tanzania	1995
Theodora Kazimoto	Muhimbili Univerisity of Health	Dar-es-Salaam	Tanzania	1995
Saidi Kapiga	Dept of Epidemiolog and	Dar-es-Salaam	Tanzania	1995
Gloria Sangiwa	Dept of Psychiatry	Dar-es-Salaam	Tanzania	1995
Innocent Semali	Dept of Epidemiology and	Dar-es-Salaam	Tanzania	1995
Sylvester Joel	Regional Aids Control	Bukoba	Tanzania	1996
Mary Ntukula	Teenage reproductive health	Dar-es-Salaam	Tanzania	1996
Hassan Amir	Department of Surgery	Dar-es-Salaam	Tanzania	1997
Elizabeth Katherine	Dept of Obstetrics and	Dar-es-Salaam	Tanzania	1997
Helen Lugina	Faculty of Nursing	Dar-es-Salaam	Tanzania	1997
Fred Mhalu	Dept of Microbiology &	Dar-es-Salaam	Tanzania	1997
Aldin Mutembei	Dept of Kiswahili	UDSM	Tanzania	1998
Feddy Mwanga	Faculty of Nursing	MUCHS	Tanzania	1999
Josiah Mwanri	Dept of Internal Med	MUCHS	Tanzania	1999
Judica Mbwana	Dept of Microbiology	MUCHS	Tanzania	2000
Sophia Mushi	Dept of Pediatrics	Dar-es-Salaam	Tanzania	2000

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Department for Natural Resources and the Environment

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Department for Democracy and Social Development

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Department for Democracy and Social Development

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