THE UNITED REPUBLIC OF TANZANIA

NATIONAL AIDS CONTROL PROGRAMME


MARCH, 2000
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MARCH, 2000
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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immuno-Deficiency Syndrome</td>
</tr>
<tr>
<td>AMREF</td>
<td>African Medical and Research Foundation</td>
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<tr>
<td>AZT</td>
<td>Azidothymidine/zidovudine</td>
</tr>
<tr>
<td>BAKWATA</td>
<td>Baraza Kuu la Waislam Tanzania - The Muslim Council of Tanzania.</td>
</tr>
<tr>
<td>BMC</td>
<td>Bugando Medical Center</td>
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<tr>
<td>CHAWATIATA</td>
<td>Chama cha Waganga wa Tiba ya Asili, Tanzania</td>
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<tr>
<td>COSTEC</td>
<td>Commission of Science and Technology</td>
</tr>
<tr>
<td>CSW</td>
<td>Commercial Sex Workers</td>
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<tr>
<td>DMO</td>
<td>District Medical Officer</td>
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<tr>
<td>DPS</td>
<td>Director of Preventive Services</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>GTZ</td>
<td>German Agency for International Development</td>
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<td>HBC</td>
<td>Home Based Care</td>
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<td>HSR</td>
<td>Health Systems Research</td>
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<tr>
<td>HTA</td>
<td>High Transmission Areas</td>
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<td>HCW</td>
<td>Health Care Workers</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus.</td>
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<tr>
<td>IDM</td>
<td>Institute of Development and Management</td>
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<tr>
<td>IEC</td>
<td>Information Education Communication</td>
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<tr>
<td>INH</td>
<td>Isoniazid</td>
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<tr>
<td>ITM</td>
<td>Institute of Traditional Medicine</td>
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<tr>
<td>KCMC</td>
<td>Kilimanjaro Christian Medical Center</td>
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<tr>
<td>MCDWAC</td>
<td>Ministry of Community Development Women, Affairs and Children</td>
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<td>MJCA</td>
<td>Ministry of Justice and Constitutional Affairs</td>
</tr>
<tr>
<td>MLYD</td>
<td>Ministry of Labour and Youth Development</td>
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<tr>
<td>MMC</td>
<td>Muhimbili Medical Center</td>
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<tr>
<td>MOEC</td>
<td>Ministry of Education and Culture</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MRALG</td>
<td>Ministry of Regional Administration and Local Government</td>
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<tr>
<td>MTCT</td>
<td>Mother To Child Transmission</td>
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<td>MTP</td>
<td>Medium Term Plan</td>
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<tr>
<td>MUCHS</td>
<td>Muhimbili University College of Health Sciences</td>
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<td>MUTAN</td>
<td>Mpango wa Kudhibiti UKIMWI Tanzania na Norway</td>
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<tr>
<td>MSD</td>
<td>Medical Supplies Department</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<td>NAC</td>
<td>National AIDS Committee</td>
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<td>NACP</td>
<td>National AIDS Control Programme</td>
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<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<td>NIMR</td>
<td>National Institute of Medical Research</td>
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<tr>
<td>NSWTI</td>
<td>National Social Welfare Training Institute</td>
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<tr>
<td>PASADA</td>
<td>Pastoral Activities Services on AIDS in Dar-es-Salaam Archdiocese</td>
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<tr>
<td>PSI</td>
<td>Population Service International</td>
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<td>PLWHA</td>
<td>People Living with HIV/AIDS</td>
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<td>PMO</td>
<td>Prime Minister’s Office</td>
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<tr>
<td>REPOA</td>
<td>Research on Poverty Alleviation</td>
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<tr>
<td>RMO</td>
<td>Regional Medical Officer</td>
</tr>
<tr>
<td>SAREC</td>
<td>Swedish Agency for Research Co-operation with Developing Countries</td>
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<tr>
<td>SHDEPHA+</td>
<td>Service, Health, Development for people Living With HIV/AIDS</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>SUA</td>
<td>Sokoine University of Agriculture</td>
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<tr>
<td>TACOSODE</td>
<td>Tanzania Council for Social Development</td>
</tr>
<tr>
<td>TBS</td>
<td>Tanzania Bureau of Standards</td>
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<tr>
<td>TCC</td>
<td>Tanzania Chamber of Commerce</td>
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<tr>
<td>TGNP</td>
<td>Tanzania Gender Network Project</td>
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<tr>
<td>TAHEA</td>
<td>Tanzania Home Economics Association</td>
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<tr>
<td>TAMWA</td>
<td>Tanzania Media Women Association</td>
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<tr>
<td>TANESA</td>
<td>Tanzania-Netherlands Support Programme on AIDS Control</td>
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<td>TANSWED</td>
<td>Tanzania Sweden Programme on AIDS</td>
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<td>TAWG</td>
<td>Tanga AIDS Working Group</td>
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<tr>
<td>TB</td>
<td>Tuberculosis</td>
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<tr>
<td>TSJ</td>
<td>Tanzania School of Journalism</td>
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<tr>
<td>UDSM</td>
<td>University of Dar-Es-Salaam</td>
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<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on AIDS</td>
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<td>UNICEF</td>
<td>United Nations International Children Education Fund</td>
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<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Fund on Population Activity</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>VCT</td>
<td>Voluntary Counselling and Testing</td>
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<tr>
<td>WB</td>
<td>World Bank</td>
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<td>WHO</td>
<td>World Health Organization</td>
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ACKNOWLEDGEMENT

The process for development and identification of the HIV/AIDS priority research areas was championed by the Research Sub-Committee of National AIDS Control Programme (NACP). It is this committee with its multisectoral and multidisciplinary nature and composition, that initiated and eventually organised the research priority setting workshop held on 27 September – 1st October, 1999.

The success of this workshop however, was made possible by the many research experts who participated and in particular those who presented their study findings from their on-going and past researches.

We appreciate all the contributions made by the different participants - before, during and even immediately after the workshop. We are particularly thankful to the financial support received from various donors for this purpose. Special thanks go to UNAIDS Geneva, facilitators and consultants who worked tirelessly to identify research areas to be addressed as per the National priorities outlined in the MTP III of the NACP.

We appreciate the contribution from some MOH officials, particularly from the following programmes NACP, Health System Research Unit, NIMR as well as RMOs from Morogoro, Kagera and Dodoma. Finally and equally important, we would like to acknowledge the contributions made by research teams from Muhimbili, KCMC, Mbeya, Tanga, Mwanza and Arusha.

To all of you, we say thank you very much.

Dr. Gabriel L. Upunda
Chief Medical Officer
Ministry of Health
March 2000
EXECUTIVE SUMMARY

This report is the outcome of the research priority setting workshop organized by the Research Sub-committee of the NACP held from 27th September to 1st October, 1999 at White Sands Hotel, Dar-es-Salaam.

The report is divided into 5 chapters namely: (1) introduction, (2) summaries of presentations (3) the process and methodology used in the workshop (4) the research priorities in four subsections, (5) conclusions and recommendations.

The first research priority setting workshop on HIV/AIDS in Tanzania was undertaken in 1991. It reflected the experiences of the First Medium Term Plan (MTP-I 1987 – 1991) and was intended to support the development and implementation of the MTP-II (1992 – 1996) of the National AIDS Control Programme (NACP).

Objectives of the workshop:

• To identify and prioritize research areas/issues necessary to implement strategies of the National AIDS Prevention and Control;
• To select projects which are manageable for five years
• To identify research institutions and partners capable of developing and implementing research activities.

The research areas were to be identified in accordance to the MTP-III objectives and priorities. The NACP focuses on eleven priority areas that provide a framework for the expanded, multisectoral response to HIV/AIDS in Tanzania. It is intended that activity plans would be developed primarily at the district level to address these priorities. Each priority area has a set of strategies, which outline a combination of approaches to achieve the stated objective.

MTP III objectives:

• Prevent transmission of HIV/AIDS and other sexually transmitted infections (STIs)
• Protect and support vulnerable groups
• Mitigate the socio-economic impacts of HIV/AIDS
• Strengthen the capacity of institutions, communities and individuals to arrest the spread of the epidemic and mitigate its impact.

Research Objectives:

Research is one of the priority areas in MTP-III and the research objectives under MTP-III are as follows:

• To develop means of preventing infection with the HIV
• To develop better diagnostic and treatment methods for HIV/AIDS.
• To better define risk factors and to develop interventions against HIV/AIDS.
• To monitor the spread of HIV and to determine the impact of interventions.
• To evolve and develop innovative methods of mobilising and involving individuals and communities in HIV/AIDS/STIs control.

**Priority Setting Processes and Methods:**

This phase of the workshop began with an introduction to priority setting and the methodology that was to be used in identifying the key research areas based on MTP III and gaps in knowledge resulting from the presentations. Reference was also made to the research priorities of MTP II to see whether there were other issues that could be carried over into the new research plans.

**Group formation:**

Four groups were formed based on the main research areas namely:

1. Biomedical Research
2. Surveillance and epidemiological research
3. Social behavioural and Communication research
4. Health and social services research

Intervention based research was agreed upon to be an area to be covered in all groups, as it was envisaged that all the research activities would result in interventions leading to improving and assisting the carrying out of MTP III objectives.

**Terms of Reference for the Groups:**

- Ranking research topics.
- Generating research questions for each research topic (NB: there may be several research questions for one research topic)
- Consensus on the research questions in relation to the various groups (plenary)
- Ranking of research questions
- Selection of research teams based on comparative advantage.

**HIV/AIDS/STIs/TB RESEARCH PRIORITIES:**

As a result of the group work, using the processes already described in methodology section, the priority research topics, the justification for picking them and the research questions under each topic as well as the priority ranking were determined.

**CONCLUSIONS AND RECOMMENDATIONS:**

After going through the process of Prioritisation and taking into account the background research presentations, recognising the time that has elapsed between 1991 and 1999, the workshop made the following conclusions:

- Tanzania need to develop new research priorities in order to keep track to current dynamics
of the HIV/AIDS epidemic

- It is important for researchers to consider new areas for operational research to respond to emerging research findings and realities of the epidemic

The following recommendations were made:

- All researchers on HIV/AIDS/STI/TB working in Tanzania, are strongly encouraged to refer to the priority research topics listed in this manual when selecting research problems.
- The Ministry of Health, through the National AIDS Control Programme (NACP) shall co-ordinate all research activities and mobilise both internal and external resources.
- The National Research sub-committee for HIV/AIDS should guide researchers and ensure adherence to the research priority list as well as conduct wide dissemination of the research findings.
CHAPTER 1: INTRODUCTION

1.0 Historical Background:

The first research priority setting on HIV/AIDS in Tanzania was undertaken in 1991. It reflected the experiences of the First Medium Term Plan (MTP-I 1987 – 1991) and was intended to support the development and implementation of the MTP-II (1992 – 1996), of the National AIDS Control Programme (NACP).

Since the setting of these priority research areas and issues in 1991 to date they had not been updated despite major changes in the dynamics and progression of the HIV/AIDS epidemic.

Some of the research findings observed since 1991, had a major influence on the formulation of the 3rd Medium Term Plan (MTP-III) for the period 1998 – 2002; which has a wider multi-sectoral involvement and participation than the previous MTPs. The expanded multi-sectoral involvement therefore requires an ongoing and dynamic review of the existing research priorities and development of new research priority areas to effectively address and support the MTP-III implementation process. Hence, even those few sectors who were unable to participate will be given the chance to comment on the document.

The research priority setting process involved the following people namely; researchers, scientists and experts from different institutions and sectors, (Annex 1). There were three main objectives that were being addressed: First, to identify research areas/iss res, second, to prioritise and rank them and third, to identify research institutions and partners capable of developing and implementing research activities. The research areas were to be identified in accordance to the MTP-III objectives and priorities.

1.1 The MTP-III Guiding Principles:

There are twelve (12) minimum guiding principles, which were used to formulate the MTP-III. (Ref. MTP-III). They all originate from some elements of the constitution, the Health Policy of Tanzania and the proposed HIV/AIDS policy guidelines being finalised for adoption.

A summary of these guiding principles include:

- Response to the HIV/AIDS epidemic, multi-sectoral collaboration and active community participation.
- Guarantee of basic human rights and protection of all persons irrespective of age, sex, race, political orientation, or religion.
- Responsibility for one’s health rests squarely with every individual within the family.
- Transmission of HIV is preventable through change in individual behaviour
- Communities have a right to correct information on HIV/AIDS and appropriate protection against HIV infection.
- Cultural norms, values, and practices play an integral role in all education, prevention and care programmes.
1.2 Objectives and Priority areas of MTP-III

The NACP focuses on eleven Priority areas that provide a framework for the expanded, multi-sectoral response to HIV/AIDS in Tanzania. It is intended that activity plans would be developed primarily at the district level to address these priorities. Each priority area has set a strategy, which outlines a combination of approaches to achieve the stated objective.

The following are the objectives under MTP III:

- Prevent transmission of HIV/AIDS and other sexually transmitted diseases (STIs)
- Protect and support vulnerable groups
- Mitigate the socio-economic impacts of HIV/AIDS
- Strengthen the capacity of institutions, communities and individuals to arrest the spread of the epidemic and mitigate its impact.

The objectives will be achieved through the following priority areas:

1.2.1 Provide appropriate STI case management services.
1.2.2 Reduce unsafe sexual behaviour among high mobile population groups.
1.2.3 Reduce HIV transmission among commercial sex workers.
1.2.4 Prevent unprotected sexual activity among the military
1.2.5 Reduce vulnerability of Youth and HIV/AIDS/STIs.
1.2.6 Maintain safe blood transfusion services
1.2.7 Reduce poverty leading to sexual survival strategies.
1.2.8 Promote acceptance of persons living with HIV/AIDS.
1.2.9 Reduce unprotected sex among men with multiple sex partners.
1.2.10 Improve educational opportunities especially for girls.
1.2.11 Reduce vulnerability of women in adverse cultural environments.

1.3 Research as one of the priority areas in MTP-III.

Almost each priority area under MTP-III has a research component. Specifically however it is documented that knowledge and information to support the national response against HIV/AIDS/STIs is very crucial as it facilitates, the identification and understanding of determinants of HIV spread. It also facilitates the identification and solution to problems associated with HIV/AIDS. Needed information can only be adequately obtained through undertaking multi-disciplinary research.

The research objectives under MTP-III are as follows:

1.3.1 To develop means of preventing infection with the HIV
1.3.2 To develop better diagnostic and treatment methods for HIV/AIDS.
1.3.3 To better define risk factors and to develop interventions against HIV/AIDS/STIs.
1.3.4 To monitor the spread of HIV and to determine the impact of interventions.
1.3.5 To evolve and develop innovative methods of mobilising and involving individuals and communities in HIV/AIDS/STIs control.
1.4 The research priorities areas identified and agreed upon were:

1.4.1 Social, cultural, behaviour and risk factors
1.4.2 Psychological and emotional problems of patients, relatives and health care workers to evolve coping mechanisms.
1.4.3 Epidemiology
1.4.4 Diagnostics for HIV/STIs/TB/Others.
1.4.5 Health systems research (research in the delivery of health care).
CHAPTER 2: SUMMARIES OF PRESENTATIONS

2.0 Workshop objectives

The priority setting workshop objectives were presented by Prof. John Shao – Chairman of the Research Committee on HIV/AIDS in the country. He gave a brief historical background of the AIDS virus (HIV), from its discovery in the early 80s and the subsequent developments regarding its structure, current developments in HIV/AIDS research; at global and national level. He pointed out that the advancement in biomedical research will facilitate much greater social and behavioural changes in the community. He also added that, research studies should focus on better ways to minimize stigma, denial and discrimination, in order to promote acceptance of People Living with AIDS (PLWHA) and their rights.

In view of the workshop objectives and research prioritisation, he reminded the participants to identify research areas, which are closely related to the HIV/AIDS problems and answer questions raised in the MTP-III. In conclusion he called on all participants to use their professional talents and come up with a research priority list which will be useful to the NACP in the fight against HIV/AIDS in Tanzania.

2.1 Overview of the Third Medium Term Plan (MTP 1998 - 2001)

This presentation provided the historical development of the programme and the government responses to the epidemic since its beginning sometime after the first AIDS cases were reported in 1983.


The formulation process of the MTP-III was well elaborated – giving its special features that it tailored to the Tanzanian social cultural and political environment. The management and co-ordination of the MTP-III will be through the National AIDS Committee (NAC) mainly constituted by Permanent Secretaries, the National Advisory Board on AIDS (NABA) and the NACP as a Secretariat to the two bodies. The multisectoral nature of the MTP-III requires the formation of individual sector – committees and the implementation focuses the district level.

In conclusion the Programme Manager, clarified the concept of the expanded national responses which calls for:

- Expanded involvement and participation.
- Increased geographical and social coverage.
- Integration of HIV/AIDS prevention activities into the socio-economic development programmes at all levels.
Some of the issues which were raised by participants following this presentation and which may have some research implications included:

- The consensus regarding AIDS education in schools.
- Why there is still poor political commitment and will up to now – 16 years after the first AIDS cases were reported.
- What are the best approaches and methods to ensure other sectors are on board.

Contributing to these issues and others most participants emphasised the need to have a high political will, and to translate the mere talking about HIV/AIDS by political leaders, but to put it in action including resource allocation. In addition, political commitment has to be seen through the integration and mainstreaming of the AIDS activities into the different sectoral plans and programmes. Participants called for a research into this issue of poor political commitment will, and the whole issue of multisectoral responses.

2.2 The National Research Priority Setting workshop on HIV/AIDS. The 1991 Priority List

This presentation gave a highlight on the first need for the prioritisation of research areas on HIV/AIDS in 1991 and secondly, on the process which led to the identification of the research priorities. The methodology used included an initial involvement of the various sub-committee to identify research issues. In addition, some of the recommendations from the National Seminar on AIDS Research organised in September, 1990 by the Medical Association of Tanzania (MAT) were taken into consideration.

The procedure for prioritisation of the research issues involved the use of well designed matrix forms which led to the identification of 4 research categories with 48 research issues below:

- Biomedical research - 18 areas
- Surveillance and Epidemiology research - 6 areas
- Social Behavioural and Communication Research - 16 areas
- Health and Social Service research - 8 areas

The procedure involves clearance of all research proposals by the Ministry of Health through the Research sub-committee on HIV/AIDS.

The outcome of research activities since 1991 was presented and it showed the following:

- 230 researches proposals were submitted
- 214 approved
- 46 on going
- 15 planned
- 4 Dropped
The research outcomes have helped recognise the level of AIDS awareness in the country which is currently very high. It has also assisted in policy formulation and planning specific interventions. Globally, research has influenced vaccine and drug developments.

2.3 Implementation Levels in the Different Research areas:

Biomedical Research

A total of 49 research proposals were submitted, 27 (55%) were according to the priorities set, 22 (45%) addressed other issues outside the priority list. At least ten (10) topics will be carried forward in the MTP III priority list.

Concerns regarding this research area included:

- Whether divergency was due to donor pressure or poor co-ordination of the research activities in the country. Most participants agreed that the NACP secretariat has to strengthen its coordination mechanism and mobilize resources to resist unnecessary external pressure.

It was pointed out that some researchers are responding to global situations and issues thereby marginalising the national priorities. The issue of adequate dissemination of the research priorities and the research findings at local level was well emphasised. The long duration since 1991 to date might have also contributed to the divergency from the priority list.

2.4 Surveillance and Epidemiology Research

<table>
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<tr>
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<th>Research problems identified</th>
<th>proposals submitted</th>
<th>completed</th>
<th>on-going</th>
<th>planned</th>
<th>Dropped</th>
<th>priority areas to be carried forward to the MTP III list.</th>
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<tbody>
<tr>
<td>6</td>
<td>Research problems identified</td>
<td>proposals submitted</td>
<td>completed</td>
<td>on-going</td>
<td>planned</td>
<td>Dropped</td>
<td>priority areas to be carried forward to the MTP III list.</td>
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</table>

The issue of identifying safe blood donors was emphasised as opposed to identifying institutions where donors could come from. Antibody testing will still be given high priority due to its lower cost than antigen testing.

2.5 Social, Behavioural and Communication Research

|   | Priority areas were identified and | Intervention linked researches | Research topics | (71%) According to research priority list | (29%) Not related to the original list. |
For the MTP III under this category more emphasis will be on the social and behavioural determinants of the epidemic. About 9 priority areas will be carried forward from MTP II to the MTP III priority list.

The issue of sex education or AIDS education in school, raised a lot of discussions under this area of research. Participants enquired on the policy regarding sex education in schools and why it is still a problem to talk about sex with young people or the youth. It was also emphasised that it is now time to empower men instead of women alone.

2.6 Health and Social Services Research

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<tr>
<td>8</td>
<td>Research problems were identified</td>
</tr>
<tr>
<td>21</td>
<td>Researches were conducted</td>
</tr>
<tr>
<td>1</td>
<td>Still on-going.</td>
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</table>

It is still being recommended that all the previous research areas should be included in the coming MTP III research priorities. The issue of stigma and discrimination of PLWHAs has to be researched further – focussing particularly to care providers.

A concern was raised regarding to poor co-operation and/or participation of the media. The media has to play a more positive role than the currently sensational news and negative reporting.


- Biomedical 5 main and 4 sub topics
- Surveillance and epidemiological – 9 main topics
- Social Behavioural and communication 7 with 15 sub topics
- Health and Social Services - 5 main topics

Issues raised following this presentation included the need to have all intervention linked researches to cut across all research areas. There has to be researches into both modern and traditional drug trials as well as community responses to the epidemic.

2.8 SUMMARY OF INSTITUTIONAL AND INDIVIDUAL RESEARCH STUDIES:

2.8.1 A Multicentre, Randomized, Double-blind, Placebo Controlled Clinical Trial to Evaluate Efficacy, Tolerance and Effectiveness of Three Drug Regimens using Zidovudine + Lamivudine for the Prevention of Mother-to-Child Transmission of HIV (The Petra Study).

A multicenter study involving the following countries:

- Republic of South Africa
- Uganda
- Tanzania

It is an intervention linked study for prevention of mother to child HIV transmission (MTCT)-- by using a combination of AZT and 3TC.
Findings are:

- AZT + 3TC on labour reduce MTCT – HIV infection by 38%
- At 36 weeks, delivery and one week post partum reduces MTCT-HIV infection by 53%
- There is no effect of AZT and 3TC during intrepartum.

2.8.2 The TANSWED HIV Infection Research Programme

This is a joint Tanzania and Sweden Research Programme formerly known as the SAREC project.

There are 13 research projects under this programme which incorporate HIV/AIDS epidemiological, social and microbiological studies in the country.

Some of the findings from these studies have shown increased HIV prevalences among bar workers in Dar-es-Salaam and up to 50% of women have asymptomatic STIs. There is also increased paediatric and adult morbidity and hospital admissions due to HIV. Other findings are the increased chances of TB infections (10 – 15 times per year) for HIV infected persons. [The HIV subtypes in Tanzania are A, C and D]

Issues raised following this presentation included:

- Whether INH and cotrimoxazole respectively, could be used for the prevention of TB and microbial infections to all HIV infected persons. The response was that, INH can be used but not to a large scale and when there is no active TB. When there is active TB, then full anti-TB therapy has to be resorted. For other microbial infections prevention, cotrimoxazole cannot be used as a prophylaxis therapy.
- It was reported that studies focusing sex workers and bar workers are very difficult to implement and monitor, due to high mobility of these people and sometimes the study may cause burn outs.
- Participants proposed to have the newly developed ELISA test widely distributed throughout the country. Similarly the monitoring of Neissaria gonorrhoea sensitivity patterns.


This study has 2 main objectives:

(1) Establish the impact of fatal adults illness.
(2) Provide advise to policy makers on this impact.

- Impact areas studies include:
  - Medical and funeral expenses
  - Time spent on caring and mourning
  - Orphans, child nutrition and schooling
  - Poor living conditions
Coping mechanisms:
- Shedding or recruiting household members and labour force responses
- Receipts of private and public support/assistance
- Establishment of community savings associations

Suggested further studies on the economic impact are:
- Cost-effective mechanisms of coping with the disease – targeting households, communities, the poor and other vulnerable groups.
- Impact mitigation focusing school enrolment and attendance
- Studies on stigma and HIV testing, counselling and sero-status results information.
- Impact on food production, employment and health system
- Strengthening research partnership – scope and scaling.

Issues raised following this presentation included:
- Methods used to establish cause of death:
  It was reported that researchers used verbal autopsy, seeing people dying and verification from death certificates.
- The definition of COPING was given as “the mechanism to mitigate the disease impact”.
- The definition of EMPLOYMENT was given as “getting a wage or salary” Otherwise the appropriate term is “Labour participation”

2.8.4 TANESA Project

TANESA was originally known as TANERA (1970-1993) when it was basically a research project. Following the 1993 evaluation, the main activities were intervention development and support components; hence the change of name to TANESA as from 1994.

TANESA studies included:
- The Mwatex study
- Mwanza Region HIV prevalence study
- Kisesa Community Cohort study
- Intervention Development and Comprehensive District Response Initiative.

Gaps being identified include:
- Youth friendly services
- Care and support services
- Gender Equity and poverty
Issue raised included:

- TANESA has produced a district estimate cost for a population of about 300,000 people. The resources have to be mobilized from communities, the council, central government and NGOs.
- The coping mechanisms on food security identified include: reduction in number of meals, cultivatable land, change from long-term to short-term crops, sale of livestock and sometimes eating wild fruits.
- The Kisesa cohort study whose main objective is to monitor the HIV/AIDS progression and impact. It has remained with only one demography round instead of the original 4, because most information has already been collected.
- Examples of community participation in Magu include the high risk area mapping exercise, and the creation of by-laws for application into the existing judicial system.

2.8.5 Tanga AIDS Working Group (TAWG)

This is a traditional medicine research intervention, basically to bridge the gap between traditional medicine and Bio-medicine for PLWHAs.

Activities being carried out are:

- Pre- and Post-test counselling for patients and their families.
- Provision of traditional medicines for PLWHAs
- Home visits for those who are too ill.

Four plants are being used:
1) Mugora
2) Mkusu
3) Mvati
4) Zingiri

They provide improvement in:

1) Weight loss
2) Diarrhoea
3) Fungal infections (including oral thrush)
4) Skin irritation (including Herpes zoster)

Gaps and planned further research:

1) To identify effective non-toxic easily available medicine for PLWHAs
2) How to use the knowledge of traditional healers and their medicines to treat HIV/AIDS in terms of:
   a) Specificity for various opportunistic infections.
   b) Establishing clear dosages and duration of treatment
   c) More acceptable and accessible regimens e.g syrups, ointments, easy storage and transportation.
d) Need for:

- Scientific assessment of plants
- Clinical trials
- Studies on bio-diversity and conservation issues.

Issues raised:

Participants inquired on traditional medicine efficacy, safety and cost. It was reported that data shows that patients do recover from the opportunistic infections.

- The issue of most traditional healers looking for cheap popularity – taking symptomatic alleviation as cure, was raised and the researcher said that most traditional healers consider healing differently from western-trained doctors.
- Participants requested that traditional healers stop borrowing western medicine terminology (Dr. Matunge’s case) and stick to their own so that the public is not confused.

2.8.6 “The Salvation Army” Kwetu Women and AIDS Project

This is an intervention linked study on commercial sex workers and street girls. It has 3 programme areas:

(1) Prevention - out reach;
- condom distribution;
- STIs management;
- voluntary HIV testing;
- IEC materials

(2) Health care and support.

(3) Empowerment and withdrawal strategies, social re-integration:

- Income generating activities
- Vocational training
- Employment opportunities

Findings and obstacles observed:

- Increased substance abuse by street girls.
- Drop backs into sex work
- Skills acquired by CSW are not marketable in the labour market

Issues raised included:

- To scale up the project
- To ensure CSWs use condoms supplied to them, they should be encouraged to bring back the used condoms in exchange for new ones (free). This is in comparison for a different project on drug users who were given new syringes on submitting the used ones.
- It was suggested that CSWs should be put on vocational training of their own choice.
2.8.7 Mbeya Regional AIDS Programme with GTZ

This project was established in 1988. It has 7 components, while surveillance and operational research is one of these components.

Research activities are:
(1) Sentinel Surveillance
(2) Behavioural Studies
(3) Monitoring of Quality of STI Case Management
(4) STI Cross-sections Study

Results:
(1) Sentinel surveillance has shown falling trends of HIV – among pregnant women.
(2) Behavioural studies for monitoring community behaviour change
(3) STI case management to be extended for the whole country in 2 years time.
(4) STI cross-sectional studies focussing on etiology, drug resistance and treatment.

Discussions on this paper included:

- What sort of interventions have led to the drop of syphilis prevalence. It was reported that screening of pregnant women was followed by treatment of those found positive and their partners.
- Costs for sentinel surveillance seem to be high because of costs of other test materials, consumables and travel expenses.
- The explanation of the downward trend of HIV prevalence is a result of all the different intervention contributions in the comprehensive programme.
- The research gaps in Mbeya focus on the impact evaluation of the different interventions, and monitoring of behaviour with on going sentinel surveillance.
- It was reported that monitoring of other STIs is expensive, hence the monitoring of syphilis only.
- Participants also wanted more community based interventions as opposed to focussing only schools and workplaces. The Mbeya researcher however reported a lot of community based interventions.

2.8.8 The Assessment of Knowledge and Behaviour change in Relation to Reproductive Health in Mbeya Region

This study was targeting those receiving interventions in Mbeya. Intervention included:
- Promotion of safe sex
- Strengthening of STI control activities
- Training of community based drama groups and peer educators
- Socio-medical and psychological care to AIDS patients.

Findings:
- The intervention population preferred getting information from teachers and health workers
• The control population preferred Health Workers.
• Newspapers, radios as sources of information were termed convenient but not better sources.
• Overall condoms use was 25.6% (at workplaces)
• Sexual debut is slowly going down from 13 years to 10 – 11 years.

2.8.9 Collaborative Research and Interventions (AMREF/NIMR/LSHTM)

Local collaborators: RMO – office, REO – office, BMC

The focus is on:

- Prevention of HIV infection
- STI Management
- Improvement in sexual and reproductive health (in school)

The Piot Fransen model for STI management in rural women was presented.

The “Mema Kwa Vijana” project was also presented. This project focus STI.V, VI and VII pupils in 10 communities in Mwanza region, (Geita, Sengerema, Misungwi and Kwimba districts).

- They are using the triangulation approach for the measurement of sexual behaviour.
- Findings show higher prevalence of HIV females than in males in 15 – 19 years age group.

2.8.10 Planned and on going research activities (AMREF Dar-es-Salaam)

The AMREF Dar-es-Salaam Research Activities are subdivided into 3 main projects:-

(1) Study on Commercial Sex Workers and STIs intervention in HTAs. There are about 101 HTAs in seven truck routes. The planned operational researches under this project include:

(i) Drug susceptibility monitoring to ensure continuous use of efficacious drugs for STIs treatment at the HTAs.
(ii) Behavioural change among CSWs. Other interventions – on going together with STIs services at HTAs are PHE strategy:

- Condom use, care seeking behaviour etc.

(2) Laboratory Project Support Services to various institutions.
(3) Others:

(i) Adolescent Sexual and Reproductive Health (ASRH)
(ii) Workplace interventions
(iii) The ‘Jijenge’ women Sexual and Reproductive Health Project in Mwanza.
Gaps:

(1) Operational/programmatic research areas:
   - Up scaling of routine interventions
   - Surveillance and monitoring
   - Limitation of algorithm for vaginal discharge
   - Drug pricing and supply
   - Collaboration with private sector/pharmacies

(2) Biological research areas:
   - Asymptomatic STIs and reverting
   - Syphilis diagnosis and serology

(3) Intervention studies:
   - Trials and syndromic treatment
   - Targeted interventions
   - Input intervention in different population

Issues raised following the 2 presentations

- Regarding the collaboration research projects in Mwanza (Todd et al). Participants enquired if there were any ethical consideration in doing control trials in HIV infections.
  The response was given that due to the big number of schools d 1500 in Mwanza, they are able to work with only 60 of them. The other schools will receive interventions after evaluation in 3 years time.
- The content of the “Mema Kwa Vijana” intervention project.
  It was reported that they work through curriculum interventions to change behaviour by peer education. They expect the government will scale up the initiative which includes skills to delay sex and for those sexually active to do it safely.
- Regarding the syndromic management of STIs. The Piot/Fransen model is used to explain the full management of STIs.
- Participants requested all researchers to widely disseminate their findings.
- For the AMREF Dar-es-Salaam Study with CSWs - Participants wanted to know if CSWs are empowered and educated on HIV/AIDS and take regard of disseminating HIV to the new areas where they move to.
  The reply given was that the whole community is involved.
- The other concern was on why do we continue secondary prevention/intervention – i.e. treating STIs instead of preventing it in the first place.
  The reply given was that since STIs treatment reduces HIV prevalences in the community it is an effective prevention approach.
2.8.11 MUTAN Overview

MUTAN was a joint programme between the governments of Norway and Tanzania on HIV/AIDS. It was established in 1989 for 5 years and had 5 strategies with major component on HIV/AIDS research interventions in 17 activity projects.

Activities included, surveillance, health education and STI prevention. Others were social anthropology, counselling, virology and HIV testing.

Major achievements are seen in the following areas:

- Counselling programmes
- School AIDS education
- Radio programmes
- HIV surveillance programme
- Genetic HIV characterization and rapid tests.

In 1996 MUTAN was incorporated into government (NACP) activities.

Issues raised included:

- Participants asked why did MUTAN die. It was reported that MUTAN did not die, rather its activities were incorporated into NACP activities and the funding continued through the government.
- It was reported that the rise in HIV prevalence in Kilimanjaro was not related to the collapse of MUTAN as is the case in the whole country. It was also cited that poor community involvement can lead to project unsustainability.

2.8.12 Vitamin Supplement in HIV infected women and children Randomised Trial in Dar-es-Salaam

Objectives were:

1. To estimate prevalence of HIV-1 infection and identify the socio-demographic characteristics
2. To describe the effects of vitamin supplements in pregnancy and HIV vertical transmission.
3. To find out the effects of vitamin supplements on mortality among HIV infected and non-infected children aged 6 – 59 months.

Findings:

- HIV prevalence among pregnant women in Dar-es-Salaam (1995 – 1997) ranged from 12.4% to 14.8% the average was (13.1%).
- There is a stabilisation of the prevalence of HIV infection among pregnant women in Dar-es-Salaam for the three years of observation.
- The risk of HIV infection showed to increase with age.
- Temeke and Ilala women had higher risk of HIV infection compared to those from Mwenge and Mwananyamala.
• Monogamous relationship has 35% lower risk of HIV infection compared to those without partners.
• Public house workers have 2 fold higher risk of HIV infection compared to housewives.
• The HIV positive group which received multivitamins had reduction of adverse pregnancy outcome compared to those who did not receive.
• Multivitamins but not Vitamin A resulted in a significant increase in CD4 and CD8
• Multivitamins did not reduce vertical transmission of HIV compared to the control group.
• Vitamin A did not reduce vertical transmission of HIV compared to the control group.
• HIV infected child has 5 times Relative Hazard of dying compared to HIV uninfected child.
• HIV infected children receiving Vitamin A have significant reduction of Mortality compared to those who did not receive.

Recommendations:

• Facilities for VCT should be readily accessible and opportunities for screening be offered to all pregnant women regardless of their socio-demographic characteristics
• Simple, cheap and effective interventions should be introduced to lower the existing high rate of HIV infection in this population.
• In HIV infected pregnant women, use of multivitamin supplementation is recommended as a low cost intervention to decrease adverse pregnancy outcomes.
• In the meantime, randomised clinical trials should be conducted to assess the effect of these supplements in HIV negative women.
• HIV infected pregnant women should be given prescriptions of multivitamin supplements to reduce adverse pregnancy outcomes including foetal loss, low birth weight, pre-term and small for gestation age babies.
• In the meantime, affordable interventions to reduce vertical transmission in developing countries including Tanzania are urgently needed.
• HIV infected children below the age of 60 months should be given prescriptions of vitamin supplements to reduce mortality.

Questions/Concerns

1. You made a conclusion of multivitamin being a ‘low cost’ intervention in improving pregnancy outcome, yet no cost was given?
2. Did you record any side effects of the vitamins in pregnancy particularly in HIV +ve group?
3. What messages are you giving to the NACP from your vitamin supplementation studies?

Answers

• The cost is been worked up but is about 10$ per year.
• Side effects were monitored (by Drug and Safety Board) and so far there has not been side effects observed in groups which received the combinations compared to the control group.
• In order to make a policy, the NACP should encourage and strive for another study resembling this.
Questions continued:

- With a 2 x 2 factorial design, did you check if there was any interaction between the 2 supplementation in the analysis?
- Were all 611 babies born to HIV positive mothers, if not one of the big differences in the groups could be the sero-status of the mothers.
- Over what period was mortality measured?

Answers

- Interaction effects were being taken care of during analysis.
- Children were followed up for 2 years.
- Conditions of mothers after delivery is being followed up. Another 4 years of the study has been granted for the purpose of follow up.

Question continued.

Most of the studies are centred on women. Are there any studies centred on men in the issue of HIV/AIDS. In most cases of sexual transmission of HIV it takes two to transmit HIV infection how are we to succeed in fighting the HIV/AIDS epidemic without giving due attention to the male partners.

Answers

Women are being studied extensively for the interest of babies.

Question continued.

What are the theoretical biochemical mechanisms of action of both Vitamin A and Multivitamins?

Answer

Improved nutritional status of foetus will lead to enhancement of foetal immunity and hence decreased risks of intrauterine growth retardation, foetal loss, pre-term birth and low birth weight. Effect of individual vitamins not fully understood.

Question continued.

- How do you explain the rise in CD4 count in both groups of women (on multi-vitamins and non-vitamin supplemented).
- Did you look into the relationship between socio-economic status of the women & Vitamin A levels - and outcome?
- Did you have any interim analysis of your data given that it is common knowledge that under-nutrition is common place in Tanzania and hence one would have expected no benefit?
Answers

- CD4 went up in both arms. Reasons are that, Vitamin supplements together with nutritional advice are sufficient to increase CD4.
- Social – economic status were not looked at.

Concern

You are recommending that people can be given Multivitamins to reduce mortality. What has been recommended all the time is that good nutrition reduces mortality.

Reaction

The recommendation was on childhood mortality alone, not adult mortality. There are still several questions on transmission by subtypes, e.g. mothers with subtypes D were likely to transmit compared to subtypes A and C. Much still need to be explored.

Questions continued.

You recommend that VCT be readily available for pregnant women. Is it for surveillance of HIV/AIDS purpose only? Otherwise of what value is it going to be for the women themselves?

The reply was shelved!

*N.B: It was concluded that the rise in CD4 and CD8 following vitamin supplement is still controversial and needs further research since other studies do not rise to such high levels.

A summary of the opening speech by the Guest of Honour – Chief Medical Officer – Ministry of Health, addressed the following Key issues:

- All researches have to reflect the priority areas contained in the MTP-III document.
- Research has to address and focus the National interests and not otherwise.
- Pay special attention and focus issues related to the most vulnerable populations in the community in this case it is the youth, women and children.
CHAPTER 3: PROCESS AND METHODOLOGY

3.1 SITUATION ANALYSIS OF HIV/AIDS RESEARCH IN TANZANIA

This phase of the study involved taking stock of the research in this field (both completed and ongoing) with special emphasis on the priorities set in 1991. A number of papers were presented and these are appended in Annex 1. This information was very crucial in identifying the priority research issues as described in section 2.2

3.2 IDENTIFICATION OF RESEARCH AREAS AND PRIORITIZATION:

This phase of the workshop began with an introduction to priority setting and the process that was to be used in identifying the key research issues.

This stage also involved the identification of research areas based on MTP III and gaps in knowledge resulting from the presentations. Reference was also made to the research priorities of MTP II to see whether there were important issues that could be carried over into the new research plans.

- **Why Prioritise?**

  It is impossible to do everything!
  Some other issues supporting the need for prioritization are:

- **Urgency:**

  Some research results are urgently needed for policy making; other studies may be relevant, feasible, applicable but not urgent. It is important to assess the level of urgency in prioritizing the research.

- **Funds:**

  Limited funds force us to choose the most important issues to be tackled. In this case even studies that are urgent but expensive to carry out may end up being of lower priority.

- **To avoid donor driven research:**

  Having a clear research agenda allows donors to focus funds on issues that are national priorities. This limits the possibility of promoting donor agendas.

- **Human resources:**

  Limited capacity causes us to focus on most important aspects according to comparative advantages. This includes technical feasibility; some studies cannot be carried out in some of our laboratories because capacity is lacking.
• **Avoidance of duplication:**
  
  Without prioritization and proper coordination, several studies tackling the same issue can be carried out. Resources are thus wasted when other important issues could have been tackled with these resources.

• **Ensuring that results get into policy and practice -GRIP!**

  It is important to assess beforehand what the chances are of the research results actually being utilized. Researchers are normally committed to studies that ensure academic excellence, however it is important, given the meager resources that exist that emphasis is placed on applied research.

3.3 **Flashback on workshop objectives:**

• To identify and priorities operational research areas/projects necessary to implement strategies of the MTP III
• To select projects which are manageable in the next five years
• Identification of institutions/partners capable of implementing the identified research areas

3.4 **The process:**

  The process involved the following steps:

  1. Identification of key research issues
  2. Generating research questions
  3. Prioritization of the ensuing research questions
  4. Identifying of multidisciplinary teams to carry out research based on comparative advantages and identification of stakeholders (most likely users of the research results).

3.5 **Identifying key issues:**

  Begin with what there is!
  Information from:

  • research priorities of 1991
  • ongoing and completed research both in and outside previous priorities
  • suggested areas for future research

  The most important aspect was to combine descriptive, analytic, evaluative information with ideas, perceptions and emphasis of the various stakeholders (those carrying out research and users of research results) and to focus on relevance to MTP III strategies.

3.6 **Group formation**

  The breakaway groups were formed based on four main research areas. The groups were:

  1. Biomedical Research
2. Surveillance and epidemiological research
3. Social behavioural and communication research
4. Health and social services research

Intervention based research was agreed upon to be an area to be covered in all groups, as it was envisaged that all the research would result in interventions leading to improving and assisting the carrying out of MTP III objectives.

3.7 Terms of reference for the groups

Each group was assigned the following terms of reference:

1. Identify and aggregate research issues appearing in MTP II as high priority with those appearing in both MTP III and suggested areas for future research - Look for overlap
2. Identify important areas, which do not appear in the overlap but are key issues - group consensus based on knowledge of the subject.
3. Create a list of research issues from which research questions will be generated
4. Presentation of the resulting research issues by each group with supporting justification.

Example:

Research issue: Studies on traditional medicines that may have antiretroviral activity or alleviate opportunistic infections from HIV/AIDS:

- Resultant research areas may be:
  - Isolation and extraction of known compounds to determine the active ingredients
  - Clinical indicators and end points for efficacy (B)
  - Health seeking behaviour by HIV positive individuals-the role of the traditional healers(H)

Following the identification of research issues, the following presentation was delivered to assist in understanding the formulation of the research questions and their prioritization based on accepted criteria.

3.8 Criteria for ranking research issues:

Setting Criteria

The main issues considered in setting the criteria include:

- How big and urgent is the problem
- What similar research has previously been done?
  - Is the information available?
  - Does it fit into the local context?
- Is more research really needed in this area?
- Is it feasible to do the research?
- Technical feasibility: Human resources and organizational capability
- Economic feasibility: the cost in time and money of carrying out the research.
- Political feasibility: political acceptance of the research/existence of favourable political climate, and existence of political will.
- Ethical feasibility: Compliance with social norms and ethical principles.

What and when is the expected impact of the research?

- Is it urgent?
- Will the results be used/or are they needed to change policy

Taking into consideration the issues above the following criteria are to be used to ranking:

- Relevance: Can the problem be defined in a local context.
- Avoidance of duplication: what information exists?
- Feasibility: resource allocation
  - Political acceptability
  - Applicability
  - Urgency
  - Ethical acceptability
  - Gender issues
  - Accuracy of knowledge base

* The criteria was debated upon by the group and it was agreed that although there was some shortcomings (e.g. The fact that the issues were weighted equally) they would suffice in broadly identifying the key research areas.

3.9 Cross cutting issues

The following are cross cutting issues to be deliberated upon when discussing each research issue. It is important to assess whether or not these issues have been adequately addressed:

- Influence on policy
- Equity
- Poverty
- Health reforms
- Management implications of programme performance
- Human rights

3.10 Generation of Research Questions:

What is a research question?

- The question that one seeks to answer by carrying out research activities.
Anatomy of the research question:

- There exists a discrepancy between what is and what should be
- The reasons for the discrepancy is unclear
- There are more than one possible answer to this discrepancy and thus research is needed to provide clarification/missing links

3.11 Terms of Reference for the Groups:

Following the presentation, the groups were formed and assigned the following activities:

- Ranking research issues, based on the agreed criteria.
- Generating research questions for each research issue (NB: there may be several research questions for one research issue)
- Consensus on the research questions as they relate to the various groups (plenary)
- Ranking of research questions
- Selection of research teams based on comparative advantage.
- Identification of stakeholders
CHAPTER 4 : HIV/AIDS/STIs/TB RESEARCH PRIORITIES

3. HIV/AIDS/STIs/TB RESEARCH PRIORITIES

As a result of the groups’ work, using the processes already described in section 3 above, the following priority research issues, the justification for picking them and the research questions under each issue as well as the priority ranking were determined. These are shown below for each group:

**CATEGORY 1: BIOMEDICAL RESEARCH ISSUES**

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<th>RESEARCH ISSUES</th>
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| 1. Lack of reliable and affordable laboratory methods for HIV testing at various levels of the health care delivery in Tanzania. | - It is within the MTP-III.  
- This information is needed for diagnostic purposes, blood transfusion services, VCT and monitoring trends of HIV/AIDS in the various population groups.  
- As a tool for adoption by NACP and national coverage | HIGH | - To determine highly sensitive, specific, simple, rapid and affordable screening tests for blood transfusion services applicable to district health care levels.  
- To determine simple and rapid confirmatory test combinations for diagnostic testing applicable to district health care levels.  
- To determine highly sensitive and specific HIV screening and confirmatory tests for children below 18 months for use at district levels.  
- To evaluate and monitor test systems/algorithms for screening and confirmatory test combinations. | 1    | Consultant Hospitals  
(MMC, KCMC, BMC, Mbeya Referral) | MOH, NACP, Regional Districts, Hospitals, MSD, NGOs, Community. |
| 2. Lack of knowledge regarding HIV transmission within the health care settings. | - At present the health care delivery system is inadequately prepared in terms of assuring protection from acquiring HIV during health care delivery because of lack of resources and materials and current knowledge.  
- The need to institute HIV/AIDS preventive and prophylactic measures among health care workers who are also involved in the care of PLWHAs in order to reduce stigma. | HIGH | In order to facilitate determination of the magnitude of HIV infection in health care settings, it is important to avail anti-retroviral prophylactic kits and protective gears. The questions will therefore be:  
- How to determine the magnitude and extent of HIV infection among health care workers in different settings.  
- How to determine occupational activities which are associated with HIV infection in health care settings.  
- How to monitor the efficacy of anti-retrovirals among health care workers at risk of acquiring HIV infection. | 1    | MMC, KCMC, BMC, Mbeya Referral, Regional Hospitals, MUCHS, District Hospitals, | Hospitals, MOH, NACP, NGOs, Health Care providers, Patients using health care facilities. |
<p>|                                                                                  |                                                                                                        |      |                                                                                                                                                    | 2    | Military Hospitals                         |                      |
|                                                                                  |                                                                                                        |      |                                                                                                                                                    | 3    | NGOs                                       |                      |</p>
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| 3. Lack of reliable/affordable diagnostic methods, and clinical management strategies for opportunistic infections (e.g. TB, PCI) and malignancies in HIV infected persons. | We still do not have appropriate diagnostic tests for these conditions which are the commonest cause of death in HIV infected individuals and yet they are treatable conditions with affordable and available drug regimes. | HIGH | • To determine highly sensitive and specific diagnostic tests which are appropriate for diagnosis of TB and other opportunistic infections in Tanzania.  
  • To develop the best treatment regimens for TB, other opportunistic infections and malignancies and evaluate their performances.  
  • To develop sensitive and specific tests for diagnosis of malignancies e.g Kaposi sarcoma in HIV infected individuals. | 1    | MMC, KCMC, BMC, Mbeya Referral, MUCHS | Hospitals, MOH, NACP, NGOs, Infected individuals, Health Care providers. |
| 4. Lack of knowledge on factors influencing the progression of HIV infection in various HIV infected population groups at different health care levels. | • We have individuals who are known to be HIV infected and have survived for many years.  
  • Some die within a short time of acquiring HIV infection.  
  • In some places patients live longer than those in Tanzania.  
  • These discrepancies require further investigation. | HIGH | • To determine the factors influencing the progression of HIV infection during infancy and early childhood.  
  • To determine factors influencing progression of HIV infection in adults  
  • To determine the factors influencing progression of HIV infection in relation to pregnancy.  
  • To institute intervention measures against the identified factors, from the above, influencing HIV progression. | 1    | MMC, KCMC, BMC, Mbeya Referral Hosp, MUCHS, Regional/ District/ Military Hospitals, NGOs | MOH, NACP, Health Care providers, Community, Regional and District Hospitals, NGOs, NIMR, MOH. |
| 5. Lack of a functional monitoring system for STI aetiological agents and drug sensitivity patterns within the context of syndromic management of STIs. | • The syndromic management of STIs has been adopted in Tanzania since 1996 and there is need to evaluate it.  
  • It is within MTP-III, objective 4.1 on strategy 1.  
  • Because of the reported increasing resistance to some of the drugs use in Tanzania. | HIGH | • To develop simple, affordable, sensitive and specific diagnostic tests for common STIs  
  • To determine the aetiological agents causing various STIs syndromes.  
  • To monitor the sensitivity patterns of the aetiological agents causing STIs syndromes from time to time.  
  • To validate the syndromic management of STIs regularly.  
  • To determine the relationship between STIs syndromes and HIV acquisition/transmission. | 1    | MMC, KCMC, BMC, Mbeya Referral Hosp, MUCHS, Regional/ District Hospitals, NGOs, AMREF, NIMR | MSD, MOH, All Health Care facilities, NGOs, NACP, NIMR, AMREF. |
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| 6. Lack of scientific knowledge among modern care providers on the role of traditional medicine practices in HIV/AIDS/STIs management. | • Many patients with HIV/AIDS/STIs are known to seek traditional medical care due to the inadequacy, unaffordability and inaccessibility of the modern medical care system.  
• The traditional healers including foreigners are in the country, publicising themselves extensively | HIGH | • In collaboration with traditional healers, to establish the HIV sero-status and blood biochemical profiles of individuals prior/ undergoing herbal treatment for HIV infection.  
• To determine the efficacy, potency, side-effects of identified traditional herbs in current use in collaboration with the traditional healers.  
• To validate the HIV/AIDS diagnosis made by traditional healers using modern laboratory testing in collaboration with the traditional healers | 1    | CHAWATIATA, ITM, UDSM, Faculties of Chemistry, Botany and Pharmacy, NGO, NIMR, Chemical Laboratory, MUCHS.                                                                                      | MOH, CHAWATIATA, Traditional Healers, Community, UDSM, ITM.                                                                 |
| 7. Lack of effective, acceptable high quality barrier methods and microbicides against HIV/STIs transmission in Tanzania. | • We have different brands and sizes of male condoms in the market being advocated for the prevention of HIV/AIDS and some of them have been reported to easily break/rupture.  
• There are also complaints on female condom use in terms of its size, texture and acceptability.  
• There are several microbicide preparations that are known to prevent both STIs and pregnancies, but their efficacy, safety and acceptability have not been evaluated.  
• Up to a third (1/3) of women in this country are known to practice douching or apply different intra-vaginal preparations which would promote HIV transmission. The role or dry, wet and anal sex in HIV transmission need to be documented. | HIGH | • To monitor the effectiveness and quality of the available female condoms.  
• To monitor the effectiveness and quality of the available male condoms.  
• To monitor the efficacy and acceptability of the available microbicides against HIV/STIs.                                                                 | 1    | MMC, KCMC, BMC, Mbeya Referral Hosp, MUCHS, TBS — Laboratory, NACP, PSI.                                                                 | NACP, MOH, All Health Care facilities, TBS, Community, PSI.                                                                 |
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| 8. Inadequate national involvement in HIV/STI vaccines research and development | • Currently vaccines are being developed globally for different viral sub-types/STIs for use by different population groups.                                                                                       | HIGH | • To monitor the circulating biotypes of HIV in Tanzania.  
• To prepare appropriate cohorts for possible vaccine evaluation.  
• To participate in the development of HIV/STIs candidate vaccines relevant to Tanzania.  
• To conduct phase I, phase II and possibly phase III for HIV vaccine trials.                                                                 | 1    | MMC, KCMC, BMC, Mbeya Referral Hosp, NGOs                                                                             | Consultant Hospitals (MMC, KCMC, BMC, Mbeya referral), Community, NIMR, MOH, NGOs                                            |
| 9. There is a lack of an effective monitoring mechanism for efficacy, safety and potency of available drugs in use for treatment/Prevention of HIV/AIDS | • Drugs are now available for HIV/AIDS/STIs  
• More than 80% of HIV infected people in developed countries are already on Anti-retroviral drugs. They now have reduced morbidity and mortality by 80% yet in Tanzania less than 0.1% are estimated to have an access to these drugs resulting in majority of the patients dying without access to the drugs.  
• Even the few who have access to these drugs have no direct and transparent way of accessing to them (drugs) rationally.  
• Ensuring their quality and monitoring of the drugs in a scientific way.  
• There is available market in developing countries if prices can be reduced to affordable levels. | HIGH | • To develop an effective methods for monitoring efficacy, safety and potency of affordable anti-retroviral drugs relevant to Tanzania.  
• To conduct drug trials on affordable and safe anti-retroviral drugs for Tanzanian settings.                                                                 | 1    | MMC, KCMC, BMC, Mbeya Faculty of Pharmacy, MSD, MOH, RMO, DMO, NGOs Collaboration with Pharmaceutical Companies, MUCHS. | MOH, MSD, NACP, Health Care Facilities, NGO Pharmaceutical Companies. |
### CATEGORY 2: EPIDEMIOLOGY & SURVEILLANCE RESEARCH ISSUES

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| 1. Lack/Inadequate systematic information on the progression of HIV/AIDS/STIs epidemic and behavioural information. | • MTP-III document page 43 is emphasizing on monitoring.  
• Without this information, we cannot monitor the progression of epidemic.  
• Information required for use at National/ regional/district and sectoral planning. | HIGH | • How valid is the existing National HIV/AIDS/STIs sentinel surveillance system?  
• Determination of HIV prevalence among specific population groups e.g: Youths, CSWs, high way truck drivers.  
• What behavioural data can explain observed HIV/STI serological trends?  
• Development and field testing of operational protocols for systematic and regular behavioural surveillance.  
• Development of simple, affordable and effective models for National HIV/AIDS/STIs surveillance coverage, frequency sample size, cost effectiveness, simulation models etc. | 1 | MUCHS, NIMR, AMREF, GTZ, KCMC. | NACP |
| 2. Inadequacy of appropriate indicators of HIV and sexual risk behaviour. | (a) Most of the priorities in MTP-III seek to obtain behaviour change. Behaviour change cannot be measured without good indicators.  
(b) HIV is transmitted through sex and sexual behaviour is poorly understood in most of our population.  
(c) Research should look for sensitive and specific behavioural indicators, since at present we do not have better ones. | HIGH | • Design and test appropriate indicator for measuring risky sexual behaviour.  
• Which are the reliable and valid way of collecting sexual behaviour information?  
• In what ways can sex behaviour responses be validated? | 1 | TANESA, AMREF, NIMR, MUCHS. | NACP, MINISTRIES AND OTHER SECTORS. |
| 3. Inadequate Information on Factors related to HIV transmission in different groups. | (a). Such information will enable us to design appropriate/effective interventions. | MEDIUM | • Factors influencing HIV transmission among different age and population groups e.g. Youth, Street hawkers, miners etc.  
• Factors influencing mother to child transmission of HIV. | 1 | AMREF, NIMR, TANSE, KCMC, UDSM, MUCHS. | NGO, MINISTRIES, NACP. |
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<td>(b). Little has been done on HIV transmission on specific groups. There is need to expand interventions to specific population groups.</td>
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<td></td>
<td>• What are the necessary preparations/actions for HIV/STI vaccine trials?</td>
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</table>
| 4. Lack of adequate preparations for trials involving vaccines and immunomodulators for HIV/AIDS. | (a) Among the research objectives in MTP-III are:-  
  i. To develop means of preventing infection with the HIV.  
  ii. To develop better diagnostic and treatment methods for HIV/AIDS.  
(b) AIDS being a viral disease it is easier to make a vaccine against it. Therefore, we are bound to investigate for a vaccine against it. | MEDIUM| • What are the necessary preparations/actions for HIV/STI vaccine trials?  
  • Assessment of appropriateness of the newly developed algorithms for the treatment of STIs in high risk groups example (1) Regular presumptive in CSWs. (2) Use of vaginal microbicides to prevent STI/HIV in CSWs. |       | MUCHS, NIMR, KCMC. | MOH, MRALG. |
| 5. Lack of sufficient information on the efficacy of newly developed HIV/AIDS interventions including drugs. | (a). It is important to evaluate the efficacy and cost effectiveness of these interventions before widespread implementation in Tanzania.  
(b). Among the Research objectives of MTP-III is to monitor the spread of HIV and to determine the impact of interventions (page 46, MTP-III). | HIGH  | • What is the efficacy of newly HIV/AIDS developed interventions and anti-retroviral drugs?  
  • Assessment of appropriateness of the newly developed algorithms for the treatment of STIs in high risk groups example (1) Regular presumptive in CSWs. (2) Use of vaginal microbicides to prevent STI/HIV in CSWs. |       | MUCHS, NIMR, KCMC. | MOH, MCDWAC, MOEC, MLYD, NGO, NACP. |
| 6. Lack of information about the linkage between HIV/STIs prevalence, | (a) To assess the risk, hazard and impact of HIV/AIDS/STIs within their communities.  
(b) Bringing together researchers from different disciplines to explain | MEDIUM| • What are the explanations for the observed geographical variations in the magnitude and trends of HIV/AIDS/STIs?  
  • How does socio-economic, geographic and demographic factors contribute to the spread of HIV/AIDS/STIs?  
  • To investigate the association between environmental degradation/other factors and HIV/AIDS epidemic. |       | MUCHS, NIMR, UDSM, IDM, KCMC, SUA, NGOs. | MCDWAC, MOEC, MLYD, NGO, NACP. |
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<td>incidence and socio-economic-geographic and demographic factors.</td>
<td>observed differences.</td>
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### CATEGORY 3: SOCIAL BEHAVIOURAL AND COMMUNICATION RESEARCH ISSUES

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<tr>
<td>1. Gender and HIV/AIDS/STIs.</td>
<td>• Differences in social and sexual relationships between men and women.</td>
<td>HIGH</td>
<td>• Which factors are involved in gender behavioural variations?</td>
<td>1</td>
<td>TAMWA, TGNP, MCDWAC,</td>
<td>Community Development,</td>
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<td></td>
<td>• The need to empower women in decision making in matters related to sex.</td>
<td></td>
<td>• Investigation of opportunities for development of decision making, life skills in sexual relationships among women in HIV/AIDS prevention.</td>
<td>2</td>
<td>WAC, MMC, MUCHS.</td>
<td>UNICEF, TGNP, MOE, MLYD, UNFPA.</td>
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<td></td>
<td></td>
<td></td>
<td>• Role of economic empowerment of women in reducing HIV/AIDS transmission.</td>
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<td></td>
<td></td>
<td></td>
<td>• Opportunities for reduced vulnerability of women to HIV/AIDS infection.</td>
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<td>2. Behaviour responses to STIs (Health care seeking Behaviour).</td>
<td>• Poor health seeking behaviour.</td>
<td>HIGH</td>
<td>• What is the linkage of STIs to behaviour change?</td>
<td>1</td>
<td>AMREF, TANESA, GTZ,</td>
<td>MOH, GTZ, WHO, UNAIDS,</td>
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<td></td>
<td>• Continuing unsafe sex practices among high risk groups (mobile populations and commercial sex workers).</td>
<td></td>
<td>• Does knowledge of having STIs influence their sexual habits?</td>
<td>2</td>
<td>TAHEA, MMC.</td>
<td>UNDP, MMC.</td>
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<td></td>
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<td>• What makes people with STIs seek or not seek STIs services?</td>
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<td></td>
<td></td>
<td></td>
<td>• How and why do specific groups respond to STIs infection (women, mobile population, youth, CSW etc)?</td>
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<td>3. Inadequate/ inappropriate HIV/AIDS/STIs education for different target groups.</td>
<td>• Need for appropriate designs/packages for intervention in different target groups&lt;br&gt; • Increased number of education delivery agents&lt;br&gt; • Constraints of co-ordination and communication between the delivery agents&lt;br&gt; • Early pregnancies&lt;br&gt; • Increased of HIV infection among youths&lt;br&gt; • Lack of life skills (psychosocial)</td>
<td>HIGH</td>
<td>• A training needs assessment of appropriate HIV/AIDS/STIs education tailored for different target groups in the community (PLWHA, schools, workplaces, armed forces, prisons, youth).&lt;br&gt; • An investigation of the use of youth groups as change agents in HIV/AIDS education.&lt;br&gt; • Rationale and content of sexual and productive health and education among pupils in lower grades.&lt;br&gt; • Assessment of the quality of HIV/AIDS education being delivered by different agents in different settings.&lt;br&gt; • A study for appropriate methods and techniques of delivering HIV/AIDS education to different groups in the community.&lt;br&gt; • To identify underlying factors which will improve education opportunities for girls.</td>
<td>1</td>
<td>BAKWATA, MMC, PASADA, KWETU, Counselling Centre, MOE, MUCHS,</td>
<td>MOE, Community Development, UNICEF, Religious Organisations, NGOs, Labour and Youth.</td>
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<td>4. Barriers to promotion of safer sex in various target groups.</td>
<td>Priority area 4.2 (MTP-III) and the Fleet of Hope concept</td>
<td>HIGH</td>
<td>• What are the dynamics of stigma in the context of transmission of prevention of HIV/AIDS?&lt;br&gt; What (social, cultural) policy, ethical etc factors which are barriers to condom use for specific population groups?&lt;br&gt; What are the social, cultural and economic factors which influence risk sexual practices in different population groups?&lt;br&gt; How best can we promote mutual faithfulness and/or abstinence among different population groups?</td>
<td>1</td>
<td>UNICEF, TGNP, COSTECH, UDSM, MUCHS.</td>
<td>Religious Organisation, UNAIDS, Community Development, Labour and Youth, MOE, Justice.</td>
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| 5. Inadequate involvement of sectors in the multisectoral expanded response.    | Documented in MTP-III item 5.0 as programme management mechanisms and resource mobilisation. | HIGH  | • What are the strategic approaches and methodologies required for an effective expanded response?  
- Strategies for resource mobilisation in MTP-III appropriate organisation structures  
- What are the appropriate co-ordination for an effective response?  
- How is the expanded responses affected by agency reforms?  
• Investigate the reasons for poor political commitment and will.  
• What are the roles and responsibilities for the different institutions/sectors in the expanded response in HIV/AIDS control? | 1     | UDSM, DRDB, IDR.            | PMO, Local Government, USAID, WB, UNAIDS, NORAD. |
| 6. Role of socio-cultural and sexual practices in the spread of HIV/AIDS (female circumcision, wife inheritance, widow cleansing, dry sex, wet sex initiation, polygamy). | Documented in MTP-III under determinants of the epidemic. Certain socio and cultural sexual practices in different population groups are HIV/STIs epidemic determinants. | MEDIUM | • Patterns of sexual practices and behaviour in different community settings which influence HIV/STIs transmission. (e.g. initiation, FGM, cleansing, inheritance, Polygamy etc.)  
• The role of social cultural and sexual practices of traditional healers associated with their service delivery in the spread of HIV/AIDS.  
• The role of modern media (TV, pornography, magazines etc) and folklore media on risk sexual behaviour in young people.  
• What positive socio-cultural norms and values which encourage positive attitudes and decision making about sexual matters (to be promoted)?  
• The role of coercive sex, (aggression and victim profile). | 1     | Chuo cha Sanaa Bagamoyo, Social Welfare, UDSM, MOE. | MOE, UNAIDS, WB, USAID, CHAWATIATA. |
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| 7. Socio-economic status and stigma in HIV transmission.                       | Poverty and HIV correlation  
• Sex used for income generating activities.  
• Poor Nations have no resource investment in HIV/AIDS prevention information. | MEDIUM   | • Does poverty or affluence (richness) a risk factor in HIV/AIDS transmission. If so why?  
• What are the dynamics of stigma in the context of transmission of HIV/AIDS? | 1    | UDSM, COSTECH, REPPOA.                                                                                                                        | PLANNING COMMISSION, UNAIDS, FINANCE, INDUSTRIES. |
| 8 Lack of indicators for behavioural change.                                  | The need to measure impact and behavioural change.                             | HIGH     | • What are the base line levels of behavioural practices leading to HIV/AIDS/STIs?  
• What are the trends of these practices over time?  
• What are the appropriate indicators for behavioural change? | 1    | UDSM, MMC.                                                                                                                                  | PLANNING COMMISSION, MOH, WHO, UNAIDS.          |
| 9. Role of the media in HIV/AIDS/STIs response.                              | These are potential advocates  
The power of the media and mass communication in acknowledging information dissemination and promotion of change in society. | HIGH     | • What are the appropriate message for different target groups?  
• What are the appropriate channels for the dissemination of these messages?  
• How can the media be used for positive effective reporting? | 1    | TAMWA, IDM, UDSM, TSJ.                                                                                                                      | PMO, JUSTICE, TAMWA, TGNP, TCC, UNAIDS.         |
### CATEGORY 4: HEALTH AND SOCIAL SERVICES RESEARCH ISSUES

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| 1. Provision of medical and social—economic services to meet the needs of PLWHA, survivors the worried well, families and the communities. | • Improving the well-being of persons living with HIV/AIDS is emphasised in priority area No. 8 of MTP-III.  
• Denial, stigma and discrimination against PLWHA is a big problem in the health and non health sectors and communities. | High  | • What is the impact of stigma discrimination and denial to the provision of Medical and social services to PLWHA and survivors  
• What are the needs of care providers (individuals, families and communities)?  
• Which are the cost effective strategies for providing care and social support to PLWHA?  
• What is the unit cost of managing HIV/AIDS/STIs individuals in Tanzania?  
• Which households and communities to be targeted for assistance for impact mitigation?  
• How can households and communities be mobilised to respond to the needs of PLWHA?  
• What are key factors contributing to different responses in service delivery?  
• What impact has lack of reliable and affordable diagnostic methods on management of opportunistic infection, and malignancies in the HIV infected persons (clinical aspects)?  
• What mechanisms can be instituted for availability, affordability and accessibility of protective gears including condoms and anti-retroviral drugs? | 1    | Institute of Public Health, MOH, NACP Secretariat, MOH, MLYD, NGOs, All public and Private sectors, Religious organisation. |                                              |
| 2. Provision of Home Based Care Services for PLWHA.                            | • HIV/AIDS is a chronic disease.  
• Over-stretching of health care services.  
• Staying with their loved ones. | High  | • What is the relationship of High awareness level and stigma at community level?  
• What are the technical and financial support for optimal HBC?  
• What are the appropriate and affordable alternatives to Breast Milk for children born to HIV positive mothers who choose not to breast feed? | 2    | Academic Institution, NGOs and Private Sectors. | MOH, MJCA, NGOs, MRALG, Community, Regions, Districts. |
| 3. Provision of Voluntary Counselling and Testing (VCT) Services.             | • Through VCT you can identify individuals who are infected and hence can prevent HIV transmission.  
• May empower people to make informed decision related to their reproductive health.  
• It enables people to cope and reduces stigma | High  | • What are the determinants of utilisation and provision of voluntary counselling and testing services. (VCT)?  
• How should VCT be organised and financed?  
• What is the role of stigma in VCT? | 1    | Institute of Health and Academic Institution, NSWTTI | MOH, MLYD, NGOs, NACP Secretariat, Regional and District Hospitals, Consultants. |
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| 4. Provision of STIs services. | • Management of STIs reduces HIV transmission by about 38%.  
• STI may facilitate HIV transmission. | High | • What factors influence STI health care seeking behaviour - is quality an issue?  
• What mechanism can be instituted for availability, affordability and accessibility of STI drugs and supplies in health institutions?  
• Which factors influence compliance of partner notification?  
• What is the cost-effectiveness of syphilis screening at MCH clinic? | 1 | AMREF | MOH, Regional and District Hospitals. |
| 5. Provision of care and support to children orphaned by HIV/AIDS. | • Most of these orphans loose both parents.  
• With the growing size of the impact of HIV/AIDS communities may not be able to cope with the problem.  
• Children orphaned due to AIDS are stigmatised and may require special needs. | High | • What are the mechanisms to keep up to date orphan inventory and data?  
• What are the medical, social, physical and psychological needs of orphaned children?  
• How to overcome obstacles in the provision of care in relation to stigma in schools, family and community?  
• How are the families, communities, government, non governmental and religious organisations coping with the problem of orphans? | 1 | NSWITI and Academic Institutions and Health Institutions, NGOs. | MLYD, MOH, Communities, NGOs, Religious Institutions. |
| 6. Provision Youth friendly health and social services. | • It is documented within MTP-III Priority No. 5 (Reduce the vulnerability of youth to HIV/AIDS and other STIs)  
• It is a vulnerable group  
• 65% of Tanzanian are under the age of 25 years.  
• Economic force  
• Highly sexually active group  
• Force for change. | High | • What is the magnitude of HIV/AIDS/STIs among the youth?  
• What constraints do youth face in using existing health and social services?  
• What are the determinants of rural urban migration among youth? | 1 | All Academic Health Institutions particularly Health Inst., NSWITI, NGOs. | MOE, MLYD, MCDWAC, NGOs, CBOs Religious Institution, Donor/Partners |
| 7. Provision of appropriate health and social services to mobile population e.g. miners, street vendors, fishermen. | • Reduction of unsafe sexual behaviour among highly mobile population groups is a major priority area in MTP-III | High | • What are the determinants of high risk sexual behaviour among mobile populations?.  
• How should health and social services be provided to this population. | 1 | Academic and Health Inst. NSWITI, NIMR, TANESA, REPOA, AMREF | NGOs, Religious, Institution Donor/Partners |
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<th>RESEARCH INSTITUTIONS, NGOs, MOH, DONOR/ PARTNERS, RELIGIOUS ORGANISATIONS</th>
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| 8. Provision of health and social services to the refugees.                      | • Reduction of unsafe sexual behaviour among highly mobile population groups is one of priority areas in MTP-III  
• Special group among the mobile population special needs.                         | High | • What are the special needs of refugees in HIV/AIDS/STIs control?  
• What are the sexual and reproductive health needs for the refugees?               | 1    | Academic Institutions, NGOs, International organisation, Ministry of Home Affairs.                  |
| 9. Provision of Health and Social Services to Commercial Sex Workers.            | • Reduce HIV and other STI transmission among commercial sex workers is one of the MTP-III priorities.                                                                                                        | High | • What are the types of commercial sex practices and what are the appropriate interventions?  
• What are the environmental hazards of various end service materials in HIV/AIDS control (e.g. condoms, left drugs, and other products being produced to combat AIDS)? | 1    | Academic Institution, NIMR, AMREF, TANESA, KWETU Counsel.                                         |
| 10. Provision of Health and social services to the armed and security forces.    | Prevention unsafe sexual behaviour among the armed the security has been emphasised in MTP-III Priority area 4. Military personnel are at higher risk of HIV infection and other STIs than the general population. | High | • What are the needs of prisoners in relation to prevention and care for HIV/AIDS related issues?  
• What are the determinants of high risk sexual practices among the armed and security forces and what are the appropriate interventions? | 1    | Academic Institutions, Civil Military Alliance.                                                 |
Category 5: **Intervention Research Issues:**

Research carried out under categories 1-4, is meant to produce evidence for decision-making. However, in order to test such potential, it is strongly recommended that researchers can pilot test such results in an intervention basis in order to ensure utility. Results from intervention research must be widely disseminated in order to social market the intervention packages to all stakeholders. The best example is the 1991/92 STI study and HIV done in Mwanza. As the results were so widely published, many countries have used the findings to influence policy and programmatic activities in HIV/AIDS control and prevention. Yet, in many countries, before using the findings, pilot intervention work was carried out to validate the findings. The debate is on-going highlighting the impact of the research.
CHAPTER 5 : CONCLUSIONS AND RECOMMENDATIONS

After going through the process of prioritisation and taking into account the background research presentations, recognising the time that has elapsed between 1991 and 1999, the workshop made the following conclusions:

- There is need for Tanzania to consider new research priorities in order to answer the current dynamics of the HIV/AIDS epidemic
- It is important for researchers to consider new areas for operational research to respond to emerging research findings and realities of the epidemic

The following recommendations were made:

• All researchers on HIV/AIDS/STI/TB working in Tanzania, are strongly encouraged to refer to the priority research areas listed in this manual when selecting research subjects.

• The Ministry of Health, through the National AIDS Control Programme (NACP) shall co-ordinate all research activities and mobilise both internal and external resources.

• The National Research sub-committee for HIV/AIDS should guide researchers and ensure adherence to the research priority as well as wide research results dissemination.
Annex 1

Address List of Workshop Participants

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