
UGANDA NATIONAL HEALTH RESEARCH
ORGANISATION (UNHRO)

AN ANALYSIS OF
INSTITUTIONS DOING HEALTH RESEARCH
IN UGANDA - YEAR 2000

August 2000

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Executive Summary

The "Analysis of institutions doing health research in Uganda - Year 2000" is a report of the current situation in health research development in Uganda's research institutions, particularly aimed at determining the progress health research has achieved and problems experienced in implementing the Essential National Health Research (ENHR) plan for the period 1997 to 2001. Forty-eight institutions carrying out health research in Uganda answered a questionnaire addressing numbers of researchers, time spent on research, financial resources for research, perception of the research environment, dissemination and use of research results, networking, and collaboration among institutions. The findings of the study point to the following:

- While there is a reasonable number of researchers who can carry out research on health issues in many institutions, there are only a few institutions devoted to health research alone. Most of the other institutions carrying out health research are university institutions that are mainly devoted to teaching.
- Funds for research are generally scarce and more than 70% of the institutions that carry out research on health issues do not have a budget line for research. Even where there is a budget line for research, the percentage of the institutional total budget allocated to research is minimal.
- Most of the funding for health research is from external sources, though a few Ugandan private sector groups have provided some funding for health research.
- There are a few incentives for carrying out health research and generally there are many constraints including weak training, isolation of researchers, lack of equipment and supplies, lack of information, career difficulties, poor financing, etc.
- The research on health issues conducted at the different institutions addressed all the health research priority areas as outlined in Uganda's ENHR plan for the period 1997 to 2001.

- Uganda's health research output based on journal publications is low and little attention is paid to the need to present research results to the end users.
- Most of the institutions disseminate their research findings through workshops, conferences, seminars and journal publications. Only a few institutions have outreach programmes which go back to pass on research findings to the communities where the data was collected.
- There are many obstacles to disseminating research results, particularly publishing in peer-reviewed journals.
- Many research findings have been utilized in policy and decision-making.

Several conclusions and recommendations were made in this study. Some of the important ones include:

- There is a relatively well-developed health research system and a reasonable mass of researchers who are carrying out health research addressing almost all the health research priorities as set out in the ENHR plan the period 1997-2001.
- There is need for further local, regional and international collaboration and more integrated multidisciplinary approaches to research; and researchers should open up to end user communities, create networks, and go down to the community level to talk with public and private health-care providers who are usually the end users of research findings.
- Uganda National Health Research Organization (UNHRO) should assist in developing and implementing courses in priority research areas, and workshops on writing proposals and user-friendly reports. This will enhance the proposal and results writing skills of researchers.

- UNHRO should make arrangements for seminars, workshops and radio talks to improve the dissemination of research findings. There is a need for developing a respectable local peer-reviewed journal.
- Government should only employ those health researchers that it can effectively support to carry out health research.
- Uganda health researchers should be involved in the planning of the externally funded health research projects so as to address priority areas of health research of the country; researchers should participate as equal partners in the design and implementation of the collaborative programmes. This is essential for the long-term sustainability of collaborative programmes.
- All institutions carrying out health research should be encouraged and assisted in getting connected to e-mail and the Internet as this enables networking.
- Government should increase the percentage of the GDP that is allocated to health, so that the level of funding for health research can also be increased.

There appears to be a great potential for health research if capacities were strengthened, an enabling environment was maintained and if better financing and international partnerships were improved.

A. INTRODUCTION

In 1990, the Commission on Health Research for Development proposed a set of strategies through which the potential of research could be harnessed to accelerate health improvements and overcome health inequities throughout the world. The Commission envisaged a pluralistic, worldwide health research system that would nurture productive national scientific groups linked together in transnational networks able to address both national and global health problems. The first recommendation of the Commission was that "all countries should vigorously undertake Essential National Health Research (ENHR)". The term, Essential National Health Research (ENHR), was used to describe the health research and the health research capacity that each country should have. Each country should have a health research base enabling it to understand its own health problems.

Uganda, right away in 1990 embraced the concept of Essential National Health Research (ENHR) and implementation of Essential National Health Research (ENHR) strategy was started in 1991. An Ad-hoc committee on Essential National Health Research (ENHR) was set up in the Uganda National Council of Science and Technology (UNCST) to plan and oversee the activities of Essential National Health Research (ENHR). It developed the mechanisms for research priority setting, which were followed by the development of a national Essential National Health Research (ENHR) plan. To date Uganda has gone through one national Essential National Health Research (ENHR) plan (1993-1995) and is about to complete the second national Essential National Health Research (ENHR) plan (1997-2001).

A secretariat to implement the Essential National Health Research (ENHR) strategy, to be known as the Uganda National Health Research Organization (UNHRO) was established by the Ministry of Health in 1997. UNHRO was instituted to promote, coordinate and provide guidance for health research and development in the country, as well as to provide technical back up and support to districts. Uganda National Health Research Organization (UNHRO) took over the functions of the Ad-hoc committee on Essential National Health Research (ENHR). The UNHRO Secretariat is responsible for mobilizing resources; setting a priority research agenda;

mobilizing the relevant skills and resources to analyze, disseminate and utilize health research results; commissioning and organizing health research in collaboration with other research and academic institutions, NGOs and other related national and international organizations. The process of establishing UNHRO by act of parliament is now in a very advanced state.

In 1997 Uganda was selected to be one of the countries to conduct country case studies for capacity development for essential national health research. Uganda was selected because of its considerable experience with Essential National Health Research (ENHR), including the application of the Essential National Health Research (ENHR) approach at the district level. One of the objectives of this study was to review Uganda's current capacity to conduct, use and manage priority - driven health research. The study focused on two categories of institutions: those directly involved in conducting research, and those that are primarily funders and users of research. The results of the study were compiled into a working paper "An Analysis of Uganda's Capacity for Essential National Health Research (ENHR)" which was circulated in 1998. Over 30 participants representing relevant research institutions, funding and user agencies, government, non-government organizations, students and the community, discussed the working paper at a workshop.

The development of a national health research database, to include a continuation of a project registry (then located at the UNCST), an inventory of health research organizations (including a 'profile' on each organization), an inventory of funding agencies, and a listing of individual researchers was one of the key recommendations of the workshop participants which was given highest priority. UNHRO has since strived to implement the requirements of this recommendation especially as it is inline with the specific functions of UNHRO which address research institutions as listed below:

- To register, renew and co-ordinate different types of health research in the country and promote multidisciplinary and intersectoral research collaboration in a bid to establish Essential National Health Research that is consistent with the National Health Research Plan.

- Develop, strengthen and supervise health research institutes presently under the Ministry of Health and any others established.
- Facilitate UNHRO institutions; other organisations and persons affiliated to UNHRO in the mobilisation of resources for their approved Research Projects and Health Research Plan.
- Strengthen the national health research capacity in research institutions including the Ministry of Health and the communities and a quality human resource infrastructure which is capable of responding to the essential research demands of the country.

UNHRO compiled a list of research institutions including their profiles and these were circulated to different research institutions and other relevant organisations. A series of profiles of some of the health research institutions have also appeared in the past issues of the UNHRO Newsletter. However, UNHRO needs to periodically update itself on the current situation in health research for development and be able to work out steps to foster nationally relevant research in the country. An accurate assessment of the success or failure of a country in implementing the Essential National Health Research (ENHR) strategy is of great value both to those locally planning the next step and to others elsewhere ready to learn from the experiences of others. Health Research Institutions form an important component in fulfilling the strategies of Essential National Health Research (ENHR). There is the need to know whether there is a critical mass of researchers to undertake health research, who are provided with support and are able to communicate with each other and other regional and international groups. There is a need to periodically assess information gaps and existing research efforts, and develop a responsive national agenda. Lack of this information makes it difficult to effectively plan and fulfill the agenda for the national Essential National Health Research (ENHR). By evaluating the engines that drive health research in a country, it is possible to measure the effectiveness of the country's mechanism for supporting health research and Essential National Health Research (ENHR). Evaluation also serves to pinpoint areas for improvement. Therefore, UNHRO undertook the study herein reported to gather pertinent information on health research institutions in Uganda.

B. MAIN OBJECTIVE OF THE STUDY

The main objective of the study was to review the current situation in health research for development in Uganda's health research institutions especially to determine progress achieved and the problems experienced in implementing ENHR plan (1997-2001).

The specific objectives among others included:

- To assess the skills available for conducting health research in Uganda's research institutions.
- To assess on going health research in Uganda's research institutions.
- To determine whether the health research going on in these institutions is relevant to Uganda's health research priorities and whether this research is being translated into policies.
- To assess the proportion of the Institutions' budgets allocated for health research.
- To assess the level of collaboration between national, regional and international health research institutions.
- To ascertain factors which foster/hinder dissemination of health research findings and their use by research users.

C. STUDY METHODS

C. 1. Study Team

A team of six people from the UNHRO Secretariat, some research institutions, and from a hospital was drawn as follows:

1. Prof. Raphael Owor, Director - UNHRO, Team Leader
2. Dr. C. Ssali, Entebbe General Hospital
3. Dr. G. Owor, Mulago Hospital, Makerere University
4. Dr. J. J. Lutwama, Uganda Virus Research Institute, Entebbe
5. Mr. D. Waiswa, Faculty of Social Sciences, Makerere University
6. Mr. J. Wasike, Faculty of Social Sciences, Makerere University

C. 2. Methods

In 1998, the East African Cooperation compiled a checklist of institutions, organizations and agencies involved in conducting research in Uganda, Kenya, and Tanzania. A smaller checklist of institutions, organizations, and agencies carrying out research on health issues in Uganda was compiled by selecting them from the original checklist. Other institutions carrying out health research in Uganda were added to this checklist through roundtable discussions by the study team.

A questionnaire addressing the specific objectives outlined above in section B was drawn (see appendix I for the questionnaire). The following areas were considered for examination:

- a) Researchers: Numbers, disciplines, type of research and time available for research.
- b) Funding: both internal and external funding.
- c) Perception of research environment.
- d) Dissemination and use of research results.
- e) Networking and collaboration.

C. 3. Source of Information

Members of the study team were assigned a set of institutions involved in health research from the checklist. The members were assigned to go to institutions to which they were familiar. The

head of the institutions or an assignee by the head of the institution/organization was interviewed and afterwards the interviewer went around the institution to see the work going on in the institution.

D. RESULTS OF THE STUDY

The original number of institutions on the checklist to be studied was 64 but some of these institutions did not answer the questionnaire. Data was collected from 57 institutions, mainly from around Kampala who responded to the questionnaire. Some institutions indicated that they were not carrying out any health related research at the time, while others indicated that they only commission health related research but they do not carry out the studies themselves. Two other institutions, probably because of time constraint did not provide time to be interviewed.

The Institutions from which data was collected are presented in Appendix II. The name, physical address, postal address, telephone and Fax numbers, plus the e-mail addresses for each institution are presented.

D1. Researchers

Numbers, disciplines, and type of research

The number of researchers available at the different institutions/organizations is provided in Appendix II for each institution. Many respondents to the questionnaire gave a breakdown of the number of researchers into different categories (Basic Scientists, Clinicians, Epidemiologists, Social/Behavioural Scientists etc.). This is also shown for the particular institution in appendix II. Below in Table 1 are the totals in the different categories for the studied institutions. The total number of researchers as given in the table was for all the researchers of the particular category in all the studied institutions. The overall total of researchers in all categories was 612. Although the qualifications of the researchers were not given, this represents an appreciable number of researchers.

Category of Researchers	Total Number of researchers in all Institutions	Number of Institutions having this category of researchers
1. Basic Scientists	92	15
2. Clinicians	144	22
3. Epidemiologists	32	10
4. Sociologists	41	8
5. Statisticians/Biostatisticians	17	7
6. Behavioural Scientists	15	4
7. Political Scientists	10	3
8. Entomologists	11	4
9. Food Technologists	15	1
10. Water Specialists/Sanitary and water engineers	11	1
11. Music, Dance and Drama	11	1
12. Manufacturing Technologists	10	1
13. Nurses	25	4
14. Physiotherapists	8	1
15. Applied Operational Health researchers	8	1
16. Occupational Therapists	9	2
17. Demographers	8	4
18. Nutritionists	7	4
19. Ceramics and chemical Engineers	5	1
20. Virologists	5	6
21. Social Anthropologists	5	4
22. Immunologists	4	2
23. Industrial and Organisational Psychologists	4	1

24. Educational and Organisational Psychologists	6	2
25. Social and Organisational Psychologists	2	1
26. Clinical Psychologists	1	1
27. Psychologists	1	1
28. Developmental and Organisational Psychologists	4	1
29. Pharmaceutics	4	1
30. Pharmaceutical chemists	3	1
31. Pharmacognocoy	3	1
32. Clinical Pharmacists	3	1
33. Social Pharmacists	2	1
34. Veterinary Preventive Medicine	4	1
35. Veterinary Public Health	4	1
36. Medical Illustrator	2	1
37. Lawyers	4	3
38. Microbiologists	3	3
39. Food microbiologists	1	1
40. Medical Anthropologists	3	2
41. Economists	3	3
42. Econometrician	3	1
43. Social Policy Analysts	3	1
44. Political economists	3	1
45. Public Health researchers	5	2
46. Information Scientists	3	1
47. Catalogue Scientists	3	1
48. Librarians	3	1
49. Editing/Editorship	3	1
50. Community Health Worker	2	1

51. Animal Health Economists	1	1
52. Environmental Toxicologist	2	2
53. Pharmacist	1	1
54. Parasitologists	1	1
55. Protozoologists	1	1
56. Biochemists	1	1
57. Molecular biologist	1	1
58. Obstetricians & Gynaecologists	20	1
59. Histopathologists	6	1
T O T A L	612	

Time available for research

The time spent on research is quite variable depending on the main activity of the institution carrying out health research. Some institutions especially the teaching institutions like those found at Makerere University are mainly teaching institutions (these made a big percentage of the institutions studied). The time spent on research in these institutions is usually limited. However, for other institutions like Uganda Virus Research Institute (UVRI) and Trypanosomiasis Research in LIRI, most of the time is spent on research, as these are institutions dedicated to research. For the institutions which responded to the question of how much time is allocated to health research functions by the employees (38 institutions), 63% (24/38) indicated that their employees spend 20% or less of their time on health research functions; 16% and 11% of the institutions which responded spend up to 50% and 70% of their time on health research functions, respectively. Only 11% of the institutions which responded spend up to 100% of their time on health research functions.

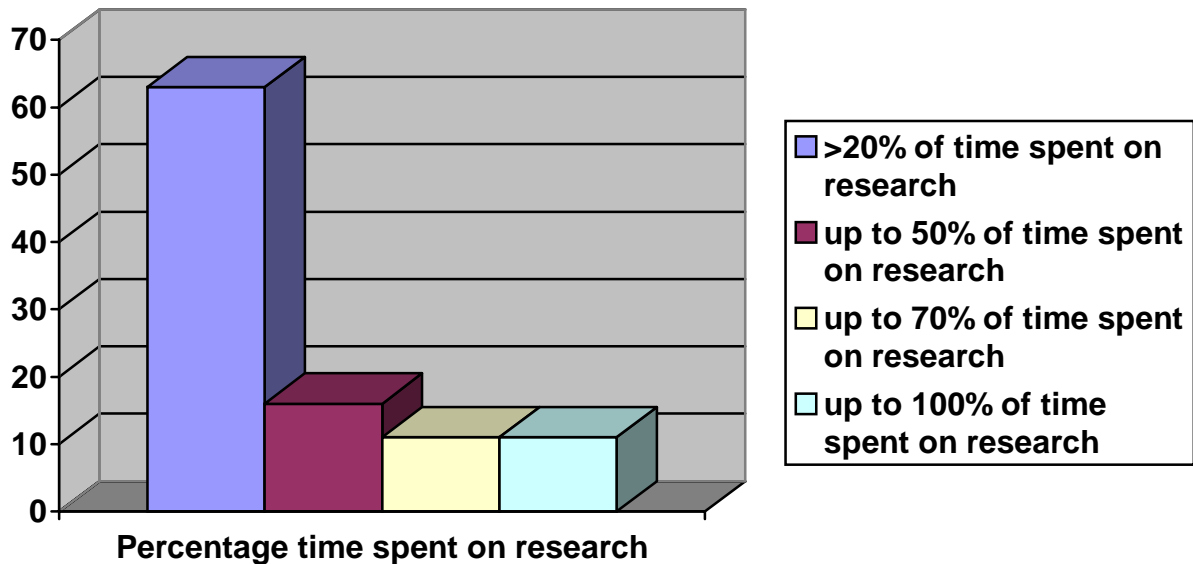


Figure 1. Bar graph showing the percentage of time spent on research by the different research institutions (38 institutions).

There are only a few institutions that are mainly devoted to health research functions. The demand for health research is greatly increasing due to evidence-based approaches by policy makers, thus there is a need to devote more time to health research or even to put up more institutions devoted to health research to provide research results.

D2. Financial resources for health research

Budgets for health research

Funds for research are generally scarce and many institutions that carry out research do not have a budget line for research on health issues. Figure 2 below gives a breakdown of the institutions which have and those which do not have a budget line for research. Of the 57 institutions studied only 23% have a budget line for research, and one institution (2%) only occasionally gets a budget line for research.

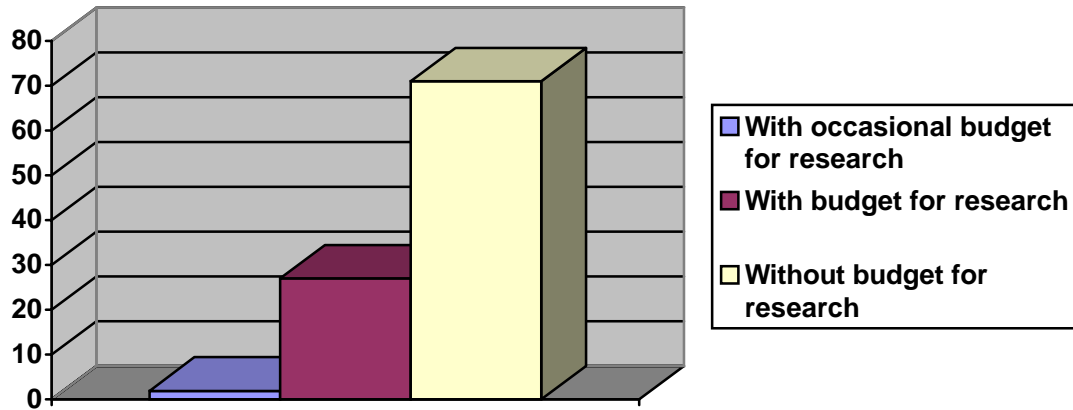


Figure 2. Bar graph showing percentage of institution with and without a budget line for research

Even where there is a budget line for research, the percentage of the total budget allocated to research is minimal. Half of the institutions with a budget line for research (50%) have less than 10% of their budget allocated for research (See Figure 3). Of the other half who have a budget line for research, 21% had a budget line of between 10 to 60% of the total budget of their institutions. The rest (3/14) had a budget line allocated for research of more than 60% of their total institutional budget. The actual amounts of money for research were not requested, not only did we not expect to get the true figures, but also this type of detailed information is usually altogether not available.

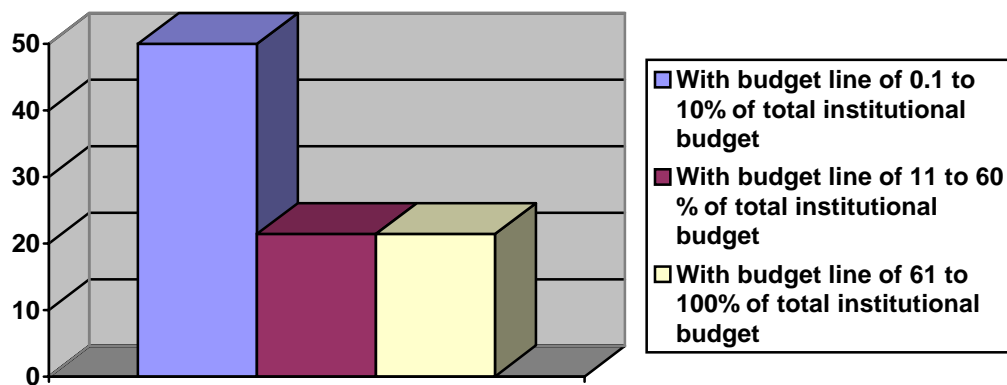


Figure 3. Bar graph showing percentage of the total institutional budgets allocated for research among institutions which have a budget line for research.

Sources of funds for health research

In the survey no distinction was made between how much funding for health research comes from local and foreign funding agencies. However, institutions were requested to list agencies, both internal and external, that have assisted in providing funds for research. On the whole many institutions have received funding mostly from external sources. Many institutions did not name any internal agency while the majority had more than 4 external funding institutions.

While no data was collected in this study on the actual amounts of funds provided for research, some data is here provided from a survey of research funding in Uganda conducted in 2000 and compiled by a rapid response task force of the Uganda National Council of Science and Technology (See "A Survey of Research and Research Funding in Uganda", UNCST, January 2000). The findings of that survey on financing of research in Uganda which are pertinent to this study are summarized in the bullets below.

- There are three main sources of Research & Development (R&D) funds available. These are the external (donor community), Government, and to a lesser extent, local non-profit/non-government organizations (NGOs).
- Between the period 1990 to 1997 inclusive, a total of 1,015 projects were registered by the UNCST. The total R&D funding during this period was Ug.Shs.39,501 million of which external support was responsible for the greatest proportion of 92% of the total, with government contributing 5%, and local NGOs contributing 3%.
- A comparison of the annual R&D expenditure allocated to various disciplines showed that in the Medical and Veterinary Sciences, a total of 189 projects were registered between 1990-1997. The total R&D funding in this period was 19,144 million, of which external funding (donor funds) accounted for 98.84%, government 1.14% and local NGO's (0.02%).

In an earlier report on Uganda's capacity for Essential National Health Research conducted in 1998 (See "An analysis of Uganda's capacity for Essential National Health Research (ENHR)" by UNHRO, May 1998), the issues of funding for health research were analyzed. Funding data compiled for all approved health research projects for the period 1993 to 1997 as obtained from a data base of approved research projects in Uganda kept at the UNCST, indicated the following:

- Out of a total of US\$11,683,660 for health research in approved projects, US\$11,578,837 (99%) was from external sources, and only US\$104,823 (0.9%) was from internal sources. (NB: The indirect contribution of the government such as providing facilities and salaries is however not included).

Below are groups/categories of agencies that were indicated by the respondents of the questionnaire to be providing funding for health research in the different institutions. The grouping here used is partly adapted from the one used in "Health Research for Development: the continuing challenge", a discussion paper prepared for the International Conference on Health Research for Development Bangkok, 10–13 October 2000.

Internal Funding Agencies

a. Universities

- Makerere University, Kampala
- Mbarara University of Science and Technology

b. Government bodies/Ministries

- Ministry of Health
- Ministry of Finance
- Ministry of Agriculture, Animal Industries, and Forestry
- National Medical Stores
- National Drug Authority
- Uganda National Council of Science and Technology
- National Water and Sewerage Corporation

c. Non-Government Organizations

- British American Tobacco - Uganda
- CELTEL - Uganda
- Unilever Uganda Limited
- Uganda Breweries Limited
- National Union of Researchers and Research Users
- Rural Water and sanitation project (RUWASA)
- Mobile Telecommunication Network - Uganda (MTN)
- Uganda Manufacturer's Association (UMA)
- Uganda BATA Shoe Company

External Funding Agencies

a. Universities

- University of Bristol, UK
- Johns Hopkins University, USA
- Nagasaki University, Japan
- City College, NY, USA
- Case Western Research University, USA
- Inter-University Council for East Africa
- Institute of Development Studies, UK
- Norwegian Universities' Committee for Development and Education, NUFU

b. Government Structures

- Centers for Diseases Control and Prevention (CDC), USA
- National Institutes of Health (NIH), USA
- Medical Research Council, UK
- United States Agency for International Development, USAID, USA
- Japanese International Cooperation Agency, JICA, Japan
- Danish Development Assistance, DANIDA, Denmark
- International Development Research Council, IDRC, Canada

- Norwegian Agency for Development Cooperation, NORAD, Norway
- Swedish International Development Cooperation Agency, SIDA, Sweden
- German Academic Exchange Service, DAAD, Germany
- Department of International Development, DFID, UK
- Danish Bilharzia Laboratories, Denmark
- Tropical Health Education Trust, UK
- International Development Research Council, Canada
- The Netherlands Government
- The Chinese Government
- Department for International Development Cooperation, FINNIDA, Finland
- Swedish Department for Research Cooperation, SAREC,
- National Cancer Institute, Naples, Italy

c. International Non-Government structures

- The Joint United Nations Programme on HIV/AIDS, UNAIDS
- United Nations Fund for Population Activities
- World Health Organization
- WHO/Global Program on Aids
- International Clinical Epidemiology Network, INCLEN
- World Bank
- Canadian Network for Surgery, CNIS
- European Union
- International Committee for Scientific Cooperation (ICSC) -World Laboratories
- United Nations Drug Control Program
- International Atomic Energy Agency, IAEA
- Common Fund for Commodities
- Third World Association for Science, TWAS
- African Programme for Onchocerciasis Control, APOC
- World Association of Industrial and Technology Research Organization, WAITRO
- Council for the Development of Social Science Research in Africa, CODESRIA
- International Federation of the Red Cross

- Population Council
- Food and Agricultural Organisation, FAO
- United Nations Children's Fund, UNICEF
- United Nations Development Programme, UNDP
- International Union Against Tuberculosis
- Danish Red Cross

d. Not for profit, Private funding Corporations and Foundations (Philanthropic agencies)

- Plan International
- Conservation Food and Health Inc., USA
- Carnegie Corporation, USA
- Rockefeller Foundation, USA
- Research International
- Agha Khan Foundation
- Ford Foundation, USA
- World Vision, UK
- New England Biological Laboratories, USA
- CARE
- OXFAM
- Germany Leprosy Relief Association
- Action Aid

D3. Perception of research environment

Incentives for carrying out health research

Almost half of the respondents (~44%) did not indicate any type of incentives for carrying out research in their institutions. Various institutions however, indicated the following incentives:

- ***Proposals supported by external funding and salaries:*** In some institutions researchers are allowed to write proposals and obtain externally funded grants to support their research and also where extra salaries or allowances can be paid. Sometimes the institutions assist the researchers to compete for these externally funded grants. A key indicator that encourages researchers is the ability to compete successfully for competitive grants. Scientists and institutions obtaining these grants are highly regarded.
- ***Further training and higher qualification:*** Many researchers begin their careers after getting a first degree. If they are not encouraged to train further, they would not be able to carry out research work effectively and their productivity will be low. There is thus need to always encourage training for higher qualifications, that is when the country will get a core group of qualified scientific expertise to carry out health research for development. Appropriate professional training, support, and career incentives are key factors in attracting outstanding young professionals.
- ***Good salaries and better financial gains:*** Many institutions where there are externally funded programmes, staff are given better salaries or allowances to motivate them do more work. In institutions where you have some people working on projects and others are only supported by government, the people on projects are usually more productive because they get a better salary or an allowance commensurate with the effort they put in. (This sometimes leads to disincentive to the people being paid by government).
- ***Support for researchers to present research finding both within and out of the country (conferences/ publications):*** It is very encouraging for researchers to be able to present their research findings at conferences/workshops/symposia. Usually however, there are no funds to enable researchers to go to present their work. Often it is also impossible to have their work published in international journals because of lack of publishing "God-Fathers" or because of lack of funds to publish in pay-per-page journals. Publication in peer-reviewed journals attest that the articles have been

judged to be of high scientific quality. This is a positive reflection on the caliber of the scientist and it encourages the scientist to produce more work.

- ***Promotional awards/performance awards/International awards:*** Two institutions provide for monthly, quarterly or annual promotional/performance awards which encourage researchers and other workers to excel at their jobs. This motivates them to do a lot more. The awards may be in form of certificates, money, or promotion. What is important is recognition that the researchers are putting in some effort to do their work well. There must be a career structure for researchers as well as adequate remuneration commensurate to the work and status of researchers. Some programmes that are affiliated to intentional bodies do provide international recognition/awards. These do tremendously encourage the researchers.
- ***Provision of facilities like, good libraries, computers, transport, etc.:*** Lack of facilities to do a good job, and lack of access to information reduces productivity and are disincentives for work. Where facilities are provided, for example computers connected to the Internet, assist the researchers to search for all the information they need without spending a lot of time looking for journals in libraries, which often are not well stocked with journals. Adequate infrastructure, equipment and supplies including communication facilities and a favourable working environment encourage researchers to work more.
- ***Membership in societies (for international membership):*** Occasionally institutions, mainly those with external programmes pay membership fees for their staff to join international societies, it encourages them to participate in different activities which in turn encourage them to be more productive.

Perceived overall research capacity of the institutions

The respondents were asked to give an overall view of the capacity of their institutions to carry out research. Most of the institutions said they had a high capacity for conducting research,

however they had lots of constraints that are limiting the level of research undertaken. Below is a listing of the main constraints:

1. Limited laboratory space
2. Financial constraints - no money to conduct research
3. Inadequate manpower, particularly support staff (there is need to lift the Government embargo on staff recruitment)
4. Limited establishment
5. Lack of vision on career development in health research
6. Not enough skills for research
7. Lack of supplies
8. Time limitation - especially in the University Departments where most of the time is devoted to teaching and consultancies
9. Lack of incentives and other motivation
10. Lack of libraries with new journals and lack of proper communication systems (including connection to e-mails and internet).
11. There is poor administration of research with individuals doing their own work as part of consultancies or on several projects not known to the institutions administration (poor coordination of research in the institutions).
12. There is secretiveness on behalf of individual researchers as to what they are doing. This limits the amount of work to be done as each does ones own research instead of having multidisciplinary research.

D4. Dissemination and use of research results

D4.1. Dissemination of research results

All institutions that responded to the questionnaire indicated that they periodically disseminate the information generated from their research. However, they also indicated that they had numerous obstacles to disseminating their findings. Below is a list of the methods used for dissemination of results and the obstacles they find in disseminating their findings:

Methods of disseminations

- Publications in local and international journals
- Conference presentations of results
- Scientific seminars (shareholders seminars)
- Workshops
- Public lectures
- Theses
- Interactive discussions with people who provided the information
- Outreach programmes
- Production in Newsletter and supplements
- Annual reports; Institutional reports, etc.
- Training session (short courses)
- Study visits
- Radio talks
- Newspaper
- Grand rounds
- Shows/documentaries
- Brochures
- Monographs
- E-mail/Internet
- Working paper

On analysis to determine the most commonly used method of dissemination, it was found that most institutions rely on scientific seminars, workshops and conferences both local and international. Many other institutions publish their results in journals. Dissemination by media and outreach programmes which usually are addressed to the community where the research was carried out are not as commonly used. Figure 4 shows a bar graph of the dissemination methods. Some of the methods were grouped together where they refer more or less to a similar method.

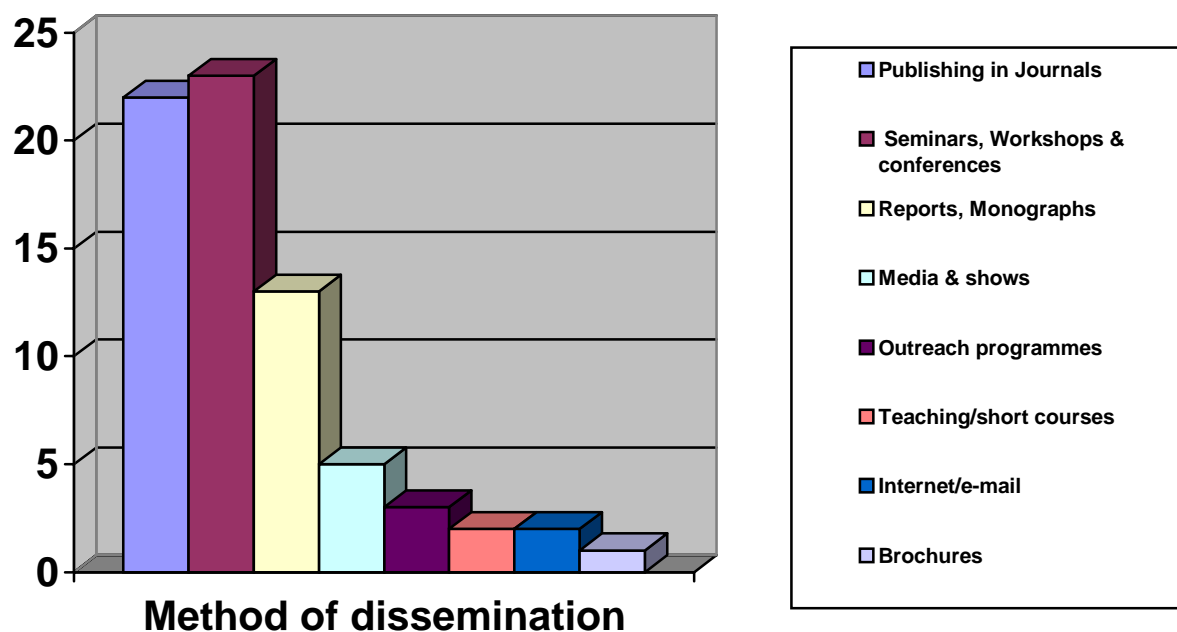


Figure 4. Methods used in dissemination of research results

Obstacles to disseminating research results

- Lack of funds (financial problems)
- Lack of journals that are reputable in the country (peer reviewed journals)
- Time – constraints
- Lack of communication facilities
- Financial constraints limiting attendance of conference/workshops/seminars
- Analysis of data
- Lack of access to current journal
- Getting papers accepted by journals (especially at initial publication in that journal)
- Failing to write paper to acceptable standard (lack of adequate skills)
- Not all research results get accepted by end users
- Discouragement from and users of results
- Delay in publications of accepted papers especially in local and regional journals

- Limited avenues for publication – lack of serious efforts by health researchers to start journals for publication.
- Lack of modern equipment and methodologies
- Lack of websites for different institution
- Lack of organizational incentives
- Culture of secrecy over research and publication among colleagues

Obstacles in trying to publish results in peer-reviewed journals

It was asked, in the questionnaire, what obstacles researchers in the different institutions meet when trying to publish in peer-reviewed journals. Below is a summary of some of the answers that were given:

- Time constraints to publish
- No publishing atmosphere (lack of a publishing culture)
- Lack of funding for article preparations
- Lack of funds for pay-per-page publications
- Inadequate skills – and inadequate standards
- Lack of modern equipment and methodologies
- Lack of journals themselves
- Differences of formatting in different journals and differences of write up e.g. references
- Lack of initial recognition in a journal before publishing in it (problems of god fathers)
- Research done may not be a priority to international journals: Subject matter usually is of local interest.
- Lack of locally peer reviewed journals
- Discouragement from editors and publishers in peer reviewed journals (demoralization)
- Reviewer bias-for articles from 3rd world countries

The list of publications from the different research institutions is provided for each institute in Appendix II. Only a few institutions gave a list of publications from their work for the year 1999. The lists indicate that the volume of published work is minimal for many institutions.

D4.2. Use of research results

A critical reason for research is to provide the basis for effective planning and the wide use of scarce resources. Health policies and action by government and private agencies in diverse settings can be strengthened through research. Ministries of health should make research a central and dynamic part of policy formulation, planning implementation and programme evaluation. Research provides the background of data and empirical generalizations from which policy ideas and choices are derived. However, effective health research can only lead to action when researchers stop focusing on producing publications and start translating research results into action, and researchers should communicate their results more effectively to the potential users.

Research that could result into changes in practices or policies

Most of the institutions have carried out research that has contributed to policy changes or to changes in practices. The contribution of each individual research programme may appear to be minimal because changes are normally slowly adopted. There is a need for researchers to have greater interaction among the different users of research to enable more of their research results to be understood and be used. Out of many research studies that were completed, a few studies that demonstrate how research has contributed to changes in practice and in the enactment of policies are given in details below.

The Medical Research Council Programme on AIDS in Uganda based at Uganda Virus Research Institute has carried out many studies on the population dynamics of HIV-1 transmission, Natural history of HIV-1, and on Social and behavioural studies related to intervention in a rural setting in Kyamulibwa, Kalungu County, Masaka district. A few of their findings with implications for health policy and strategy development include the following (UVRI Annual Report 1998):

- A strong relationship has been found between a history of drinking alcohol and HIV infection. There was a three-fold risk associated with alcohol which remained after adjusting for age, sex, schooling, marital status and religion. *This association has been suspected but not previously proven in an African population. Public health campaigns need to stress the relationship between alcohol and HIV.*
- In concordant HIV negative couples, males bring infection into the marriage at twice the rate of females. This is probably due to extramarital sexual behavior. In sero-discordant couples, females seroconvert at twice the rate of males. This is probably due to increased biological susceptibility. Uninfected adults in discordant relationships have 10-fold risk of HIV for males and 100-fold risk for females compared to adults in concordant negative relationships. *This provides insight into the population dynamics of HIV infection. It also strengthens arguments for expanded HIV testing and counseling services.*
- In rural Uganda HIV infection significantly increases the risk of malaria parasitaemia and clinical malaria. The risk of clinical malaria increases with progressive immunosuppression. *This interaction between HIV and malaria is of great public health importance as HIV and malaria are both common and serious conditions. Any association is likely to lead to increased mortality and morbidity.*
- Detailed social studies of sexual behavior show that condom use has increased, tends to be under-reported and about two-thirds of use is associated with protection against HIV or STDs. In contrast the number of sexual partners has decreased, but tends to be over-reported and is almost always associated with avoidance of HIV and AIDS. *These studies complement epidemiological surveys in the same population, which suggest that condom use is the primary behavioural change in response to the HIV epidemic.*
- The HIV epidemic has exacerbated the problems of the elderly in rural Uganda. Not only are they at risk of infection themselves, but their children are more likely to die prematurely, leaving their parents to care for them and their grandchildren, to pay

medical and burial costs, with no prospect of receiving support from those children. Elderly women are particularly disadvantaged. *Policy makers need to take account of the needs of the elderly in rural Uganda and provide more support.*

The Rakai Project (based UVRI) carried out a study that tested the hypothesis that community-level control of sexually transmitted diseases (STD) would result in lower incidence of HIV-1 infection in comparison with control communities (Lancet 1999, Vol. 353; 525-535). This randomised, controlled, single -masked, community- based trial of intensive STD control, via home-based mass antibiotic treatment, took place in Rakai District, Uganda. No effect of the STD intervention on the incidence of HIV-1 infection was observed. In the Rakai population, a substantial proportion of HIV-1 acquisition appears to occur independently of treatable STD cofactor. This study took place in a rural area with high rates of HIV-1 infection and STDs. *Mass treatment of STDs as a policy for control of HIV-1 infection is not appropriate.*

Other studies from different institutions that were reported to have been completed and have led to changes in major policy and practices are given below. They are divided into 6 groups according to the priority area of research as provided in the Uganda ENHR plan for the period 1997-2001:

1. Maternal, Child Health and Nutrition:

- I. Immunization coverage surveys
- II. Reproductive health and child nutrition policies
- III. Understanding street children
- IV. Management of childhood diarrhoea
- V. Caretaker behaviour in the management of childhood illness
- VI. The effect of nutritional status on outcomes of care in children with HIV/AIDS
- VII. Evaluating the impact of “speak-out Teen Radio show” (Radio Simba Programme)
- VIII. Adolescent fertility surveys- led to enactment of minimum marriage age for girls
- IX. Research on practices of local vegetable production

2. Water Sanitation and Environment:

- I. Water treatment regimes
- II. Water treatment low cost technology
- III. Water hyacinth research which led to the control of the weed on Uganda's lakes

3. Communicable Diseases:

- I. Evaluation of practices (programmes) for HIV/AIDS community programmes (how best to be implemented the programmes)
- II. TB-dots national strategy – caps study on drug delivery schemes
- III. TB preventive study – INH in short term prevented – TB on people who are HIV positive
- IV. Tocecyclon immunomodulation given to people who cannot afford ARU's
- V. 1st HIV vaccine trials in Uganda.
- VI. HIV/AIDS risk behaviour.
- VII. Modified AIDS outreach campaign in Uganda.
- VIII. Mass treatment of STDs and impact on HIV transmission.
- IX. Behavioural change and improved STD management.

4. Non-communicable diseases:

- I. Use of mono-screen traps for tsetse fly trapping.
- II. Onchocerciasis research – lead to establishment of African Programme for onchocerciasis control.
- III. Knowledge, Attitudes, and Practices on malaria.
- IV. Diagnostic tool for loa-loa detection.
- V. Application of pour-ons on 10% livestock as sleeping sickness control strategy
- VI. Schistosomiasis drug regimen studies.
- VII. Bed nets studies/impregnated aprons led to policy changes on bed nets importations
- VIII. Improvement in treatment of poisons.

- IX. Prevalence, intensity and environmental risk factors of schistosomiasis (mansoni).
A case study of Busiro County, Mpigi District - Uganda
- X. Non-filarial elephantiasis in the Mt. Elgon area (Kapchorwa District) of Uganda.
- XI. Lymphatic filariasis in Uganda: baseline investigations in Lira, Soroti and Katakwi Districts of Uganda.

5. Health Policy and Health systems:

- I. Integration of traditional medicine in normal health practices
- II. Capacity building research for Red Cross branches
- III. Gender relations and contraceptive use
- IV. Health management committee
- V. Negotiating reproductive outcomes
- VI. Public private health/delivery ...mix policy studies
- VII. Informal health markets
- VIII. Health policy research – health and sanitation
- IX. Self destructive behaviour research – in Makerere University students
- X. Social policy reforms in Eastern of Southern Africa (Uganda, Zimbabwe and Zambia)
- XI. Street foods in Kampala – contributed to enactment of legislation pertaining to street food vending
- XII. Injury control center – advocacy for safer road use

7. Drug use Studies:

- I. National drug use decision making
- II. Action research on community drug use
- III. Drug resistance studies – leading to changes in regimens for different drugs
- IV. Efficacy of antibiotics against pathogens

Ongoing research from different institutions

A lot of research is going on in the different institutions. Most of the research is addressing the priority areas that were set for the period 1997-2001. Below are some of the studies that were completed in 1999 and those that were still going on at the time of interview. Like for the previous subsection they are divided into 6 groups according to the priority area of research as provided in the Uganda ENHR plan for the period 1997-2001:

1. *Maternal, Child Health and Nutrition:*

- I. Health survey of the foster children
- II. Plan of action for nutrition
- III. Malaria in pregnancy
- IV. Biosystematics of chironomids that act as fish food
- V. Microbial safety of ice-cream sold in and around Kampala
- VI. Identification of pesticides in fish
- VII. Microbiosafety of Uganda fish for export
- VIII. Gender relations and contraceptive use in Uganda
- IX. Causes and life of street children in Kampala

2. *Water Sanitation and Environment:*

- I. Use of low cost technology for municipal wastewater treatment in Uganda
- II. Water project in Kyapalone - Nebbi.

3. *Communicable Diseases:*

- I. Effectiveness of HIV/AIDS information programmes to public library users, Nairobi – Kenya 1998.
- II. Effectiveness of AIDS information dissemination in Tanzania from 1983-1999.

- III. Understanding community response in the management of HIV/AIDS in Mbiko - Uganda
- IV. Prevalence studies of HIV infection on potential communities for HIV vaccine
- V. TB – DOTS in community
- VI. Behaviour interactions in discordant couples
- VII. Assessment of renal functions in AIDS patients
- VIII. Out comes of care: rehabilitation and palliative care in AIDS
- IX. The effect of nutritional status on outcomes of care in children with HIV/AIDS

4. Non-communicable diseases:

- I. Knowledge, attitudes, practice and beliefs on malaria
- II. Assay of nitric oxide in sleeping sickness patients
- III. Demonstration of in-vitro resistance to Mel-B by some *T. b. gambiense* parasites
- IV. Identification of *T. b. rhodesiense* sleeping sickness in Masindi district
- V. Development of the TACT serological test for sleeping sickness
- VI. Development of local targets for tsetse control
- VII. Bio-ecological studies on *G. fus. fuscipes* in the wetlands
- VIII. Ultrasound use in ophthalmology
- IX. Malaria research in Rukinga - Kabale
- X. The ecology and population dynamics of *Biomphalaria* spp at Lake Albert in Western Uganda.
- XI. The vector potential of *Biomphalaria* and *Bulinus* species in the transmission of schistosomiasis at Lake Wamala and Kabaka's Lake in Central Uganda.
- XII. Human resistance to *Schistosoma mansoni* infection in Butiaba Fishing village, Masindi District - Uganda.
- XIII. Intermediate snail host spectra and the transmission patterns of *Schistosoma mansoni* at Butiaba, Lake Albert, Northwestern Uganda.
- XIV. Ecological correlates of the distribution of intestinal nematode infections among school children in Uganda.

- XV. Epidemiology of *S. mansoni* infection in a fishing community along Lake Albert in Uganda.
- XVI. Efficacy and side effects of praziquantel treatment in a highly endemic *S. mansoni* focus along Lake Albert, Uganda.
- XVII. Apparent sex differences in parasite specific antibody responses within a Uganda fishing community where adults are resistant to *S. mansoni*.
- XVIII. Malaria vector density and their transmission potential in two suburbs of Kampala City, Uganda.
- XIX. Studies on the geographical distribution and epidemiology of lymphatic filariasis in Uganda.
- XX. Epidemiological, clinical and parasitological studies on schistosomiasis and intestinal parasites in Mukono District, Uganda.
- XXI. Feasibility studies on the vectors of onchocerciasis and their elimination from Mpamba - Nkusi focus in Kibale District, Western Uganda.
- XXII. *Simulium neavei* vector elimination and monitoring in Itwara focus, Kabarole District, Western Uganda.

5. Health Policy and Health systems:

- I. Identification of minimum package for health service delivery
- II. Hospital information needs: A case study of Mbale Regional Hospital
- III. Practices of accessing health information by the people of Kigulu and Luuka counties – Iganga 1998.
- IV. Sources and financing of outpatient psychiatric care at a walk-in walk-out clinic in Kampala - City
- V. Needs assessment of adolescent friendly health services
- VI. Review of exemption mechanisms and their impact on equity of interrelations of health services in Uganda
- VII. Decentralization and challenges of primary health care delivery - 1999
- VIII. Gender and women's utilization of health services in Uganda

- IX. The interface between payment for health services and Karimajong women's health seeking behaviour
- X. Public – private mix policy study
- XI. Sources of treatment in the private sector
- XII. First Aid facilities/services in work places in 7 major towns of Uganda
- XXIII. Adolescent sexual and reproductive health concern's policy implications for Uganda.

8. Drug use Studies:

- I. Clinical trial to test antiretrovirals on the treatment of HIV.
- II. ARV resistance studies.
- III. Evaluation of detuned E. I.A. assay.
- IV. Chloroquine and pyrimethamine sulfadoxine resistance in under fives in Nagongera, Tororo.
- V. Efficacy of chloroquine and falcida in the treatment of malaria.
- VI. Sensitivity of *Plasmodium falciparum* in vivo to chloroquine and pyrimethamine sulfadoxine in Mbarara, S.W. Uganda.
- VII. Ethnobotanical survey of Moroto and Mbale districts.
- VIII. A possible method for assessing quality of anti-malarials.

D5. Networking and collaboration

All the institutions which responded to the questionnaire have established collaborations with other institutions who either provide funding or are part of the research teams or assist in providing consultancies. Many institutions have internal and external collaborations. The collaborations of the different institutions were grouped into National, Regional and International collaborations. Below is a list of institutions collaborating in health research. (NB: For the national and regional collaborators, the whole list has been given. For the international collaborators (54 institutions) only those institutions that did not appear in the list of funders are included. For many of these institutions, their main area of collaboration is funding and not the actual carrying out of research).

National institutions: (Internal Collaborations)

1. National Agricultural Research Organization (NARO)
2. AIDS Information Center (AIC)
3. Ministry of Health (MOH)
4. National Union of Researchers and Research Users (NURRU)
5. Different Departments at Makerere University (MISR, IPH, Faculty of Medicine, Food Science Department, Department of Biochemistry, Institute of Statistics and applied economics, Department of Sociology, etc.)
6. National Drug Authority (NDA)
7. Pharmaceutical Society of Uganda
8. Mulago Hospital
9. Institute of Public Health, Mulago
10. Uganda Virus Research Institute (UVRI)
11. Uganda National Health Research Organisation (UNHRO)
12. Vector Control Division, Wandegaya
13. Medbiotech Laboratory (MBL)
14. Ministry of Agriculture Animal Industries and Fisheries (MAAIF)
15. Livestock Research Institute, Tororo (LIRI - UTRO)
16. Mbarara University
17. Butabika Hospital
18. Namulonge Agricultural Research Institute
19. Uganda National Bureau of Standards
20. Joint Clinical Research Center
21. Child Health and Development Center
22. Uganda Human Rights Initiative
23. Unilever Uganda
24. Ugandan Association of Women Lawyers, FIDA
25. The AIDS Support Organisation, TASO
26. Government Chemist

27. Kampala City Council
28. Family Planning Association
29. Directorate of Water Development
30. CELTEL
31. Uganda Polytechnic, Kyambogo
32. British American Tobacco, BAT - Uganda
33. Uganda National Council of Science and Technology (UNCST)
34. District Directors of Health Services
35. Center for Basic Research

Regional institutions: (East Africa) (External collaborations)

1. Jomo Kenya University, Kenya
2. Kenya Medical Research Institute
3. Organisation for Social Sciences Research in East Africa (OSSREA)
4. University of Dar es Salaam, Tanzania

Regional institutions: (Other parts of Africa)

1. National Institute of Virology, South Africa
2. University of Zambia, Zambia
3. University of Malawi, Malawi
4. University of Botswana, Botswana
5. University of Zimbabwe, Zimbabwe
6. University of Ghana, Ghana
7. Mounsoura University, Egypt
8. Muhimbiri University, Tanzania
9. Nairobi University, Kenya
10. Kenya Plant Health Inspection Service, Kenya
11. Government Chemist, Kenya
12. Division of Vector Borne Diseases, Kenya
13. Sokoine University, Tanzania

14. International Livestock Research Laboratories, Kenya
15. African Clinical Epidemiology Network, AFRICLEN

International institutions: (International Collaborations outside Africa)

1. United States Agency for International Development, USAID
2. Food and Agricultural Organisation, FAO
3. Africa University of Norway, Norway
4. Columbia University, USA
5. London School of Hygiene and Tropical Medicine, LSTMH
6. International Clinical Epidemiology Network, INCLLEN
7. Royal Tropical Institute, Amsterdam, The Netherlands
8. University of Amsterdam, The Netherlands
9. University of Anthropology, Amsterdam, The Netherlands
10. Harvard Institute of International Development, USA
11. University of Bergen, Norway
12. University of Copenhagen, Denmark
13. Arrhus University, Denmark
14. Johns Hopkins University, USA
15. University of North Carolina at Chapel Hill, USA
16. University of Pennsylvania, USA
17. Keele University, UK
18. Guy's Hospital, UK
19. St. Thomas' Hospital, UK
20. King's College Hospital, UK
21. Center for international Health, Norway
22. University of Oslo, Norway
23. University of Lubeck
24. Swedish University of Agriculture, Sweden
25. University of Guelph, Canada
26. Sussex University, UK

27. Manchester University, UK
28. University of Glasgow, UK
29. Leiden University, The Netherlands
30. University of Victoria, British Columbia, Canada
31. University of Michigan, USA
32. Institute of Tropical Medicine, Antwerp
33. Swiss Tropical Institute, Switzerland
34. Centre for Tropical Veterinary Medicine, CTVM, University of Edinburgh, UK
35. IVATLD
36. Tufts University, USA
37. World Association of Industrial and Technology Research Organisation, WAITRO
38. Common Fund for Commodities
39. Council for the Development of Social Science Research in Africa, CODESRIA
40. Organisation for Social Sciences Research in East and South Africa, OSSREA

The lists above indicate that there is a considerable degree of in country networking and collaboration; though regional collaboration is generally low the international collaborations are quite extensive.

E. CONCLUSIONS AND RECOMMENDATIONS

Uganda has a favourable health policy environment which is an important precondition if research results are to be used. Uganda is at the moment in the process of reforming its health sector against the background of increasing demand for health services. Health improvement is one of the strategies of the government's overall policy for development and poverty alleviation. Research is recognized as an important component of the Health Sector Strategic plan. Health care delivery has been more-or-less devolved to the districts and the community level, whereby the end-user communities are getting involved in the formulation and implementation of research and thus increasing the chances that research responds to the needs of the community.

The results of this study indicated that there is a relatively well-developed health research system and a reasonable mass of researchers who are carrying out health research addressing almost all the health research priorities as set out in the ENHR plan for the period 1997-2001. There are several multi-disciplinary and inter-institutional working groups of researchers who are networking together, nationally, regionally, and internationally, to solve some of Uganda's health problems and other global health problems. There is need for further reorientation towards more integrated multidisciplinary approaches and researchers should open up to end user communities, create networks, and go down to the community level to talk with public and private health-care providers.

As a result of undervaluing of research, the environment in many low- and middle-income countries is neither conducive to nor supportive of research. There are few incentives to carry out research; researchers are poorly paid; and promotion often depends on taking on onerous administrative duties. As a result, research output from developing countries, particularly Africa, is generally low, and countries find it difficult to retain trained personnel (there is a problem of brain drain to countries with better conditions). In Uganda, research output is very low based on levels of published results as indicated in this study. There are few incentives for research and little attention is paid to the need to present research results, both to the users and fellow researchers.

Presently the dissemination of research results is not adequate. Proper dissemination of research results requires a communication strategy that bears in mind the various stakeholders particularly the people from whom the information is drawn. Researchers often lack the expertise required to market and communicate findings. Researchers often communicate through journals and reports which are either too specific or too vague. Many other researchers use seminars and conferences to report their findings. However, most often the attendance of these conferences and workshops is limited to fellow researchers. Networking and information dissemination are important strategies within Essential National Health Research (ENHR) mechanism. Sharing of knowledge helps co-ordination of research and avoids duplication. UNHRO should assist in developing and implementing courses in priority research areas, and workshops on writing proposals and user-friendly reports to enhance the proposal and results writing skills of younger researchers. UNHRO should also make arrangements for a number of seminars, workshops and radio talks to improve on the dissemination of research findings. Presently, UNHRO has instituted a resource center where research information on health research in Uganda and worldwide can be accessed.

Many researchers like to have their research findings published in peer-reviewed international journals. Publications in peer-reviewed journals are an indicator to the scientific productivity of scientists. Publications attest that the articles have been judged to be of high scientific quality which is a positive reflection on the caliber of the scientists. However scientists in developing countries have limited possibilities to publish in such journals. There is a need to develop a culture of publishing research results and also there is a need to develop local peer-reviewed journals that can be respected internationally. This would reduce some of the obstacles that our researchers meet when trying to publish elsewhere. Unless researchers publish in a journal where the data can be read by the local people then the data is of limited use to the community where it was generated. A local journal would encourage utilization of research findings.

There is a big constraint of funding for research not only here in Uganda but in most African countries. In a report of the Regional Consultative Process for the African region which was presented at the International Conference on Health for Development in Bangkok, Thailand 10-13 October 2000, it was noted that health research financing in Africa is characterized by low global expenditure, and insignificant national investments. Health as a whole remains a low

priority sector to which only between 0.1-3% of the GDP is allocated. Health research ranks even lower, receiving on the average, less than 0.5% of the health budget. In some African countries budget lines for research are non-existent. The consequence of low national investments has been over dependence on donor funding, which in some countries has exceeded 90% of all research funds available nationally.

Here in Uganda, most of the funding for health research is from external sources. International agencies and government agencies in the developed countries are important funders of the research going on in Uganda. Uganda Government provides a very small (> 1%) of the funding for health research carried out in the country. Many institutions which carry out health research do not have a budget line for research. The funding for health research from the local private sector is also minimal, leaving the bulk of the funding for health research to external funding sources. The dependence on external funding sometimes leads to distortion of national priorities and uncertainties in planning. Efforts should be made to address the problem of sustained funding for research. Government should increase the percentage of the GDP that is allocated to health, so that the level of funding for health research can also be increased. There is concern in the degree of dependence on foreign funding for research activities. Even in cases in which domestic resources support half or more of total research expenditures, local funds may be so heavily committed to salaries and maintenance of facilities as to leave little flexibility to support direct research costs. It seems to be unjustified for Government to pay salaries of researchers who are not facilitated to carry out research. While better salaries for researchers are being called for, Government should only employ those it can effectively support to do the work.

Foreign funding for research in the form of projects, especially short time projects, has led to fragmentation of research programmes and institutions, and the imposition of foreign research agenda on national priorities. If foreign funded research projects do not help to build indigenous research capacity, their externally imposed research priorities may overwhelm an already stretched pool of researchers, dissipating their focus on productivity. One of the major objectives of capacity building efforts is to create and strengthen a critical mass of human resources, capable of planning and implementing research projects that address national health needs. Uganda health researchers should be involved in the planning of the externally funded health

research projects so as to address priority areas of health research of the country. It is important that researchers participate as equal partners in the design and implementation of the collaborative programmes, and that they have equal say in the policy and decision making process, plus in the governance and management structure. Equal partnership is essential for the long-term sustainability of collaborative programmes.

Well-compensated, professionally secure, full-time researchers with the freedom to determine their own research agenda are exceedingly uncommon in developing countries. The lack of appreciation of the importance of research has resulted in low social esteem and poor salary structures for scientists. Researchers typically face limited career paths, few opportunities for promotion, there is intellectual isolation, and restricted choice of research agenda. Low salaries, especially in comparison to the financial rewards of private clinical practice, work in industry, or administration, discourage promising young researchers. There are often pressures to take on additional income-generating activities that divert time and attention from research. In many developing countries, institutional infrastructure is fragile, facilities are inadequate, there is lack of support personnel, there are unreliable equipment, vital supplies are always in short supply, and there is unstable budgetary support. There is often limited access to information and research journals. As a result of all of these, research quality tends to be marginal and this limits the usefulness of research results. The studied institutions complained of similar constraints as disincentives for research. These questions need to be addressed so as to improve the environment to researchers which in turn will improve research productivity. Strong and sustained efforts to overcome the above constraints could result in steady increases in research capacity.

The report of the Regional Consultative Process for the African region presented at the International Conference on Health for Development in Bangkok (cited earlier) noted also that in Africa, research has not been an effective tool for health action. The lack of impact has in part been blamed on the low output of appropriate research in most countries, but more importantly the weak researcher-user interaction has been the major contributory factor. Universities tend to be more detached with users of their information. But even where useful results are available

utilization has been low due to lack of sufficient capacities to prepare briefs for ill-prepared decision-makers, especially in health ministries.

The formation and sharing of knowledge are major instruments for development and economic growth. Dissemination of research findings to policy makers, health care providers, communities and researchers is of paramount importance. Research findings should be closely linked to policy formulation and action. Many developing countries place far greater emphasis on increasing the supply of researchers than on stimulating the demand for research by users. The end result is inefficiency. Another major cause of research inefficiency in developing countries is poor communications systems among researchers and between them and users of research. Research should be accompanied by a good plan for disseminating research results if the results are to be useful. Dissemination and use of results requires strong linkages with consumers, policy makers, and the community. The relevance of research to the solution of health problems is still not properly understood, resulting in a lack of demand for research and scientific information.

National, regional, and global dissemination of information and exchange of ideas enables researchers and decision-makers to learn from each other's success, and draw the lessons relevant to the local situation. The need for networking is driven by a rapidly changing working environment where people tend to interact more and share concern for common issues. The growth of e-mail and Internet offers an opportunity to improve networking and information sharing. All institutions carrying out health research should be encouraged and assisted in getting connected to e-mail and the Internet.

Collaboration between institutions carrying out health research in Uganda has generally been strengthened, particularly with the establishment of UNHRO. However, collaboration with other institutions carrying out health research on the African continent is generally weak. This is true for most African countries (See Regional Consultative Process for the African region which was presented at the International Conference on Health for Development in Bangkok, Thailand 10-13 October 2000) where collaboration between health research institutions in the continent has remained weak as has that between similar institutions of developing countries (south-south linkages). Partnerships with institutions of industrialized countries are better as indicated in this

study by the large number of collaborating institutions from these countries. These collaborations are established because of the need for funding, project generation and exchange of expertise and technology transfer. More regional collaborations and networking are needed since we have similar health problems on the continent.

A major challenge for capacity building in health research is to upgrade the communications infrastructure. Essential research projects often require multi-disciplinary studies in which many institutes play an active role. The development of communications networks among researchers in different disciplines, and between them and the users of research can cut the high costs of current means of communication. Increasing knowledge will also augment the capacity of the research community. Networking is important in reducing isolation of the researchers and creates synergies. The private sector should also be included in the networking, that is when they will be encouraged to provide more funding.

Networking can take many different forms, from assembling directories and databases to a more active exchange of information and ideas on paper, phone, or electronic media, and, at the other end of the scale, to collaborating actively on common problems. Networks can be formal or informal, but in time lead to partnerships, coalitions or strategic alliances on key issues.

In conclusion, there appears to be a great potential for research if capacities were strengthened, an enabling environment was maintained and if better financing and international partnerships were improved.

APPENDIX I

APPENDIX II

Institutions doing health research in Uganda.

Name of Institution: UGANDA VIRUS RESEARCH INSTITUTE

Physical Address: PLOT 1, NAKIWOGO ROAD

Postal Address: P.O. BOX 49, ENTEBBE

Telephone: 256 - 41 - 320385/6

Fax: 256 - 41 - 320483

E-mail: arbovir@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians	6
- Behavioural scientists	8
- Epidemiologists	10
- Virologists	4
- Immunologists	3
- Entomologists	2
- Statisticians	6
- Basic scientists	3

(b) List of health research in progress

- HIV sub-typing studies
- Cellular immunology studies
- Tuberculosis/HIV-I interaction studies
- ALVAC-HIV vaccine studies
- Arboviral diseases surveillance
- Acute Flaccid paralysis surveillance
- Biomolecular characterisation of HIV-I Ugandan variants
- Dose reduction regime for the administration of antiretroviral drugs
- Social and behavioural studies of HIV/AIDS
- Kyamulibwa HIV/AIDS natural history cohort studies.

(c) Methods of disseminating research results used in the institution

- Annual reports (quarterly reports)
- Scientific seminars (monthly at the institute)
- International conference/workshops/seminars
- Conducting training courses
- Publications in local and international journals and Newsletters
- Study visits by many scientists and students
- Radio talks (Radio programs)

Name of Institution: INSTITUTE OF PUBLIC HEALTH, MAKERERE UNIVERSITY

Physical Address: MAKERERE MEDICAL SCHOOL MULAGO

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256-41-532206/543872

Fax: 256-41-531807

E-mail: iphdir@iph.ac.ug

Website: http//w.w.w.iph.ac.ug

1. Available researchers: e.g.

(a) Number of researchers in the institution

- Epidemiology & research methods	3
- Population & family health	1
- Nutrition	1
- Epidemiology & community disease control	1
- Ent/parasitology	1
- Occupational health & health financing	1
- Health management & PHC	1
- Health management & economics	1
- Env. Health & food hyg.	1
- Biostatistics	1

(b) List of health research in progress

- Uganda health equity gauge
- Trial study for deworming children under 6 years in Eastern Uganda
- Morbidity and Mortality patterns in Mulago hospital 1995-1998
- Monitoring of IDD rates in Uganda
- Impact of Macro adjustment policies on the health sector in Uganda
- Factors influencing utilization of health services in Kawempe division
- Traditional behaviour and cultural practices affecting growth and development of young children in Uganda
- The effect of abolition of cost sharing in publicly owned health centers and introduction of the dual system in publicly owned hospitals
- Uganda IMCI impact study in 10 districts (WHO multi-country study)
- Uganda burden of disease review study (Global forum for health research)
- Willingness to vaccinate and willingness to pay for an AIDS vaccine in Uganda
- Compliance with clinical standards by health workers in primary care facilities
- Health economics of Roman Catholic Hospitals – assessing the costs of providing care and running the Private Not for Profit (PNFP) hospitals belonging to the Catholic Church in Uganda
- Decentralisation and health equity in Uganda

- Global youth Tobacco survey
- Impact of training on compliance with IMCI treatment guidelines
- The quality and cost effectiveness of reproductive services for Refugees and the populations in Adjumani, Arua and Moyo districts Northern Uganda
- Prospects of social health insurance in the formal sector in Uganda
- A study of the utilization of health, waste management, water and sanitation services in Kawempe division, Kampala
- Drug management survey for drug management program MOH
- KAP, of school children on road safety, Kawempe division
- Health Management Information System (HMIS) data validation 16 districts of Uganda
- Use of Zinc as an adjuvant in the treatment of malaria in Mpigi H.C. (part of the Multi-country study)
- Situation analysis of orphans in Uganda
- Impact assessment of the MOH NECD Project 2000 - 2003

(c) **Methods of disseminating research results used in the institution**

- Through workshops/conferences at International, National and district level
- Through the institute organized weekly scientific conference held every Wednesday of the week
- Publications in form of reports and Journal Articles
- Policy briefs (documents) to the Ministry of Health and DDHS in the relevant districts

Name of Institution: DEPARTMENT OF FOOD SCIENCE & TECHNOLOGY

Physical Address: FACULTY OF AGRICULTURE, MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 533676/533865

Fax: 533676

E-mail: foodtech@infocom.co.ug

2. Available researchers: e.g.

(a) Number of researchers in the institution

- Nutrition research 4
- Basic scientist 10

(b) List of health research in progress

- Vitamin A and Iron project: a community based research based in Gaba. Focuses on nutrition education and food based approaches.

(c) Methods of disseminating research results used in the institution

- Reports
- Shorts courses
- Publications
- Out-reach programmes
- Teaching

Name of Institution: UGANDA RED CROSS SOCIETY (URCS)

Physical Address: BUGANDA ROAD, KAMPALA

Postal Address: P.O. BOX 694, KAMPALA

Telephone: 256 - 41 - 258701/2

Fax: 256 - 41 - 258184

E-mail: SG.URCS@IMUL.COM

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 1
- Social workers 2
- Nurse sister 1

(b) List of health research in progress

- First Aid facilities in Uganda Red Cross branches
- Needs assessment for routine EPI activities - currently spearheaded by Dr. Patrick Turyaguma

(c) Methods of disseminating research results used in the institution

- International discussions
- Share with people who provided information through missionaries
- Newspaper supplements
- Uganda Red Cross Journals.

Name of Institution: THE MILD MAY CENTRE
Physical Address: ENTEBBE ROAD, SSEGUKU NEAR LWEZA
Postal Address: P.O. BOX 24985, KAMPALA
Telephone: 256 - 41 - 200862/5/7
Fax: 256 - 41 - 200861
E-mail: mildint@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution.

- Clinicians	4
- Nurses	8
- Counsellors	8
- Physiotherapy	8
- Occupational therapist	8
- Nutritionist	8

(b) List of health research in progress.

- On-going research in progress with CDC on ARV's in Uganda

(c) Methods of disseminating research results used in the institution

- Publishing in journals
- Presenting at conferences

Name of Institution: CLINICAL EPIDEMIOLOGY UNIT
Physical Address: FACULTY OF MEDICINE MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: 041 - 530022/3
Fax: 041 - 530022
E-mail: CEU@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution.

- Clinicians	6
- Basic scientist	0
- Epidemiologist	6
- Economist	1
- Behavioural scientist	2
- Statisticians	2

(b) List of health research in progress.

- IMCI counselling (integrated management of childhood illnesses)

(c) Methods of disseminating research results used in the institution.

- Publications
- Media
- Scientific meetings

Name of Institution: WORLD VISION
Physical Address: NAKASERO ROAD PLOT 15B
Postal Address: P.O. BOX 5319, KAMPALA
Telephone: 345758/251640/1/2
Fax: 258587
E-mail: Robina_Babirye@wvi.org

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Social workers/health 4
- Statisticians 2
- Water specialist 1

(b) List of health research in progress

- HIV/AIDS project evaluation

(c) Methods of disseminating research results used in the institution.

- Reports to MOH and districts

Name of Institution: MAKERERE INSTITUTE OF SOCIAL RESEARCH

Physical Address: MAKERERE UNIVERSITY - GRUTD ROAD

Postal Address: P.O. BOX 16022, KAMPALA

Telephone: 256 - 41 - 554582/532830/7/8/9

Fax: 256 - 41 - 532821

E-mail: misrlib@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institute

- Statistician	1
- Sociologists	4
- Psychologists	1
- Economist (rural)	1
- Medical anthropologist	2
- Social anthropologist	1
- Political scientists	3
- Demographers	1
- Lawyers	1
- Pharmacist	1

(a) List of health research in progress

- Arch - funded child health related research
- Family planning
- Community drug use

(c) Methods of disseminating research results used in the institution.

- Publications
- Reports
- Dissemination workshops
- MISR seminar series

Name of Institution: DEPARTMENT OF SOCIOLOGY

Physical Address: FACULTY OF SOCIAL SCIENCES
MAKERERE UNIVERSITY - UNIVERSITY HIGHWAY

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 - 540650

Fax: 256 - 41 - 540650

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Medical anthropologist 1
- Social anthropologist 1
- Demographers 3
- Sociologists 11

(b) List of health research in progress

- The modified AIDS out research project funded by population council (USAID)
- The voluntary counselling and testing project (VCT) for youth funded by population council (USAID)
- Concerted action for the quality of health care funded by European Union (University of Ghent)
- FEMED - Female education, basic learning competences and sexual maturation at primary school level funded by Rockefeller Foundation

(c) Methods of disseminating research results used in the institution.

- Departmental workshops/seminars
- Stakeholders seminars
- Internet
- Publications
- Submission to University library

Name of Institution: DEPARTMENT OF SOCIAL WORK & SOCIAL ADMINISTRATION

Physical Address: FACULTY OF SOCIAL SCIENCES
MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 - 534114

Fax: 256 - 41 - 534114

E-mail: swsa@uol.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Social policy analysis	3
- Social demographers	2
- Epidemiologists	1
- Social workers	10

(b) List of health research in progress

- Social policy reform in Eastern and Southern Africa (Uganda, Zimbabwe and Zambia) phase II.

(c) Methods of disseminating research results used in the institution.

- Seminars
- Workshops
- Reports
- Publications

Name of Institution: CHILD HEALTH & DEVELOPMENT CENTRE
Physical Address: FACULTY OF MEDICINE MAKERERE UNIVERSITY
Postal Address: P.O. BOX 6717, KAMPALA
Telephone: 541684
Fax: 531677
E-mail: jitta@chdc.muk.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

- (a) Number of researchers in the institution**
 - Applied operational health research 8

- (b) List of health research in progress**
 - The Tororo community health (longitudinal study)
 - Nutrition and early childhood development in Uganda (in charge of Western Uganda 5 districts)
 - Micronutrient programme in Uganda (MOST).

- (c) Methods of disseminating research results used in the institution.**
 - Participatory with community
 - Newspaper (institute's own)
 - Reports
 - Meetings and conferences
 - Publication

Name of Institution: INSTITUTE OF STATISTICS AND APPLIED
ECONOMICS

Physical Address: MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7062 - KAMPALA

Telephone: 541558

Fax: 530756

E-mail: isae@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Demographers 9
- Econometricians 3
- Bio-statisticians 2

(b) List of health research in progress

- IMCI household baseline survey
- Demographic and health survey

(c) Methods of disseminating research results used in the institution.

- Reports
- Seminars/workshops
- Research briefs

Name of Institution: DEPARTMENT OF PSYCHIATRY

Physical Address: FACULTY OF MEDICINE, MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone:

Fax:

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 3
- Behavioural scientists 3

(b) List of health research in progress

- Psychosocial implications of the Kanungu cult deaths (Musisi's et al)
- Investigating the nature, patterns and correlates of HIV risk: Psychological behavioural factors in two rural communities; Sentema and Masulita parishes, Mpigi district (Musisi's et al)
- Effectiveness of interventions among refugees in low income countries- the case of Sudanese refugees in Northern Uganda (W.W. Muhwezi)
- Psychological consequences of cancer diagnosis at the Uganda Cancer Institute, Mulago Hospital (E.B.L. Ovuga et al)

(c) Methods of disseminating research results used in the institution.

- Publication in peer-reviewed international journals
- Conferences have recently been held in Uganda aimed at disseminating local research results i.e.
 - (i) 1st international conference on community and social psychiatry, 28 Nov - 01 December 1999.
 - (ii) 6th regional PAN Africa Conference in Psychiatry February 26 - 28, 2000.

Name of Institution: DEPARTMENT OF COMMUNITY PRACTICE
Physical Address: FACULTY OF MEDICINE, ANATOMY BUILDING 5C
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: NONE (INDIVIDUALS HAVE PERSONAL NUMBERS
Fax: NONE
E-mail: NONE

2. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 3
- Economist/Behavioural 1
- Epidemiologist 3

(b) List of health research in progress

- Social economic factors influence on health services seeking behaviour
- Economic impact of malaria proposal to MOH in collaboration UNACOH

(c) Methods of disseminating research results used in the institution.

- Not yet operationalised

Name of Institution: DEPARTMENT OF DENTISTRY
Physical Address: FACULTY OF MEDICINE - MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: 256 - 41 - 532803
Fax:
E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Epidemiologists 2
- Clinicians 3

(b) List of health research in progress

- Dissemination research by post-graduates

(c) Methods of disseminating research results used in the institution.

- Conferences - scientific
- Journals

Name of Institution: DEPARTMENT OF PHARMACY
Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERISTY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: 256 - 41 – 533178/532389
Fax:
E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientists 2
- Pharmaceutics 4
- Pharmaceutical chemistry 3
- Pharma cognocy 3
- Clinical pharmacy 3
- Social pharmacy 2

(b) List of health research in progress

- Community drug use
- Investigations of medical drugs
- Quality of pharmaceuticals
- Assessment of TB drug resistance

(c) Methods of disseminating research results used in the institution.

- Conducted workshops
- Publishing in journals
- Reports

Name of Institution: DEPARTMENT OF MEDICAL ILLUSTRATIONS
Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: 041 - 540228
Fax:
E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

- (a) **Number of researchers in the institution**
- Medical post graduates senior consultants illustrators 2

- (b) **List of health research in progress**
- Nil

- (c) **Methods of disseminating research results used in the institution.**
- Nil

Name of Institution: DEPARTMENT OF OPHTHALMOLOGY
Physical Address: FACULTY OF MEDICINE - MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone:
Fax: 041 - 532591
E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 6
- Epidemiologists 0

(b) List of health research in progress

- Leprosy study - effect on eyes
- Refractive eumens

(c) Methods of disseminating research results used in the institution.

- Publication
- Grand rounds

Name of Institution: DEPARTMENT OF MEDICAL MICROBIOLOGY
Physical Address: FACULTY OF MEDICINE, MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: 256 - 41 – 540068
Fax:

E-mail: joloba@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 4
- Basic scientist 0

(b) List of health research in progress

- Kaposi Sarcoma Associated virus
- Actiology of phemnonia in immuno suppressed individuals
- WHO Global Survey of anti TB drug resistance
- Feasibility of isoniazid prophylaxis for TB in voluntary HIV testing centre.

(c) Methods of disseminating research results used in the institution.

- Publications
- Meetings (scientific)

Name of Institution: DEPARTMENT OF ZOOLOGY
Physical Address: FACULTY OF SCIENCE - MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7062, KAMPALA
Telephone: 256 - 41 - 531902
Fax: 256 - 41 - 531601
E-mail: zoology@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Entomologists 2
- Parastologists 1

(b) List of health research in progress

- Nature/society and water project in Murchison Bay
- Biosystematics research of vectors of diseases - (Murchison Bay)
- Malaria parasite studies
- Bioassays of antimosquito plant extracts.

(c) Methods of disseminating research results used in the institution.

- Seminars
- Publications in journals
- Project reports

Name of Institution: DEPARTMENT OF BIOCHEMISTRY

Physical Address: FACULTY OF SCIENCE – MAKERERE UNIVERSITY,
JICA BUILDING MAKERERE UNIVERSITY
MAIN CAMPUS

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 - 530555/6

Fax: 256 - 41 – 531061

E-mail: kezabu@mulib.ac.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

- (a) Number of researchers in the institution**
 - Basic scientists 13

- (b) List of health research in progress**
 - Nil

- (c) Methods of disseminating research results used in the institution.**
 - Publications
 - Research reports

Name of Institution: DEPARTMENT OF VETERINARY PUBLIC HEALTH & PREVENTIVE MEDICINE

Physical Address: FACULTY OF VETERINARY MEDICINE
MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 041 - 531869

Fax: 041 - 554685

E-mail: vetmuk@afsat.com (include 'Nasinyama' in subject line)

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Epidemiologist	4
- Vet public health	4
- Vet preventive medicine	4
- Bio-statistician	3
- Animal health economists	1
- Food microbiologist/food safety	1
- Environmental toxicologist	1

(b) List of health research in progress

- Species identification on commiunted meats on the market e.g. sausages, meat loaf etc.
- Non-typhoidal Salmonella in poultry (chickens & chicken eggs)
- Antibiotic resistance profiles in mountain gorrillas and relate this to human resistance with respect to salmonella

(c) Methods of disseminating research results used in the institution.

- Local and international journals
- Conferences/seminars

Name of Institution: DEPARTMENT OF PADIATRICS & CHILD HEALTH

Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 531875

Fax:

E-mail: paediatrics@softhome.net

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 18

(b) List of health research in progress

- Ongoing: HIV hyper immunoglobulin (HIVG) and vertical transmission of HIV infection; AZT/3TC-Petra Phase III; Nevarapin: interruption of mother-infant HIV transmission; vitamin A therapy in HIV infected children; domestic water use and environmental health in EA; health and socio-economic trends in several districts in of child malnutrition; fine needle aspiration biopsy in the diagnosis of lymphadenopathy, and aetiology of phytogetic meningitis in children.

(c) Methods of disseminating research results used in the institution.

- Not mentioned

Name of Institution: DEPARTMENT OF INTERNAL MEDICINE

Physical Address: FACULTY OF MEDICINE - MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256 - 41 - 541188

Fax: 256 - 41 - 540718

E-mail: katabira@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 28

(b) List of health research in progress

- HIV related research; TB research; malaria; EMF (endomyocardial fibrosis); diabetes; renal disease; phemistic hot disease

(c) Methods of disseminating research results used in the institution.

- Journals
- Monthly
- Reports

Name of Institution: DEPARTMENT OF HUMAN ANATOMY

Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256 - 41 - 540946

Fax:

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientist 6
- Clinicians 3

(b) List of health research in progress

- Nil

(c) Methods of disseminating research results used in the institution.

- Publication through medical journals

Name of Institution: DEPARTMENT OF PATHOLOGY

Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256 - 41 - 531730

Fax: 256 – 41- 530412

E-mail: <cancer_reg@softhome.net>

2. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientist 3
- Histopathologists 6

(b) List of health research in progress

- Cancer burden in Uganda community
- Cancer survival
- Actiology of gastric cancer in Uganda

(c) Methods of disseminating research results used in the institution.

- Publishing in scientific journal
- Scientific conferences

Name of Institution: DEPARTMENT OF MEDICAL PHYSIOLOGY

Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone:

Fax:

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 4
- Basic scientist 1

(b) List of health research in progress

- Effects of acute hypoxia on renal function
- Effect of progesterone/estradiol on emergency contraception

(c) Methods of disseminating research results used in the institution.

- Journals

Name of Institution: FACULTY OF MEDICINE

Physical Address: MBARARA UNIVERSITY OF SCIENCE & TECHNOLOGY

Postal Address: P.O. BOX 1410, MBARARA

Telephone: 0485 - 20786

Fax: 0485 - 20782

E-mail: mustmed@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientist 11
- Clinicians 29
- Public health 3

(b) List of health research in progress

- Use of insecticide treated bed nets for control of malaria
- Phytolaca dodecandra for control of various vectors
- Malnutrition & Tuberculosis
- Assessment of health needs of rural communities in Bushenyi district
- Efficacy of artesunate + fansida for treatment of in complicated malaria in Mbarara district

(c) Methods of disseminating research results used in the institution.

- Publications
- Seminars in University
- Copies to DDHS, District Officer of Health, MOH, WHO
- Seminars with communities

Name of Institution: CENTRE FOR BASIC RESEARCH

Physical Address: 15 BASKERVILLA AVENUE, KOLOLO - KAMPALA

Postal Address: P.O. BOX 9863, KAMPALA

Telephone: 041 - 231228/342987

Fax: 041 - 235413

E-mail: cbr@cbr.ug.org

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Political economists 3
- Lawyers 3
- Sociologists 2
- Political scientist 5
- Social anthropologists 2
- Basic scientists 2

(b) List of health research in progress

- Nil

(c) Methods of disseminating research results used in the institution.

- Workshops and seminars (local and international)
- Internet (where applicable)
- Publication locally and internationally
- Development of working papers
- Through local media (print media)

Name of Institution: INSTITUTE OF PSYCHOLOGY

Physical Address: MAKERERE UNIVERSITY - MARY STUART ROAD

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 - 531908

Fax:

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinical psychologist 1
- Industrial and organisational psychologist 4
- Social and organisational psychologist 2
- Educational and organisational psychologist 4
- Development and organisational psychologist 2

(b) List of health research in progress

- Nil

(c) Methods of disseminating research results used in the institution.

- Workshops
- Seminar series
- Publications
- Reports

Name of Institution: MEDBIOTEC LABORATORIES

Physical Address: PLOT 3438 TANK HILL BY PASS MUYENGA

Postal Address: P.O. BOX 9364, KAMPALA

Telephone: 256 - 41 - 268251/266445

Fax: 256 - 41 - 268251

E-mail: egwang@imul.com and mbl@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientists 8

(b) List of health research in progress

- Malaria vaccine development and field studies
- Antimalarial drug resistance
- Ivermectin resistance in *Onchocerca volvulus*
- Molecular cloning and biochemical characterisation of drug targets in malaria and flara parasites for rational drug developments
- Malaria during pregnancy.

(c) Methods of disseminating research results used in the institution.

- Publishing in journals
- Training workshops
- Presentation in conferences

Name of Institution: NAGURU MEDICAL LABORATORY

Physical Address: 2 SPOTS LANE NAGURU

Postal Address: P.O. BOX 4295, KAMPALA

Telephone: 041 – 222715

Fax: 222715

E-mail: Namela@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinician 3
- Microbiologist 1
- Laboratory assistants 2

(b) List of health research in progress

- Efficacy of antibiotics against pathogens

(c) Methods of disseminating research results used in the institution.

- Reports to relevant authorities
- Lectures in workshops, conferences and scientific meetings

Name of Institution: GOVERNMENT CHEMIST AND & ANALYTICAL
LABORATORY

Physical Address: PLOT 2 LOURDEL ROAD WANDEGEYA

Postal Address: P.O. BOX 2174, KAMPALA

Telephone: 250474/250470/250464

Fax:

E-mail: Goytchem@infocom.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientist 15
- Laboratory technicians 8

(b) List of health research in progress

- Water sampling
- Food analysis
- Toxicology

(c) Methods of disseminating research results used in the institution.

- Reports to various organisations

Name of Institution: DEPARTMENT OF NURSING - MAKERERE UNIVERSITY

Physical Address: HEALTH TUTORS COLLEGE – OLD MULAGO

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256 - 41 - 530404

Fax: 256 - 41 - 531777

E-mail: deptnur@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Nurse Lecturers 7

(b) List of health research in progress

- Perception and views of Parents and Guardians regarding promotion of adolescent health
- Availability of information on STI/HIV/AIDS to teachers for education and counselling of adolescents in Lira and Masaka districts.

(c) Methods of disseminating research results used in the institution.

- Copies of research reports to Albert Cook Library
- Presentation at Scientific meetings
- Efforts to publish in Scientific Health/Nursing Journals

Name of Institution: NUTURAL CHEMOTHERAPEUTICS RESEARCH
LABORATORY

Physical Address: WANDEGEYA

Postal Address: P.O. BOX 4864, KAMPALA

Telephone: 256 - 41 - 250488

Fax:

E-mail: nkmubiru@ncrl.go.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientists 5

(b) List of health research in progress

- Medicinal plants and Bio-diversity and related indigenous knowledge issues.

(c) Methods of disseminating research results used in the institution.

- Reports
- Workshops
- Conferences

Name of Institution: EAST AFRICAN SCHOOL OF LIBRARY AND INFORMATION SCIENCE

Physical Address: MAKERERE UNIVERSITY - MAIN CAMPUS (ADJACENT TO MAIN LIBRARY)

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 – 531530

Fax:

E-mail: easlis@uga.health.org

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institute

- Information scientists	3
- Librarianship	3
- Catalogue scientists	3
- Editing/editorship	3

(b) List of health research in progress

- Nil

(c) Methods of disseminating research results used in the institution.

- Nil

Name of Institution: TRYPANSOMIASIS RESEARCH

Physical Address: LIRI - TORORO

Postal Address: P.O. BOX 96, TORORO

Telephone: 045 45050

Fax: 045 45052

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Epidemiologist 1
- Entomologist 2
- Molecular Biologist 1
- Protozoologist 1

(b) List of health research in progress

- Application of GIS to understand the epidemiology of sleeping sickness
- Investigation of causation of treatment failures in Mel. B treated T. gambiense patients
- Longitudinal follow-up of CATT positives and parasites negative
- Assays of cytotrine and neupterm in blood and CSF of SS cases
- Characterisation of parasites to understand sleeping sickness transmission
- Efficacy studies of anti-malarials
- Evaluation of tsetse control tools

(c) Methods of disseminating research results used in the institution.

- Publications
- Shows
- Workshops/Seminars
- Bronchures

Name of Institution: NATIONAL TB/LEPROSY PROGRAMME - CENTRAL UNIT

Physical Address: PLOT 2 LOURDEL ROAD NAKASERO HILL

Postal Address: P.O. BOX 16069, WANDEGEYA

Telephone: 256 - 041 - 250487

Fax: 256 - 041 - 530412

E-mail: NTLP@IMUL.COM, adatri@africanline.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Epidemiologist 2
- Basic scientist (microbiology) 1
- Clinicians 2

(b) List of health research in progress

- Protest initiative with AIC and WHO collaborators
- Community based TB care in RVRAL
- CB TB care in urban
- Assessment of drug resistance (survey)
- Anti-TB drug utilisation in 10 districts in Uganda
- Field-testing of Blister packs in Kiboga.

(c) Methods of disseminating research results used in the institution.

- Presentations in conferences
- Articles in journals (publications)
- Sharing results in Ministry of Health “meetings”

Name of Institution: VECTOR CONTROL DIVISION

Physical Address: PLOT 15 BOMBO ROAD

Postal Address: UCD - P.O. BOX 1661, KAMPALA

Telephone: 256 – 41 - 251927

Fax: 256 – 41 - 346885

E-mail: ucdmoh@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Entomologists 6
- Epidemiologists 1

(b) List of health research in progress

- Transmission of hyruphatre filariasis in North and Eastern Uganda
- Schistosomiasis epidemiology and control/immunology in Butiaba L. Albert area
- Malacological investigations on the shores of L. Albert
- Epidemiology of *S. masonrie* and social economic factors that contribute to the endemicity of the disease on the shores of L. Victoria.
- Hyruphatre filariasis transmission by calicines.

(c) Methods of disseminating research results used in the institution.

- Reports to the Ministry - periodic reports
- Publications in journals
- Workshops/seminars/conferences

Name of Institution: NAGURU TEENAGE INFORMATION AND HEALTH CENTRE

Physical Address: KAYONDO ROAD, NAGURU

Postal Address: P.O. BOX 3108, KAMPALA

Telephone: 041 – 285731

Fax:

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientist 1
- Clinician 1

(b) List of health research in progress

- Nil

(c) Methods of disseminating research results used in the institution.

- Distribute to all potential stakeholders and donors (previously but now only to those who give feedback)
- International workshops
- Radio programmes (Radio Simba)

Name of Institution: RESEARCH INTERNATIONAL, EAST AFRICA LTD

Physical Address: BANDARI RISE - PRINCESS ANNE DRIVE BUGOLOBI

Postal Address: P.O. BOX 26799, KAMPALA

Telephone: 256 - 41 - 221302

Fax:

E-mail: rical@cyberworld.co.ug

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Behavioural scientists 3
- Basic scientists 5

(b) List of health research in progress

- Market surveys on product tastes e.g. Coca cola, Beer, Cigarettes etc.
- Malaria project - mosquito net use.

(c) Methods of disseminating research results used in the institution.

- Reports

Name of Institution: JOINT CLINICAL RESEARCH CENTRE

Physical Address: RING ROAD PLOT 893 - BUTIKIRO HOUSE

Postal Address: P.O. BOX 10005, KAMPALA

Telephone: 256 - 41 - 270622/270283

Fax: 256 - 41 - 342632

E-mail: JCRC@starcom.co.ug/JCRC@afsaf.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Immunologists	1
- Clinicians	4
- Biochemist	1
- Microbiologist	1
- Nutritionist	1
- Epidemiologist	1
- Virologist	1
- Social scientists/counsellors	5
- Community health workers	2
- Laboratory technologists	15
- Research nurses	9

(b) List of health research in progress

- ALVAC trial
- Evaluation of chlorquine in the treatment of HIV
- Pathogenesis of HIV
- Gene expression of chemokine receptore in HIV infection
- Resistance to ARU'S
- Hormonal study

(c) Methods of disseminating research results used in the institution.

- Seminars
- Publications in journals

Name of Institution: MINISTRY OF AGRICULTURE ANIMAL INDUSTRY AND FISHERIES

Physical Address: P.O. BOX 932, ENTEBBE

Postal Address: P.O. BOX 102, ENTEBBE MAAF

Telephone: 077- 496027/320376 (OFFICE)

Fax: 321047/321010

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Behaviour scientist i.e. Nutrition 1

(b) List of health research in progress

- Drafting food and nutrition policy
- Making inventory of nutritionists in the country.

(c) Methods of disseminating research results used in the institution.

- Seminars and workshops
- Mass media

Name of Institution: UGANDA INDUSTRIAL RESEARCH INSTITUTE

Physical Address: PLOT M 217 NAKAWA - JINJA ROAD

Postal Address: P.O. BOX 7103, KAMPALA

Telephone: 286245

Fax: 286245

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Food technicians 15
- Ceremics and chemical engineers 5
- Manufacturing technicians 10

(b) List of health research in progress

- Fermented African diary products research project (commercialisation of African diary products in Uganda) (identifying responsible micro-organisms in the fermented products)
- Development of low cost meat products in Uganda

(c) Methods of disseminating research results used in the institution.

- Through seminars (National and International)
- Through the internet
- Through international journals

Name of Institution: DEPARTMENT OF SURGERY
Physical Address: FACULTY OF MEDICINE - MAKERERE UNIVERSITY
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: 256 - 41 - 532374
Fax: 256 - 41 - 532591
E-mail:

1. **Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.**
 - (a) **Number of researchers in the institution.**
 - Clinicians 6
 - (b) **List of health research in progress.**
 - Prevention of road traffic accidents - O.C. Kabusingye
 - Aetiological factors in cancer of the large bowel; pyogenic and neoplastic lesions in HIV/AIDS; typhoid diseases; breast cancer.
 - (c) **Methods of disseminating research results used in the institution.**
 - Journal clubs
 - Scientific meetings
 - Publications.

Name of Institution: DEPARTMENT OF MUSIC DANCE AND DRAMA

Physical Address: FACULTY OF ARTS – MAKERERE UNIVERSITY POOL ROAD

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 - 541219

Fax:

E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Music 3
- Drama 6
- Dance 2

(b) List of health research in progress

- Nil

(c) Methods of disseminating research results used in the institution.

- Nil

Name of Institution: DEPARTMENT OF GENDER AND WOMEN STUDIES

Physical Address: FACULTY OF SOCIAL SCIENCES – MAKERERE UNIVERSITY
POOL ROAD

Postal Address: P.O. BOX 7062, KAMPALA

Telephone: 256 - 41 - 531484

Fax: 256 - 41 - 543539

E-mail: gendermu@swiftuganda.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Social anthropologist 1
- Social worker 3
- Educational psychologist 2
- Political scientist 2
- Lawyer 1

(b) List of health research in progress

- UNAIDS - Adolescent reproductive health, and the impact of HIV/AIDS

(c) Methods of disseminating research results used in the institution.

- Departmental seminar series
- Departmental workshops
- Occasional papers, public lectures, monograph.

Name of Institution: DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

Physical Address: FACULTY OF MEDICINE – MAKERERE UNIVERSITY

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256 - 41 - 534361

Fax: 256 – 41 531364

E-mail: <aogu@africaonline.co.ug>

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Specialists 17
- Postgraduates 3

(b) List of health research in progress

- HIV/AIDS – MTCT – niverapine implementation
- Prevalence of gestational diabetes in pregnancies
- Neonatal outcome of 2nd twin
- Vasectomy acceptability
- Pre-eclampsia
- Problems of adolescent mothers
- Menopause
- Reasons for refusal of to have HIV testing among pregnant women
- Emergency contraception, prevalence, availability, acceptability and efficacy

(c) Methods of disseminating research results used in the institution.

- Reports
- Dissertation
- Publications
- Seminars
- Presentations
- Information pamphlets

Name of Institution: UGANDA CANCER INSTITUTE

Physical Address: MULAGO HOSPITAL

Postal Address: P.O. BOX 3935, KAMPALA

Telephone: 256 - 41 - 540410

Fax: 256 - 41 - 532282

E-mail: cwru@imul.com

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 2
- Epidemiologist 1

(b) List of health research in progress

- Combination chemotherapy in kaposis sarcoma
- Combination chemotherapy in Bon-Hodgkin lymphoma
- Interaction of HIV and various cancers
- HPV and cancer of the cervix

(c) Methods of disseminating research results used in the institution.

- Public in peer review journals
- Scientific meetings organized by various national scientific organisations
- Grand rounds in the medical school
- Reports (annual) and those by our collaborators to funding agencies that have supported the research

Name of Institution: DEPARTMENT OF COMMUNITY PRACTICE
Physical Address: FACULTY OF MEDICINE ANATOMY BUILDING 5C
Postal Address: P.O. BOX 7072, KAMPALA
Telephone: NONE (INDIVIDUALS HAVE PERSONAL NUMBERS)
Fax: NONE
E-mail: NONE

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinical 3
- Economist/Behavioural 1
- Epidemiologist 3

(b) List of health research in progress

- Social economic factors influence on health services seeking behaviour (Dr. Fred Ndoboli – stage data analysis)
- Economic impact of malaria proposal to MOH in collaboration (UNACOH – Dr. Fred Ndoboli)

(c) Methods of disseminating research results used in the institution.

- Not yet operationalised

Name of Institution: DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS

Physical Address: FACULTY OF MEDICINE

Postal Address: P.O. BOX 7072, KAMPALA

Telephone: 256 - 41 - 532945

Fax: 256 - 41 - 532947

E-mail: pharmaco@afsat.com

2. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Clinicians 5

(b) List of health research in progress

- Impact of decentralization on attendance, drug use and availability of drugs
- Prescription patterns in the private physicians in Uganda; an educational intervention study
- Analysis of the quality of antimalarial drugs in Uganda

(c) Methods of disseminating research results used in the institution.

- Workshops
- Reports
- Journal articles

Name of Institution: NATIONAL WATER & SEWERAGE CORPORATION
Physical Address: PLOT 39 JINJA ROAD
Postal Address: P.O. BOX 7053, KAMPALA
Telephone: 256 - 41 - 257548/341144
Fax: 256 - 41 - 258299
E-mail: waterq@imul.com

3. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

(a) Number of researchers in the institution

- Basic scientist	7
- Sanitary and water engineers	10
- Economist	1
- Personnel	2

(b) List of health research in progress

- Sanitation in fishing villages
- Monitoring industrial effluents
- Low cost technology for waste water treatment
- Stability of drinking water in the distribution net works
- Algae toxicology at water intakes and resouviours

(c) Methods of disseminating research results used in the institution.

- Publications in international journals
- Seminars and workshops
- Conferences

Name of Institution: PLAN INTERNATIONAL
Physical Address: PLOT 126 LUTHULI AVENUE
Postal Address: P.O. BOX 12075, KAMPALA
Telephone: 256 - 41 - 220278/077 221139/40
Fax: 256 - 41 - 221497
E-mail:

1. Available researchers: e.g. Basic Scientist, Clinician, Behavioural Scientist, Epidemiologist, Economist etc.

- (a) Number of researchers in the institution**
 - Nil

- (b) List of health research in progress**
 - Successional planning - work with people who are HIV positive - This is in Tororo and Luwero.

- (c) Methods of disseminating research results used in the institution.**
 - Results are passed onto the community leaders
 - Reports
 - Workshops
 - Conferences
 - Plan internet site