International Conference on Health Research for Development

Regional Consultative Process Africa

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CONTENTS

ABBREVIATIONS AND ACRYNOMS

AAAS	-	America Association for the Advancement of Sciences
AEC	-	Atomic Energy Corporation
APHS	-	Alliance for Policy and Health Systems Research
ARMSCOR	-	Arms Corporation
COHRED	-	Council on Health Research for Development
EAC	-	East African Community
EACSO	-	East Africa Common Services Organisation
ENHR	-	Essential National Health Research
ESIR	-	The Council for Scientific and Industrial Research
GDP	-	Gross Domestic Product
GFHR	-	Global Forum for Health Research
GNP	-	Gross National Product
HSRU	-	Health System Research Unit
IFAN	-	French Institute in Black Africa
INRDG	-	National Institute of Research and Documentation
KEMRI	-	Kenya Medical Research Institute
LCD	-	Least developed countries
MRC	-	Medical Research Council
MRC	-	British Medical Research Council
NCR	-	National Centre for Research
NCST	-	National Council for Science and Technology
NGOs	-	Non-Governmental Organisation
NHRDC	-	National Health Research and Development Centre
NHR	-	National Health Laboratory
N-S	-	North South
ORSTOM	-	Scientific Research Institute for development
SAP	-	Structural Adjustment Programmes
SAREC	-	SIDA's Department for Research Cooperation
SECAM	-	Cameroon Study Society
SHARED	-	Scientists for Health Research for Development
SRM	-	Sudan Medical Research Unit
S-S	-	South to South
S + T	-	Science and Technology
TFHRD	-	Task force for Health Research and Development
UNCST	-	Uganda National Council for Science and Technology
UNDP	-	United Nations Development Programme
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
WHO/AFRO	-	World Health Organization African Regional Office
WHO - ACHR	-	World Health Organization Advisory Committee for Health Research
WTRL	-	Wellcome Tropical Research Laboratories

EXECUTIVE SUMMARY

Introduction

This report attempts to capture the status of health research in Africa in the past with emphasis on development that has taken place in the last decade of the 21st Century. The report provides a platform for the African Voice *(Vide infra)* on health research. Africa is the second largest continent made up of 58 diverse countries in terms of size, population, culture and economic status. Past colonial occupation created linguistic barriers and left complex systems of governments. Occupation by at least six colonial powers fragmented the continent into spheres of economic and political dominance. These spheres have negatively impacted on human development and have generated continuous civil conflicts.

At the threshold of the new millennium, wars and civil conflicts fuelled by ethnic differences reverberate across the continent. Political instability has had a major negative impact on the development of science and technology in the continent. While recent global political and economic changes have given hope to new opportunities, in Africa, these changes threaten to marginalise the continent even further. Africa's share of global investments and world markets is extremely low, the external debt burden is crippling and governments are under investing in social sectors, including health. Rising poverty, with 37% of the people of sub-Saharan Africa living below the poverty line undermines health even further.

Inspite of these difficulties, the past three decades have witnessed notable gains in health. Education, (especially that of girls), public health measures, and immunization programmes have contributed to a rising life expectancy and falling child mortality, to take only two indicators of improving health. As we enter the 21st century, changes of the proceeding ten years point to new hope for the future of sub- Saharan Africa. The past decade has witnessed emerging democratic institutions, economies that had hitherto stagnated are now registering positive growth and levels of literacy are on the rise. The emergence of voices against exploitation of the south by the richer industrialized powers is also encouraging. The poor state of health in African countries and the increasing health inequalities between and within countries however, remain of great concern. Disease burden due to endemic infectious diseases and the rising health burden due to chronic diseases remain a major challenge. To complicate the picture HIV /AIDS now poses the greatest economic, social and health burden which has begun to reverse all past gains. This picture has to be seen in the light of low national support for health, high donor dependency, and the prevailing economic hardships. Health research, an important tool for health development based on equity gets only token support within the health budget considering the low priority given to research and development in Africa.

The international health conference in Alma-Ata in 1978 recognized the inequalities in health that existed in developing countries. The concept of primary health care was proposed and subsequently adopted by African countries as a practical and affordable approach of providing basic health care to communities and getting the latter to play an important role in advancing their own health. However, due to lack of adequate commitment and shortage of human resources, health for all (HFA) objectives were not attained within the set time frame as anticipated.

In 1990 the Commission on Health Research for Development (CHRD) published a landmark report, *Health Research: Essential link to equity in development*. The report, delved in detail on the status of health and health research in developing countries. It was observed that whereas 80% of the global population living in developing countries shouldered 95% of the global burden of disease, only 5% of the global investments in health research were addressing health problems of these countries. Developing countries invested very little in health addressing their problems and in general maintained research systems that did not provide sufficiently, conducive health research environments. To redress these imbalances the commission envisioned a global research system where

researchers in developing countries linked together in networks that addressed both national and global health issues in partnerships. The commission called on countries to invest at least 2% of their national health expenditures and for internationally funded health programmes to earmark 5% of the budget in support of health research.

The Commission also advocated for the adoption of the concept of Essential National Health Research (ENHR) as a means of generating information to address key health problems. As a follow up to the work of the Commission, a Task Force was formed. In 1993 COHRED was established by countries to promote the concept of ENHR. The report of the commission has stimulated considerable debate internationally and has resulted in a number of global initiatives, mostly aiming at promoting health research in developing countries.

Among these initiatives, the principal ones are:

- The Ad-Hoc Committee on Health Research whose findings were published in 1996. The report of this Ad Hoc Committee led to the establishment of the Global Forum for Health Research in 1998 - "The Forum" and the Alliance for Policy and Health Systems Research in 1999.

- The global Advisory committee of WHO (WHO- ACHR) whose report, *A research Policy Agenda for Science and Technology*, was published in 1998.

Some key objectives of these initiatives include monitoring the progress of health research in the poorer countries including tracking financial flows to redress the existing disparities.

Ten years after the Commission report, it was considered prudent to take stock of national and international developments in health research. The African consultation was designed to assess the current situation of health research in the continent, to highlight developments over the past ten years and to provide an informed view on the way forward. Sample countries were selected for in-depth studies using instruments that permitted analysis of country situations and institutions and also the collection of views and opinions of different health research stakeholders. Apart from the in-depth studies, other shorter national surveys and extensive literature reviews were conducted. This report therefore has two main sections, the first looking at historical perspectives and the second giving current findings.

Findings

The past

Africa has an ancient record of Science and Technology. Documented examples include, mathematics and complex numbers used in Nigeria and Congo over 8000 years ago, steel production on the shores of lake Victoria before Christ, architectural and engineering works in Egypt and Zimbabwe and agricultural sciences in the Sudan. In the health field, there are documented records of very developed plant and traditional medicine, anatomical studies and advanced surgical procedures for the treatment of complex pathologies such as cancer.

With the exception of a few regions, the continent was invaded and colonized for several centuries. During that era of occupation, colonial powers fragmented the continent into numerous states and indigenous cultures were systematically dismantled and foreign ones imposed. As the continent was converted into a source of raw materials and slaves, most of the scientific achievements were not developed further. Not surprising therefore, health research developments in the pre-independence period are full of examples of very diverse systems that are reflective of the colonial legacies.

The British, French, Belgians, Germans, Portuguese, Spanish and Boers ruled different parts of Africa with an iron fist on racial lines and denied locals scientific education. The Belgiums and Portuguese, on the other hand ran their own exclusive research systems and at independence left hardly anything tangible in their former colonies. The French built up relatively strong infrustructures but these continued to be directed by expatriates and capacity building for locals received little attention. The British in contrast left strong research infrustructures although even in their case, developing local research manpower received low priority. Thus the colonial period can only be seen as a time when local momentum in science and technology was frustrated and systems to benefit the colonizers build with hardly any concern for health research development for the benefit of individual countries.

Post-Independence

Emergence of independent states started in the 1950s and the process continued and governments set up research councils (or commissions) which operationally established health sectoral committees. The degree of activity of these councils and specialist committees depended on the underlying policy frameworks and the extent of local financing. In a few countries ministries of science and technology were established either as independent bodies or as part of ministries of education. Medical research institutes were formed either under the ministries of education or research councils. In addition to the above the majority of countries established internal research units to respond to operational needs. In a few countries, independent research laboratories, under the sponsorship of external agencies, also exist. In summary therefore, emerging independent states inherited variable colonial research structures and systems with little research culture and low human resources. Subsequently, with a few exceptions, Africa continued to invest little in research, making local scientists highly dependent on external funding. Most African countries are signatories to the Lome Convention which, among other things, stipulate that countries should commit 1.5 % of national budgets to research. Few countries have paid attention to this guideline.

Financing

Health research financing in Africa is characterized by low global expenditures (10-90 inequality), 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 governments budget lines for research are non existent. Due to the economic hardships of the recent past there has been a trend towards less allocation for research. Involvement of the private sector in health research in Africa is virtually non-existent. There are exceptions like South Africa where science budgets have risen significantly in recent years. 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. This type of funding has led to distortion of national priorities, uncertainties of research planning and degradation of research infrastructures. Despite the Commission's recommendations on essential health financing, information collected during the consultation indicates that current levels of financing are nowhere near optimal levels. Deserving record is that documentation of the resource flows for research at country level is rudimentary for lack of appropriate monetary instruments. Development partners who were interviewed believe that part of the underlying problem in the area of financing may in part be due to lack of national health research plans. Evidence shows that the problem runs much deeper and calls for more dialogue.

Priorities

Prior to independence, national health research priorities were based on the interest of the colonial governments. In the post independence period, setting of priorities has at best been a haphazard process. The commission in its report had stressed the value of priorities directed at essential health research in view of the inadequacy of resources and capacities for research in the poorer countries. Despite this insight, national priority has tended to be determined by institutions or have been based on the interests of a stakeholder. Until recently national surveys have indicated that priorities have leaned more towards bio-medical and clinical research unless on multidisciplinary community oriented research. Beginning about mid-1990s, a number of countries, stimulated by the concept of ENHR, have moved towards bottom up national consultations that have tapped on the wealth of information of a cross-section of stakeholders. In these countries the priority setting process has been quite elaborate and increasingly has had participation of decision-makers and communities. This approach has been found to be very enriching because of its ability to galvanize national interest in health research. As a result of this process, national mechanisms – including ownership, coalition building (networking) – were strengthened. One of the difficulties encountered in the inclusive approach of priority setting has been community participation. But in addition, because of the shortage of research funding and appropriate mechanism for dialogue with funding agencies, the translation of priorities into research activities has proved difficult. This latter outcome has had a negative impact on emerging national research networks. It is argued that national governments and external funding agencies should increasingly identify with the national priorities.

Research Utilization

In Africa, as a general observation, research has not been as 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. Even more impor-

tantly the weak researcher- user interaction has been a 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 policy briefs for ill-prepared decision-makers, especially in health ministries. There is increasing concern being expressed in connection with under utilization of findings. As a result some countries have started to address this anomaly through training and by closely involving other stakeholders in the research process, including in the dissemination of results.

Although Africa's global contribution in published literature is abysmal, there are a few countries with an impressive record. In many countries the poor results are partly blamed on the fact that researchers lack sufficient opportunities and avenues for disseminating their findings. Local journals have an uphill battle to survive while peer reviewed journals are perceived as discriminatory. It is proposed that capacities for research demand and for utilization are strengthened and ways to improve and sustain a number of strategic national (regional) health research journals is found.

Collaboration

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 established due to funding channels, project generation and exchanges of expertise and technology. As much as North-South collaboration has been of value, the ensuing collaboration is not perceived as between "equal" partners. Often it is perceived as a relationship between donor and recipient where priorities have often been imposed, where institutions have to operate on uncertain funding situations and with shifting rules and lack of trust. In fact some of the collaborative arrangements have been considered plainly unethical because of the subtle exploitation that underlies the arrangement.

Donors (and sometimes their proxies) have been largely blamed for the fragmentation in health research that prevails today in Africa. This arises through funding mechanisms that tend to emphasize individual researchers or institutions rather than national interest. The identity of the donor, as way of justifying survival, has at times overridden the national interest. Development partners on the other hand argue that the basic problem is the absence of clear national health research programmes and priorities to provide guidance. Donors also feel that research institutions in Africa have to improve their capacities, work ethics, incentives and management systems if they are to be competitive. But the same donors also admit that their efforts could have been effected at national level if there was better coordination amongst them, and if their territorial interests were minimized through contributions to a common national research basket. Two important recommendations were made. The first one would involve developing an international code of practice on the conduct of research and the second would embolden countries to put in place a mechanism to encourage donor coordination at the national level.

The WHO-AFRO commands considerable clout on health matters within the continent. Being an intergovernmental agency, with an extensive network of country representatives, it has great potential to influence health and health development. However, the involvement of WHO-AFRO in health research has been limited, in part due to lack of research focal point. Mechanisms for research coordination have remained weak in comparison to its other programms on health services and disease control. Although WHO-AFRO has a regional health research agenda, few researchers in its member countries are aware of this agenda. According to the WHO-AFRO Regional office, health research in the region has remained underdeveloped because countries have given low priority to research. This is made worse by the large gap that exists between consumers and researchers. There is also divergence between research projects and health needs and poor regional collaboration especially between Anglo and Francophone countries. WHO-AFRO shares the view of a majority of countries supporting that countries should be the focus of health research strengthening initiatives and that equity should be higher on the health agenda than it is at present. There was widespread feeling too that the extensive network of WHO country representatives, could play a greater role in health research developments .

Networking

Although a few countries have effective health research networks, most have difficulties in establishing and coordinating networking among researchers. This problem has its roots on the lack of effective national mechanism for research coordination. Countries which have adopted the ENHR strategy have given high priority to the establishment of national linkages. Poor communication systems has rendered the exercise a big challenge. Africa has numerous regional health networks that have an interest in research. Most are established by outside

donors but indigenous ones also exist. Because most of the networks are not well known in their countries, their effectiveness has been limited. There was widespread opinion that regional networks could be of great value in catalyzing regional S-S linkages. For this to happen the networks need new approaches to redefine their mandates and modus operandi, including forging better networking between themselves and establishing better communication lines with countries. At the global level, international research networks are seen as being poorly coordinated. The recent research initiatives, as part of these networks, with a few exceptions have not made significant impact in countries. Two networks that were singled out as having been useful are COHRED and INCLEN. Useful but not considered as initiatives are agencies and programmes such as IDRC, SIDA -SAREC, WHO-TDR, and WHO-HRP. The multiplicity of global research initiatives was viewed more as self-serving and addressing the interest of countries. The consultation defined a number of functions that would give more value to regional and global networks (initiatives). The underlying principle is that the networks should focus on country agenda, be based on country needs and ownership and be complementary rather than competing, demand rather than supply driven.

Capacity

The term capacity for research is broad and goes well beyond individual skills to encompass institutions, users of research and facilitating networks. Africa has less than 0.5% of the worlds scientist and engineers. Most of the countries visited indicated that shortage of capacity was the single most serious constraint in research. The shortage was in terms of quantity, quality, institutional abilities, under-utilization and misallocation of personnel and effective networks. It was acknowledged that steady progress in building capacities for health research by countries has been made in the past ten years but it was also noted that progress has been slower than anticipated. Unfortunately a few countries have less health research capacity today than a decade ago. One of the major drawbacks to capacity building in Africa has been the growing brain drain in search of better opportunities. Information shows that loss of scientific manpower from Africa has risen tenfold in the past forty years. While this is occurring, Africa's dependence on external experts through consultancies and technical assistance now costs over 32% of the ODA. At times where the external assistance is inferior to local expertise it is common to find preference given to the former. This undermines the confidence of local experts. The actual extent of the under capacity in individual countries is difficult to determine due to lack of accurate records. Instruments for this are needed. During the consultations, country teams were clear that capacity building and its viability require a serious approach. Countries should start to document the level of existing capacity and then prepare forward plans for capacity development. A determined effort to create an enabling research environment is a precondition to sustainable capacity development.

Equity

Equity in health has remained a central concern since the Alma-Ata conference. The commission highlighted the issue of inequalities even further and came to the conclusion that health research was an essential link to equity in health. The extent of inequity in health is still of concern at both global and national levels. Global disparities especially between Africa and the rest of the world continue to widen. Within the continent there are great variations between countries. Within any given country there may exist large differences between rural and urban populations, between ethnic groups and between sexes. Where subsidies have been given to assist the poorer in society, it is the richer who tend to benefit more. Only a few African countries are approaching the health issue seriously. Most countries only have policies and intentions but few practical remedial measures. Research on the subject of equity is low in most countries and the few examples of published information point more to commissioned research using a high proportion of external researchers and institutions. Participants strongly recommended that equity should be brought to the surface and that research should guide the process of not only identifying the disparities, but also that of proposing appropriate responses and monitoring of progress towards equity.

Research Output

Despite the fact that health research output in the continent remains low, researchers from Africa have made a number of significant contributions to science. Examples include basic research done in South Africa, multidisciplinary work on tropical neuropathy done in Nigeria, applied research on malaria control using bed nets and operational research on onchocerciasis control in West Africa. These few select examples, amongst many

others attest to the potential of research in Africa if capacities were strengthened, enabling environments were created, international partnerships boosted and better financing was availed.

Ethics

While research outputs are of paramount importance, there are important concerns on ethics. The concern is even greater because of the numerous clinical trials involving human subjects and epidemiological studies involving populations. Lack of adherence to ethical principles has been documented in countries, sometimes out of omission but not infrequently through pressure and collusion between external and local researchers. Institutional and national review mechanisms and monitoring systems need to be strengthened. Since ethics may have regional variations due to cultural differences and research needs, it is imperative that guidelines and training programs be sensitive to those variables. Another angle to the debate of ethics at the global level touches on collaboration, partnerships, funding mechanisms etc. The issue of good research practices underpins this concern. Some of the past relationships and conduct of research between the Northern and Southern partners have been fundamentally flawed and hence the proposal to establish an acceptable code on research practices.

ENHR

The term ENHR was coined by the commission to describe a concept that addresses research at country level. This was based on the principle that each country, however poor, should conduct research of priority using available resources. This would also be with the country continuing to build up its capacities, increasing funding and improving organization of research.

ENHR is not a special form of research but a strategy for total health research as we know it. The only difference is the approach. Unfortunately many country researchers and decision-makers have mistakenly taken ENHR as a new program to the extent that countries have sometimes been labeled either ENHR or non- ENHR. The work of COHRED and its predecessor (TFHRD) have guided the adoption of ENHR strategy in 22 African countries since 1990. These countries presently constitute the African ENHR network at the regional level.

Of the 22 countries, ENHR has received priority and has been integrated in the national process. One of the most significant achievements of ENHR has been the bringing together of different stakeholders, in particular the involvement of communities and policy makers. The second achievement has been the change in focus of priorities and the promotion of multidisciplinary research, both of which have strengthened national networking. At the regional level the African ENHR network represents the widest research networks in the continent, without which this report would have been difficult to organize.

In future it may be useful to stress health research, describing guiding principles to avoid confusion over terms.

The future

Health research development in Africa faces the following three key challenges:

- Building appropriate capacities to undertake research;
- Development of effective national mechanisms; and
- Creation of enabling environments.

These challenges have principles that apply to all countries and also elements that are country specific. Arrangements (or architecture) for health research at the national level should consider the following functions amongst others; critical masses, institutional strengthening, efficient networking and coordination, advocacy for research policy and programme, change through informed choice, knowledge management and utilization, and leadership and management for health research.

At the regional level, an African Forum is needed to advocate for more attention to research, to build coalitions and to articulate the African Voice, promote South-South and North-South linkages, promote effective regional and global networking and broker for resources. The forum should also provide analytical information, offer technical assistance to countries and conduct oversight functions on matters such as ethics and good research practices, promote mutually beneficial international cooperation in research and evaluate/monitor progress in research development. Global or international responses should support national efforts through information sharing, promotion of N-S linkages, capacity development, technology sharing, and provide a forum

to share experiences and set the global health research agenda.

The African Voice is a composite of twelve key messages which are addressed to national governments and to the international community. The messages are outlined in the box in the following page.

Key Messages of the African Voice on Health Research

- The African community increasingly recognizes the importance of health research as a tool for health development in the spirit of African renaissance, self-determination and strong desire to be self reliant in science and technology. Bearing in mind past legacies that have led to increasing intellectual decapitation and human conflict, health research stakeholders with a loud voice appeal to the different actors at national, regional, and global levels to invest more in health research to correct current inequities.

- The centrality of the country focus as a base for health research initiatives is recognized, and it is on the basis of that realization that all research building efforts should be approached by the different benefactors to minimize the existing fragmentation of research in Africa.

- A responsible political environment that ensures peace and national stability underpins all science and technology development. Without tranquillity, health research as a long-term investment cannot be sustained. An appeal is therefore made to African leaders and their international counterparts to place human development at the forefront of the political process and create solidarity out of the existing diversity.

- Countries should establish national research mechanisms that ensure that national potential is harnessed and effectively exploited for health development. A national forum of all stakeholders in health/health research is recommended as an effective way in which external development partners can usefully focus on the funding of priority national health research needs.

- Capacity building and retention are central to the long-term success of health research development efforts and therefore must get the highest attention. In all countries, capacity building and strengthening must include both the demand and supply sides, including leadership development, management for health research, negotiation skills and research communication.

- Advocacy for health and health research, and their place in human development, should be intensified to ensure higher investments, but also to inculcate a culture for evidence based decision making and production of relevant quality research.

- The nature of health problems in Africa demands more community-based research and interventions. Therefore ethical practice has to be assured. Increasing international co-operation in health research also calls for new code of ethical guidelines that are sensitive to national and regional issues.

- Linkages and partnerships with the North (industrialized countries/development partners) should be guided by the principle of equality and should stop the existing paternalistic, exploitative practice and also discourage the brain drain phenomenon.

- The health research process in a country should form the basis of holistic health development involving all national partners/stakeholders and thus create ownership that should hopefully translate into higher research support from national resources including, political mainstreaming of health research.

- The development of health research in Africa requires an intense effort in the coming decade. An effective way of guiding this process is to create an African Regional Forum (platform) which should constantly address generic issues such as donor dialogue, ethics, promotion and advocacy, analysis, methodology and instruments, networking, S-S and N-S collaboration, technology sharing, information systems and generally encourage the convergence of national, regional and global efforts in health research.

- Equity in health remains a central concern. Health research development in Africa must always take cognisance of that fact. Global inequalities in health research should be addressed to ensure fair and just flow of benefits. At the international level, African experts should have their rightful role in setting the global agenda in health research.

- The International Health Research Conference in Bangkok is not an end in itself but the beginning of a long process of building up health research in Africa. That being the case, practical **action** agenda at national, regional and global levels are needed.

EXECUTIVE SUMMARY/ RESUME EXECUTIF

Introduction

Ce rapport est une tentative de presenter l'etat de recherche sur la sante en Afrique dans le passe, avec un accent particulier sur les developpements de la derniere decennie. Le rapport fournis un contexte dans lequel la Voix Africaine (Vide infra) de la recherche sur la sante pour le development est base. L'Afrique est le deuxieme continent au point de vue etendue, elle est, composee de cinquante huit differents pays ayant chacun ses particularites au point de vue etendue, population, culture et conditions economiques. L'occupation coloniale du continent a cree des barrieres linguistiques et a laisse des systemes complexes de gouvernements. L'occupation par au moims six puissances coloniales avait fragmente le continent en spheres d'interets economiques et politiques qui ont un impact serieux sur le developpement humain et encouragent des conflits civils continus.

Au moment ou nous entrons dans le nouveau millenaire des guerres font rages a travers plusieurs frontieres, et des conflits civils alimentes par des differences entre des ethnies ainsi que des guerres financees par des chefs de guerres sont des evenements communs. Ce degre d' instabilite politique a eu comme resultat un impact negatif majeur sur le developpement de S+T dans se continent. Des recents changements politiques et economiques globaux, quand bien meme offrant des nouvelles opportunites, ont tendance a marginaliser le continent d'avantage. La part de l'Afrique dans les investissements globaux et des marches mondiaux est extrememement bas, la dette exterieure est un fardeau ecrasant et les gouvernements continuent a sous-investir dans les secteurs sociaux, y compris la sante. Une pauvrete sans cesse croissante, avec 37% de la population sub- Saharienne en Afrique actuellement en dessous de la ligne de pauverte, ne fait que saper encore d'avantage les efforts de developpement de sante.

Toutefois, malgre ce tableau sombre, les trois dernieres decennies ont enregistre un gain notable sur le developpement de sante. L'education(specialement parmi les filles), les mesures de sante publique, et les campagnes de vaccination ont contribue a l'elevation de l'esperence de vie et a la diminution du taux de la mortalite infantile, ne considerant que ces deux indicateurs de l'amelioration de sante. An moment ou nous entrons dans le 21ieme siecle, les changements enregistres pendant les dernieres dix annees pointent vers un espoir nouveau pour le future de l'Afrique sub-Saharienne. La decennie a vue l'emergence des institutions democratiques, des economies qui jadis stagnaient montrent maintenant des signes positifs de croissance, et les taux d'alphabetisation sont en hausse. De plus il y a une emergence encourageante de voix contre l'exploitation du sud par les riches puissances industrialisees du nord. Cependant, en general, l'etat precaire de la sante dans les pays africains et des inegalites entre et dans chaqu'un des pays restent une preocuppation majeure. Le fardeau de la maladie due aux maladies infectieuses endemiques et des charges croissantes dues aux maladies chroniques presentent des difficulites enormes. Pour compliquer la situation, le VIH/SIDA maintenant pose des majeurs problemes economiques, sociaux et de sante qui commencent a renverser les derniers gains enregistres sur la sante. Ce changement doit etre attribue a un support national minimal a la sante, a la dependance aux donneurs de fonds et aux difficultes dues aux conditions economiques defavorables. La recherche sur la sante, un important outil pour developpment, recoit un support symbolique dans les budgets de sante.

La conference internationale sur la sante a Alma Ata en 1978 reconnait les inegalites qui existent dans les pays en developpment sur le domaine de la sante. Le concept de soins de sante primaire etait propose et les pays Africains l'en ont adopte comme un moyen pratique et moins couteux pour subvenir aux besoins de sante des communautes. Cependant suite au manque d'engagement et l'insuffisance de resources humaines la Sante pour Tous n'a pas pu etre realise comme anticipe dans les delais prevus. En 1990 la Commission sur la Recherche de la Sante pour le Developpement (CRSD ou CHRD en Anglais) a publie un rapport important titre " La Recherche sur la sante comme un lien essential pour un development equitable". Le rapport discute en fond

l'etat de la sante et la recherche sur la sante en pays en developpement. Il a ete observe que bien que 80% de la population mondiale vivant dans les pays en developpement epaulent 90% du fardeau des maladies mondiales, il y a seulement 5% des investissements globaux dans la recherche sur la sante qui adressent les problemes de santes des pays. Les pays en development ont investi tres peu dans la recherche sur la sante pour resoudre leurs problemes et en general ils ont maintenu un systeme de recherche dont l' environement n'incite pas au travail. Pour redresser ces inegalites la Commission a envisage un systeme de recherche global ou les chercheurs dans les pays en developpement sont associes ensemble dans des reseaux qui traitent les problemes communs de sante au niveau national et global. La Commission a fait appel aux pays d'investir au moins 2% de leur depenses national sur la sante et de prevoir 5% du budget des programmes de sante finances au niveau international pour supporter la recherche sur la sante.

La Commisssion a aussi recommande plus specifiquement le concept et la strategie de «Recherche Nationale Essentielle Sur la Sante» (RNES) ou «Essential National Health Researach» (ENHR en englais). Pour le suivi un Task Force a ete forme en 1990 et en 1993 son successeur COHRED ete etabli par les pays pour promouvoir le concept. Le rapport de la Commission continue a stimuler considerablement les debats au noveau intenational et a abouti a un number d'initiatives globales surtout celles qui visent a promouvoir la recherche sur la sante dans les pays en developpement. Parmi plusieurs de ces initiatives les plus importantes sont : (a) le Comite ad hoc
sur la Recherche en Sante se Rapportant sur les Options d'Intervention Future dont les resultats ont ete publie en 1996 dans le rapport de «Investing in Health Research and Development,» ce rapport a conduit a la formation en 1998 de Global Forum for Health Research (The Forum) et en 1999 a l'etablissement de l'Alliance for Policy and Health Systems Research et (b) le Comite Consultatif Global dans la Recherche sur la sante de l'Organisation Mondiale de la Sante (OMS- ACHR) dont le rapport intitule « A Research Policy Agenda……..» a ete publie en 1998.

Dix ans apres le rapport de la Commission il a ete considere prudent de faire le point sur les developpements dans la recherche sur la sante au niveau national et international dans les pays en developpement. La Consultation Africaine a ete chargee d'examiner la situation actuelle de la recherche sur la sante dans le continent, et de faire le point sur les developpements pendant les dix derniers annees et de donner des avis sur comment proceder vers l 'avenir. Certains pays ont ete selectionnes comme echantillions pour des etudes approfondies en employant les indicateurs permettant d'analyser les situations des pays, la documentation des profiles des institutions, aussi bien que de sondages d'opinion et point de vues de different groupes d'interets dans la recherche sur la sante. A part les etudes approfondies, autres enquetes nationales ont ete mene et vaste analyse de litterature sur le sujet a ete fait. Le rapport suivant sur ces resultats a donc deux sections principales, la premiere examine les perspectives historiques et la seconde donne le compte sur la situation actuelle de recherche dans les pays.

Findings/Conclusions

Le passe

L'Afrique a un passe de Science et Technologie. Les examples souvent cites conprennent entre autres les mathematiques dont un systeme complexe de numbres utilises au Nigeria et au Congo depuis pendant 8000 ans, l'utilisation du metal par les habitants des bords du lac Victoria avant l'epoque chretienne, l'architecture et les travaux de genie civil en Egypte et au Zimbabwe ainsi que des sciences agricoles avancees au Sudan. Dans le domaine de la sante on trouve une documentation bien developpee sur les plantes et la medecine traditionelle, des etudes d'anatomie, des procedes avances en chirurgie et des traitements de pathologies complexes de cancer. Mais a l'exception de quelques regions, le continent avait ete envahi et colonise pendant plusieurs siecles. Pendant la periode de l'occupation, les puissances coloniales fragmenterent le continent en plusieurs etats et systematiquement dementelerent les cultures indigenes tout en imposant des cultures etrangeres. Par consequent, comme le continent devenait une source de matieres primieres et d'esclaves une majorite de realisations S+T du passe avaient ete detruites.

En consequence et sans aucune surprise les developpements de recherche sur la sante pendant la periode d'avant l'independence sont pleins d'exemples provenant des systemes divers reflectant des heritages coloniaux differents. Les Britaniques, Francais, Belges, Allemands, Portugais, Espagnols et les Boers ont gouverne les

differentes parties de l'Afrique avec des differents degrees d'oppression. Les Boers ont domine en pratiquant une politique de separation de races et par ce fait priverent l'education scientifique aux populations locales. Les Belges et les Portugais ont exclusivement utilise leurs systemes et techniques de recherche ne laissant au moment de l'independence pratiquement aucune structure fiable de recherche dans les anciennes colonies. Les Francais ont developpe une infrastructure de recherche relativement fiable mais les travaux de recherche continuaient a etre diriges par des expatries et la formation des chercheurs locaux n'etait pas une preoccupation. Les Britaniques par contre ont laisse aux anciennes colonies une infrastructure de recherche fiable mais meme dans ce cas la formation de la main d'oeuvre locale etait d'une moindre priorite. Donc l'epoque coloniale peut seulement etre caracterisee comme une periode pendant laquelle la vitesse de developpement scienctifique et technologique locale avait ete brutalement freinee au profit de systemes et modeles de recherche des envahisseurs sans aucune preoccupation pour le developpement d'une recherche de sante appropriee.

L'Apres-Independence

L'emergence des etats independants commenca en 1950 et le processus continua pendant les trois decenies suivantes. Chaque pays independent commenca a developper ses propres politiques de recherche, science et technologie. Les scenarios d'apres-independence etaient tres varies, allant de manque d'interet en S+T aux developpements significatifs. Dans presque tous les etats, les universites existantes etaient devenues des sieges principales de recherche. Celles qui disposaient des facultes de medicine donnerent une impulsion a la recherche sur la sante, mais avec un accent particulier sur la bio-medicale et les disciplines cliniques. Dans d'autres pays, en plus de recherches qui se faisaient dans les universites, les gouvernements ont cree des conseils de recherche qui a leur tour avaient installe des comites sectoriaux pour la sante. Le degree d'activite et de realisation de ces conseils et comites specialises dependaient de la politique les creant et sur le niveau de financement local leur accorde. Certains pays avaient cree des ministeres de science et technologie soit comme des ministeres de plein droit soit comme faisant parti de ministere de l'education. Ce sont dans ces ministeres (ou les conseils de recherche) que des instituts de recherche avaient ete formes. En plus de ces structures decrites plus haut certains ministeres de sante avaient etabli des unites de recherche internes pour repondre a leurs propres besoin de fonctionnement. Dans quelques pays, il existe des laboratoires independants de recherche sous l'autorite des agences etrangeres. En resume, les jeunes etats d'Afrique ont herite des structures coloniales de recherche variees et des systemes (modeles) qui ont laisse aux jeunes etats tres peu de culture de recherche et tres peu d'une main d'oeuvre locale. Par la suite, pendant la periode d'apres independence, avec peu d'exceptions la majorite de pays ont continue a investir tres peu dans la recherche, et comme consequence, les scientistes locaux sont devenus tres dependants du financement exterieur. La plupart des pays Africains sont signataires de la Convention de Lome qui, entre autre, stipule que les pays doivent prevoir 1.5% du budget national a la recherche. Tres peu de pays ont fait attention a cette recommandation.

Financement

Le financement de la recherche sur la sante en Afrique est caracterise par de faibles depenses (10-90 disequilibrum), et par des investissements insignifiants. Dans l'ensemble, la sante rester une petite priorite qui en moyenne est accordee entre 0,1% a 3% de GDP. La recherche sur la sante est meme une priorite moindre que celle accordee a la sante car elle recoit en moyenne moins de 0,5% de budgets de sante. En fait il existe des pays en Afrique dont les lignes budgetaires pour la recherche n'existent pas du tout et pour d'autres, compte tenu des difficultes economiques de la deniere decenie, continuent de faire diminuer le montant alloue a la recherche. Il est utile de faire remarquer aussi que la participation du secteur prive a la recherche est pratiquement invisible. Cependant il existe des exceptions comme l'Afrique du Sud ou les budgets de science ont ete considerablement augmentes recemment. La consequence d'un faible taux d'investissement national a la recherche comme c'est le cas pour plusieurs pays, se traduit par une dependance extreme aux donneurs de fonds qui, dans certains cas interviennent pour plus de 90% de tous les fonds disponibles a la recherche nationale. Ce niveau dependance au financement exterieur a conduit a la deformation des priorites nationales, a l'incertitude dans la planification et a la degradation de l'infrastructure de la recherche. Malgre les recommandations de la Commission sur le financement d'une recherche essentielle de sante, les donnees fournies pour cette consultation montrent que les niveaux de financement actuels ne sont nulle part prets du niveau optimal requis. Il importe de faire remarquer aussi que les donnees sur les mouvements des fonds alloues a la recherche au niveau de pays sont rudimentaires par de manque d'une bonne politique de surveil-

lance et de suivi. Les partenaires de developpement qui ont ete interviewe croient que le manque d'une planification appropriee pour la recherche nationale sur la sante est une consequence provenant de la faiblesse de financement de recherche. L' evidence montre que le probleme est plus profond et qu'un dialogue s'avere necessaire pour une solution appropiee.

Priorites

Avant l' independence, les priorites nationales de recherche sur la sante etaient basees sur les interets des gouvernements coloniaux. Apres l'independence l'etablissement des priorites etait au mieux fait par hazard dans la majorite des pays. Dans son rapport, la Commission a insiste sur l'importance de l'establissement des priorites pour guider la recherche essentielle sur la sante, tout en tenant compte de l''nsuffisance de resources et des possibilites dont disposent les pays le plus pauvres. Mais malgre tous ces avis utiles, les priorites nationales de recherche continuent a etre basees sur des groupes d'interets. Des etudes au niveau nationale montrent que les priorites sort dirigees plus vers la recherche bio-medicale et clinique et moins vers la recherche communautaire multidisciplinaire. Au debut mi-des annees1990, un certain nombre de pays stimules par le concept de EMHR ont commence a organiser des consultations nationales pour obtenir les avis de tout les groupe d'interets, y compris la participation des decideurs et des communautes. Cette demarche s'avere etre tres enrichissante dans le sense de galvaniser l'interet nationale sur la recherche en sante, de construire des mecanismes nationaux, de developper le sense d'etre proprietaire de la recherche et d'encourager les coalitions(des organisations). Une des difficultes rencontrees dans cette demarche d'inclusion est comment organiser la communaute pour une participation effective. En plus, a cause de l'insuffisance de fonds en recherche,il est souvent difficile de traduire les priorites dans les activities de recherche. Cette derniere difficulte a eu un impact negatif sur les nouveaux systemes de recherche nationaux. Il est conseille a ce que les gouvernements et les donneurs de fonds etrangers s'identifient aux priorites nationales et respectent les mecanismes nationaux mis en place.

Utilisation de la recherche

En Afrique, comme une observation generale, la recherche n'a pas encore ete percu comme un outil fiable pour resoudre les problemes de sante. Le manque d'impact de la recherche a ete en partie impute au maigre production des resultats appropries a la recherche mais le facteur le plus important contribuant a ce manque d'impact est la faible interaction entre le chercheur et l'utilisateur. Les universites ont toujours eu tendance a s'eloigner de cette interaction. Mais meme la ou les resultats utiles sont disponibles, leur utilisation a ete minimale par manque de capacites suffisantes pour developper une politique d'utilisation et, aussi puisque les decideurs, surtout ceux des ministeres de sante sont mal prepares. La sous-utilisation des resultats de recherche est donc une anomalie preoccupante et, comme moyen de s'attaquer a cette anomalie, quelques pays ont commence a faire recours a la formation du personel et a inclure des groupes d'interets au processus de recherche, depuis la planification jusqu'a la diffusion des resultats. Dans l'ensemble la contribution de l'Afrique a la litterature scientifique est epauvantable, cependant il existe, des pays avec une contribution impressionante. Plusieurs pays attribuent cette faible participation sur fait que les chercheurs n'ont pas assez d'opportunites et des moyens pour de publication scientifiques. Les journaux scientifiques locaux se battent pour la survit et les journaux pairs internationaux sont accuses de pratiquer une politique discriminatoire. Il est donc recommande que les moyens pour faire la recherche et pour utiliser ses resultats soient renforces et que les moyens pour ameliorer et supporter quelques journaux strategic nationaux (regionaux) soient disponibles.

Collaboration

La collaboration entre les institutions de recherche sur la sante dans le continent (S-S linkages) est restee tres faible. Les relations avec les institutions des pays industrialises sont plus developpees pour des raisons de financement, creation de projets et echange des experts et de technologie. Malgre ces aspects positifs la collaboration N-S n'a pas toujours ete consideree comme entre partenaires egaux mais plutot comme une relation entre un plus fort(donneur) et un plus faible(receveur), relation ou les priorites ont ete souvent imposees, ou les institutions restent dans l'incertitude de financement a cause de changement de reglements et ou manque la confiance. En effet certains arrangements de collaboration ont ete considere non ethiques a cause de l'exploitation non deguisee ou subtile qui en decoulent. Les donneurs (et quelquefois leurs proxies) ont ete largement blame pour la fragmentation de la recherche sur la sante qui prevaut en Afrique. Cet etat de chose a

conduit au mecanism de financement qui tend a mettre l'accent sur les chercheurs comme individus ou sur les institutions plutot que sur la perspective nationale. L'identite du donneur comme une force politique quelquefois l'emporte sur les interets nationaux des pays beneficiaires. Mais les partenaires de developpement soutiennent que le probleme de base reside plutot dans le manque de programmes nationaux clairs de recherche sur la sante et dans le manque de priorites pour guider la recherche. Les donneurs de fonds proposent aussi que les institutions de recherche en Afrique ont besoin d'ameliorer leurs capacites, l'ethique du travail, la motivation et les sytemes de gestion si elles doivent etre competitives. En meme temps, quelques donneurs de fonds admettent que leurs efforts au niveau national pourrait etre plus efficace s'il y a une meilleure coordination entre eux et si les interets territoriaux sont minimises en contribuant dans le panier de recherche en commun. Les consultations ont fait deux recommendations importantes :- un code international dans la conduite de recherche pourrait etre utile pour guider la relation entre donneur- beneficiaire, et que les pays doivent mettre leurs efforts ensemble pour encourager la coordination de donneurs au niveau national.

WHO-AFRO est connu pour son intervention dans les affaires de sante dans le continent. Etant un agence intergouvernemental, avec de reseaux considerables de representants a travers differents pays, il a un grand potentiel pour influencer la sante et le developpement de la recherche sur la sante. Toutefois sa participation dans la recherche sur sante a ete tres limitee en partie a cause de l'absence d'un objectif precis a atteindre par la recherche. Les mecanismes de recherche de l'agence sont restes faibles par comparaison a ses programmes de services de sante et controle de maladie. Il y a un sentiment que les reseaux considerables dont dispose WR pourraient jouer un meilleur role dans le developpement de la recherche sur la sante. Bien que WHO-AFRO dispose des strategies regionales dans la recherche sur la sante beaucoup de chercheurs ne connaissent pas ses objectifs. Dans l'opinion des officiers techniques au Bureau Regional la recherche sur la sante dans les pays est restee sous-developpee parceque les pays ont donne peu d'importance a la recherche, il y a manque de communication entre les utilisateurs de recherche et les chercheurs, il ya la divergence de point de vues au niveau de pays entre les projets de recherche et les besoins en sante, et la faible collaboration regionale existant specialement entre les pays Anglophone et Francophone. WHO-AFRO est d'accord avec l'opinion que les pays devraient constituer un centre d'interets et d'initiatives communes pour encourager la recherche sur la sante et que la justice soit accordee un peu plus a la sante que presentement.

Reseaux

Bien que certains pays ont de reseaux efficace de recherche sur la sante, la majorite de pays ont encore des difficultes pour etablir et maintenir de reseaux de travail entre les chercheurs. Le fond du probleme est lie a l'inefficacite de mecanismes nationaux pour la coordination de recherche. Les pays qui ont adopte ENHR donnent la priorite a l'etablissement des liens nationaux mais les mauvais systemes de communication posent un defi. L'Afrique recoit beaucoup de fonds de l'exterieur et des organisations locales qui sont interessees a la recherche. Cependant, beaucoup de ces organisations ne sont pas connues par des pays et par consequent leurs interventions sont limitees. Il y avait une opinion commune selon laquelle les organisations regionales pourraient jouer un grand role catalyseur dans les liens S-S. Neamois, pour que ceci arrive, les organisations ont besoin de redefinir leurs objectifs et leur mode d'operation (modus operandi), y inclus l'etablissement de meilleures relations de travail entre elles et l'etablissment de meilleures chaines de communication avec les pays. Au niveau global les organisations internationales sur la recherche semblent etre moins coordonnees. Les initiatives recentes dans la recherche faisant partie de ces organisations, avec peu d'exception, n'ont pas fait d'impact significatif dans les pays. Les deux organisations qui ont ete choisies comme utiles par les pays etaient COHRED et INCLEAN. D'autres organisations considerees utiles mais qui ne prennent pas les initiatives sont des organisations et les programmes comme IDRC, SAREC, WHO-TDR, WHO-HRP.

La multiplicite des initiatives de recherche globale semble etre etablit pour des raisons d'interet personel et non pas pour les interets des pays. La consultation a defini un nombre des fonctions qui pouvaient offir plus de valeur aux initiatives des organisations regionales et globales. L'idee principale est que les organisations devraient viser les interets (objectifs) des pays pour etre complementaires au lieu d'etre competetives.

Capacite

Dans la recherche le terme capacite a un sense tres large qui part au dela des talents individuelles, pour inclure les institutions de recherche, les utilisateurs de recherche et les organisations de recherche. L'Afrique a moins de 0.5% de number de scientistes et ingenieurs dans le monde. Dans la plupart des pays que nous avons visite on

dit que l'insuffisance de capacite est le probleme le plus contraignant pour la recherche sur la sante. L'insuffisance etait surtout vue en terme de nombre et qualite du personel, les possibilites de l'institution, la sous- utilisation et le mauvais emploi des connaissancs et l'efficacite de reseaux. Il est generalement reconnue qu'un progres continu a ete realise dans la formation du personel de recherche sur la sante pendant les dix dernieres annees, mais il est aussi reconnu que le progres a ete plus lent que prevu. Malheureusement, la capacite de recherche dans certains pays est aujourd'hui moindre qu'il y a dix ans. L'une des causes de cette reduction de capacite en Afrique est la fuite de cerveaux excessive due a de mauvaises conditions de travail. Les statistiques disponibles montrent que la perte du personel scientifique de l'Afrique a augmente de plus de dix fois qu'il y a quarante ans. Pendant que la perte continue, la dependance de l'Afrique sur des experts exterieurs dans la forme des consultants et de l'assistance technique, coute maintenant plus de 35% du budget total de ODA. Souvent la preference est donnee a ces assistance techniques exterieures meme si leur expertise est inferieure a celle des experts locaux, cette situation ebranle de plus la confiance de capacite locale. La situation actuelle de sous capacite dans chacun des pays que nous avons visite est difficile a deterniner par manque de donnees precises. Nous avons besoin de moyens nous permettant de pour suivre ces recherches. Les experts des pays visites ont clairement indiquer pendant les consultations que la formation du personel scientifique et de son maintien demande une approche serieuse. Pour atteindre cette approche, les pays doivent commencer a documenter le niveau de leur capacite actuelle comme base pour la preparation a long terme de plans pour developper la capacite de developpement. Pour soutenir la capacite de developpement, les efforts serieux doivent etre entrepris pour creer un environnement favorable a la recherche.

Equite

L'equite dans le domaine de la sante reste une preoccupation centrale depuis la conference d'Alma Ata. La commission avait discute d'avantage le probleme d'inegalites et etait arrivee a la conclusion que la recherche sur la sante est etroitement lie a l'etablissent de l'equite dans le domaine de la sante. Les disparites globales especialement entre l'Afrique et le reste du monde continuent a s'elargir. Il existe de grandes variations dans le continent entre les pays et dans un meme pays il existe souvent des differences enormes entre les populations rurale et urbaine, entre les groupes ethniques et entre les sexes. Les riches tendent a beneficier dans les pays ou les fonds sont donnes pour assister les pauvres de la societe. Seul un petit nombre de pays d'Afrique prennent serieusement en compte le probleme d'equite dans le domaine de sante. Plusieurs pays ont seulement des politiques et des intentions mais tres peu de mesures pratiques pour remedier a la situation. La recherche a ce qui concern l'equite est faible dans beaucoup de pays et le peu d'exemples disponible a ce sujets sont des publications specialisees effectuees en grande partie par des chercheurs etrangers dans des institutions exterieures. La majorite de participants avait donc recommande que le probleme d'equite soit mis en evidence et que la recherche devrait donner les directives pas seulement pour identifier les disparites dans le domaine de la sante mais aussi en proposant des solutions appropriees et de suivre de pres le progres vers l'equite.

Result de la recherche

Malgre le fait que les resultats de recherche sur la sante reste faible, les chercheurs Africains continuent a apporter une contribution significative a la science. Les exemples comprennent les recherches fondamentales effectuees en Afrique de Sud, le travail multidisciplinaire en neuropathie tropicale effectue au Nigeria, la recherche appliquee sur le control de la malaria en utilisant les moustiquaires et la recherche operationelle sur le control de l'onchocercose en Afrique de l'Ouest. Ces quelques exemples, parmis d'autres temoignent a la potentialite de recherche en Afrique si seulement les capacites de recherche etaient encouragees en creant un environnement favorable a la recherche, en ameliorant la cooperation internationale et en prevoyant un financement consequent.

Ethiques

Alors que les resultats de recherche sous forme de publications et des rapports sont primordial, le probleme d'ethique scientifique doit etre souleve. L'inquietude est plus grande en Afrique du fait que il y a une demande importante pour des essais cliniques sur des etres humains et le champs d'etudes investigatives sur des populations. Manque d'adhesion aux principes d'ethique a ete documente dans les pays, quelques fois le manque est par omission mais souvent sous pression et avec conivence etre les chercheurs exterieurs et locaux. Les directives d'ethique et les mecanismes de surveillance tant institutionels que nationaux doivent etre

renforces. Puisque les ethiques pourraient avoir des variations regionales a cause de differences culturelles et des exigences de recherche, il est necessaire que les directives et les programmes de formation en tiennent compte. Un autre cote de debat sur l'ethique touche a la collaboration, aux relations et aux mecanismes de financement au niveau global. Quelques relations et maniere de conduire de recherches entre la nord et le sud ont pratiquement echoues dans le passe, d'ou la suggestion d'avoir un code acceptable pour la bonne pratique de recherche.

ENHR

Le terme ENHR a ete introduit par la Commision pour decrire le concept qui considere la recherche au niveau du pays en se basant sur le principe que chaque pays, si pauvre soit il devrait conduire des recherches prioritaires en utilisant les resources disponibles pendant que le pays continue a mettre en place ses systemes de recherches.

ENHR n'est pas une branche speciale de la recherche mais la totalite de recherche sur la sante comme nous la connaissons. La seule difference est dans l'approche. Malheurseument, beaucoup de chercheurs et les decideurs dans les pays ont faussement considere ENHR comme un nouveau programme, jusqu'au point ou certains pays s'identifiaient comme ENHR ou non EHNR. Le travail de COHRED et son predecesseur (TFHRD), a guide l'adoption de EHNR dans 22 pays d'Afrique depuis 1990. Ces pays maintenant forment un reseau Africain de EHNR au niveau regional. De ces 22 pays, quelques uns ont realise tres peu de progres dans la recherche sur la sante mais en general un grand nombre de ces pays la recherche essentielle sur la sante a progresse jusqu'au niveau d'etablissement de priorites et de mecanismes nationaux pour la recherche sur la sante. L'une des plus grandes realisations de ENHR est le rapprochement entre les differents groupes d'interets, en particulier la participation des communautes et des decideurs dans le processus de la recherche. La deuxieme realisation est le changement d'orientation dans l'etablissement de priorites et la promotion de recherche multidisciplinaire, les deux ont renforce les liens nationaux. Au niveau regional le reseau Africain EHNR est probablement la plus grande organisation de recherche dans le continent, une organisation sans laquelle l'organisation qui a conduit au present compte rendu aurait etait difficile a realiser. Dans l'avenir il serait utile de mettre l'accent dans la recherche sur la sante (plutot que sur EHNR) et concentrer a decrire les principes directeurs pour eviter la confusion des termes.

Future/Avenir

Pour reussir au developpement de recherche sur la sante en Afrique il y a trois aspects majeurs qu'il faut prendre en consideration : (a) le developpement des capacites appropriees (b) l'etablissement des mecanismes nationaux efficaces et (c) la creation d'un environnement favorable a la recherche. Ces trois aspects ont des principes qui s'appliquent a tous les pays aussi bien que des elements specifiques a chacun des pays. Les arrangements (ou l'architecture) pour la recherche sur la sante au niveau **national** devraient incorporer les fonctions suivantes parmis d'autres : disposer de masses critiques, amelioration des institutions, avoir une organisation et coordination efficaces, disposer de personnes pour defendre la cause de la recherche et de programmes, permettre de changement apres etudes approfondies, avoir une bonne gestion de connaissance et de l'utilisation, et avoir les dirigeants et le gestionaires pour la recherche sur la sante. Au niveau **regional** un Forum Africain est necessaire pour plaider sur la recherche, developper les coalitions, exprimer la Voix Africaine, promouvoir les liens entre S-S et N-S, promouvoir les reseaux regionaux et globaux efficaces, s'assurer de resources, fournir l'information analytique, offrir l'assistance technique aux pays et veiller sur les aspects tels que ethiques et bonnes pratiques de recherche, promouvoir une bonne cooperation internationale dans la recherche et finalement evaluer/ suivre de pres les progres dans le developpement de la recherche. Les reactions **globales** ou internationales devraient etre dans le sense de supporter les efforts nationaux par l'echange des informations, la promotion de cooperation N-S developpement de capacite, l'echange de technologie et pour faciliter un forum pour partager des experiences et etablir l'agenda global pour la recherche sur la sante.

La Voix Africaine dans laquelle nous faisons allusions ci-haut est composee de douze messages cles adresses aux gouvernements nationaux et a la communaute internationale. Ces messages sont exposes en grandes lignes ci-dessous.

Messages cles de la Consultation Africaine

- La communaute Africaine reconnait l'importance de la recherche sur la sante comme un instrument pour le developpement en sante dans l'esprit de la renaissance Africaine, auto-determination et le grand desire de compter sur soi en science et technologie. En tenant compte de ses experiences passees qui ont conduit a la decapitation intellectuelle tres elevee et conflits humains, les groupes d'interets dans la recherche sur la sante lance un appel avec **une voix forte** aux differents acteurs au niveau national, regional, et global pour investir plus dans la recherche sur la sante pour corriger les inegalites.

- La centralite de priorites d'un pays comme une base pour initier les recherches sur la sante est reconnue et c'est sur base de cette realisation que tout les efforts des differents bienfaiteurs pour developper la recherche sur la sante devraient converger pour minimiser la fragmentation existante dans la recherche en Afrique.

- Un environnement politique favorable qui garantie la paix et la stabilite nationale est a la base de tout developpement scientifique et technologique. Sans la tranquilite la recherche sur la sante comme un investissement a long terme ne peut etre realise. Donc un appel est lance aux dirigeants Africains et leurs homologues internationaux de placer le developpement humain au premier plan dans le processus politique et d'encourager la solidarite dans la diversite existante.

- Les pays sont encourages d'etablir les mecanismes nationaux de recherche qui permettent a ce que les resources nationales soient effectivement explorees et exploitees pour le developpement sur la sante. Un forum national de tous les groups d'interets en sante/ recherche sur la sante est recommande comme une voie par laquelle les partenaires exterieurs de developpement peuvent d'une maniere utile discuter sur le financement de besoins prioritaires de la recherche nationale sur la sante.

- La formation du personnel scientifique et de son maintien est d'une importance centrale pour la reussite a long terme dans les efforts de developpement de recherche sur la sante, par consequent cette formation et son maintien devraient avoir une attention particuliere. Dans tout les pays la formation du personnel et son encouragement devrait repondre a l'offre et la demande, y compris la formation des dirigeants, la gestion de recherche sur la sante, les techniques de negotiation et la communication de recherche.

- Plaidoyer de la sante et de la recherche sur sante, et leurs place dans le developpement humain devraient etre intensifies pour s'assurer des investissements mais ausssi pour inculquer une culture d'evidence basee sur la prise de decision et de resultant important de recherche de qualite.

- La nature de problemes de sante en Afrique demande des recherches et des interventions basees sur la communaute. Par consequent, la pratique d'ethique doit etre assuree. Aussi l'intensite de la cooperation internationale dans la recherche sur la sante doit faire appel a de nouvelles directives de code d'ethique qui sont sensibles aux problemes tant nationaux que regionaux.

- Les liens et les cooperations avec le nord (les pays industrialises/ partenaires au developpement) devraient etre guides par le principe d'egalite pour eliminer le paternalisme existant, pratique exploitative et aussi pour decourager le phenomene de fuite de cerveaux.

- Le processus de recherche sur la sante dans chaque pays devrait viser le developpement de la sante holistique avec la participation de tous les partenaires nationaux/groupes d'interets pour creer un sense d'etre proprietaire avec, l'espoir que le sense d'etre proprietatire puisse se traduire au support de la recherche par des resources nationales, un support conduisant a une politique coherante de la recherche sur la sante.

- Le developpement de la recherche sur la sante en Afrique demande un effort serieux durant la prochaine decennie. La maniere la plus efficace de diriger ce processus est de creer un Forum Regional Africain (platforme) pour discuter les problemes au fur et a mesure qu'ils se presentent, tels que le dialogue avec le donateur, problemes d'ethiques, de promotion et publicite, d'analyses, methodologie et d'instrumentation, de cooperation, de collaboration SS-N-S, de partage de technologie, de systeme d'information et en general pour encourager la convergence des efforts nationaux, regionaux et globaux de recherche sur la sante.

- L'equite dans le domaine de la sante reste une preoccupation centrale. Le developpement de recherche sur la sante en Afrique devrait toujours tenir en compte ce fait. Les inegalites globales en ce qui concern la recherche sur la sante devraient etre examinees pour s'assurer qu il y ait le partage equitable et juste des avantages. Au niveau international, les experts Africains devraient avoir le droits de participer dans l'agenda global.

- La conference internationale sur la recherche sur la sante a Bangkok n'est pas la fin en soi mais le debut d'un long processus pour developper la recherche sur la sante en Afrique. Ceci etant le cas, l'agenda d'action pratique au niveau national, regional et global est necessaire.

AFRICA AND THE HISTORY OF HEALTH RESEARCH ON THE CONTINENT

Thinking about the interminable problems facing Africa today leaves one with a deep sense of anger, despair and anguish: Anger at the preventable upheavals and hardships resulting from wars, political instability, massacres, persecution, corruption, international trade inequities and economic exploitation; Despair at the growing poverty and disease and the many natural disasters, such as drought and famine; Anguish at the depth of human suffering endured by the millions whose voices are rarely heard[1]

-Agnes Makonda-Ridly

The Setting

Summary

Africa comprises of 58 countries with a great diversity of cultures and values among its peoples. As a result of prolonged colonisation, many emergent nations went through periods of political instability and civil strife with some of the consequences ranging from human displacement and rising poverty, to deteriorating health of large populations. There were some health gains in the two decades leading to the year 2000. In much of sub-Saharan Africa, however, these were being reversed as a result of re-emerging diseases and new diseases (i.e., Malaria, HIV infection), indebtedness and poor investments in science and technology, including health research. However, recent indicators of growing economies, evolving democratic systems and increasing political awareness give hope for the future in which enlightened decisions will lead to development.

Current trends in health in Africa, especially in the sub-Saharan region, are a cause for great concern to the international community. A global response is required to mobilize adequate resources to stem the loss of past health gains, whilst Africa has to create an enabling environment for health development in the coming decade and beyond. African leadership must guide development based on the concepts of self-reliance and-determination, while being fully aware of the value of partnership in an increasingly interdependent world. This report reflects health research issues of the African continent as a whole, although most of the statistics provided largely refer to Africa south of the Sahara.

The continent, which has a surface area of 30.3 million sq.km., has a population of nearly 800 million, among whom 60%, according to various research data, are young people estimated to be under 19 years. There are 58 countries in Africa ranging in size from the Sudan with the largest landmass of 2.5 million sq.km to tiny island states like Mauritius that are only 2000 sq.km. Nigeria boasts the largest population with 120 million and Seychelles the smallest with 100,000. According to various international figures, approximately 80% of the continent's population lives in the rural areas where basic health provisions are often rudimentary. Urban centres normally have better health systems, though significant pockets of extreme poverty exist in all African cities. The continent boasts at least five major linguistic heritages - a feature that gives its people diverse cultures and values.

Historically, according to Els de Temmerman among other scholars, long before colonialism *"Africa was first robbed of its people - over 50 million black slaves, robbed of its culture and self awareness... [and] contributed extensively to the industrial revolution, but never experienced it itself."* Even after the abolition of slavery, most African countries remained under colonial domination for decades, beginning with the late 1800s until the mid-1950s to relatively recently, when many became independent states. The effects of that occupation were severe

[1] Overcoming Africa's Ills: The need for Western understanding and home grown experts

and resulted in negative outcomes, mainly in terms of human development. Independence brought into clear focus the pains of new nationhood with consequences that included civil strife, political confusion and fluctuating economic fortunes.

These factors, including social and cultural changes, followed with considerable effect on the health of much of Africa's population, and continues to persist. For instance, as a result of armed conflicts of which Africa currently hosts about 60% of world refugees, many live in horrid conditions where childhood mortality is extremely high, infectious diseases are rampant, malnutrition common and health facilities are close to non-existent. Thus, one of the major global health challenges of the coming years relates to displacement and migration of people. Recent conflicts in the Great Lakes Region in Africa have threatened to consume most of East and Central Africa. In West Africa the cases of Liberia and Sierra Leone underscore the consequences of poor governance. But natural disasters, for example the recent floods in Mozambique, have also contributed to the crises within the continent.

However, there have been signs of some revival in the recent past. Since 1996 the economies of the 48 sub-Saharan countries rose faster than the previous two decades, with some countries like Mozambique, Uganda and Ethiopia having annual growth rates of more than 6%. In the 1990s, Africa witnessed over 30 national elections, 20 of them for the first time in the history of their respective countries. More and more countries are developing autonomous parliaments, independent judiciaries, and freedom of the press. Life expectancy significantly rose, adult literacy doubled and access to safe water increased. At the macro economic level, new opportunities opened up with the end of the Cold War, through which democracy and human rights received more recognition. And due to increasing liberalisation of the world market, new economic markets presented openings for African products. Human development (as expressed by various indicators) on the whole improved although it remains unacceptably low in much of sub-Saharan Africa.

There is no reason for complacency, however. In addition to continuing conflicts and rising poverty in a number of countries, HIV/AIDS has began to show signs of reversing the positive trends. Yet for sustained and meaningful development, local efforts at improvement have to be supported by fundamental changes in the way the West relates to Africa on the one hand, and in the relationship between governments and the governed in Africa on the other. Africa's problems are like a complex jigsaw puzzle in which no single person, organisation or nation holds the answers. Each one of us holds a piece of the puzzle from the subsistence farmer and the urban labourer to the bureaucrats in the United Nations, the World Bank and IMF. The challenge for everyone concerned with Africa's interests is to break down the know-it-all and self-serving paternalistic attitudes that lead to compartmentalised attempts at problem solving. With this, technology remains one of the make or break factors. Efficient low cost technologies should be made available for developing countries, especially to meet sustainable requirements of the poor. Individuals, communities, governments, the private sector and international institutions need to partner more closely and interact synergistically for the common good of all.

Africa hosts about 70% of the least developed countries (LDC's), whose GNP per capita is less than 260 US$. According to World Bank classification during the period 1990-96, only 10 countries in Africa were classified as middle income with GNP per capita greater than 770 US$. Countries like Mozambique, Ethiopia and Burundi were below 150 US$ per capita. Only four sub-Saharan countries (Gabon, Mauritius, Namibia and South Africa) had a per capita higher than 2000 US$. Contrast these figures with those of some industrialized countries such as Switzerland with GNP per capita of 43,060 US$ or Japan with 38,160 US$. However, even in the richer African countries the encouraging figures tend to mask the true picture of the prevailing inequalities, where a few advantaged groups hold most of the wealth at the expense of the majority who remain extremely poor and under-provided. The poorer economies' social sectors, such as education and health, bear the brunt of austerity measures. Figure 1 above shows that health traditionally attracts very low investment.

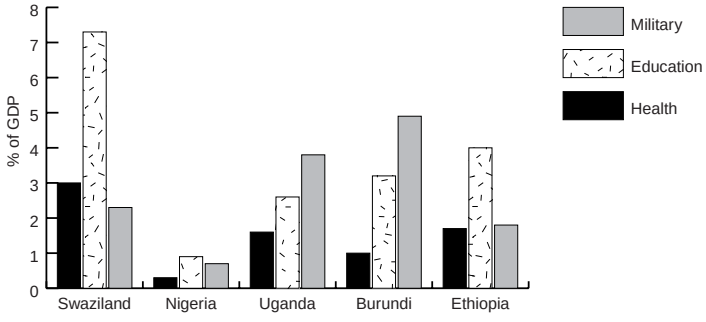


Figure 1. Comparison of selected African countries in three sectors of public expenditure (1996)

The United Nations Secretary General, Mr Kofi Annan, while addressing a conference on development of science and technology in Paris in 1999, declared scientific innovation as the driving force of growth and development. He further added that *"If Africa is to take part in this progress nothing less than a transformation in*

The Case of Burundi

Burundi has had a stormy history of tribal wars and factional struggles between the ruling families. The original inhabitants of the area were the Twa Pygmies who, beginning around the year 1000 AD, were gradually displaced by migrating Hutu, mostly farmers of Bantu stock who now make up 85% of the population. In the 16th and 17th centuries, the country experienced another wave of migration, this time the pastoralist Watutsi from Ethiopia and Uganda. The country became a loosely organised aristrocacy ruled by a king, a situation that was further complicated by colonisation - first by the Germans and later by the Belgians. Taking advantage of the feudal system, the colonizers ruled indirectly through the chiefs and princes, granting them wide-ranging powers to recruit labour and raise taxes. The chiefs were not averse to abusing these powers whenever it suited them. They considered themselves superior, something the Christian missionaries encouraged by educating the ruling classes, and virtually ignoring the other groups. As the missions had been granted a monopoly on education, the policy remained unchallenged. Since independence in 1962, tribal tensions boiled over, leading to the deaths of tens of thousands of people. Following multi-party elections in 1993, the Burundi Democratic Front came to power with some 71% of the vote. This gave the Hutu the presidency and a majority in the National Assembly. However, beginning that same year of the elections, the country suffered from a civil war that saw more than 100,000 people killed and over 500,000 internally displaced. The war also significantly decreased the available human resource and infrastructure for health care. Vaccination coverage dropped from 80% to 30% in 1994, with an increase to 66% in 1996. HIV rates in the capital were reported to be over 20%. The problems affecting the country were further compounded when Mr Pierre Buyoya, a Tutsi, ousted the Hutu president in a coup d'tat with support of the army in July 1996. International sanctions were placed on Burundi to force the new government to step down or hold new elections, but to no avail. The urgent need for security led to the initiative of regrouping people in camps. This new way of living increased crime rates, including prostitution, and led to several disease epidemics, malnutrition and aggravated poverty. The embargo, which was instituted in 1996 soon after the coup, was a major constraint to national development efforts and the source of an inflation that killed all family and community efforts to find a way out of the crisis.

The case of Somalia

Somalia's joy at attaining independence was short lived, as the first president, Mr Mohamed Siad Barre, began by jailing, torturing, and summarily executing anyone who didn't agree with his ideas. Armed resistance movements, already battle hardened by the Ogaden War with Ethiopia, started sprouting all over the country and for a number of years there were pitched battles between various clans and the military. The conflict built to a crescendo in 1989 in the city of Mogadishu, when the president's death squads slaughtered 450 Muslims demonstrating against the arrest of their spiritual leaders. Soon after, President Barre was driven into the mountains of southern Somalia by the very clans he had persecuted, and was overthrown in 1991. This moment of unity between the clans that saw Barre out of power was illusionary, and soon the country disintegrated into factional fighting and civil war, despite repeated attempts by the UN to broker a peace deal. One clan in the northern region, the Isaq, seceded from Somalia and declared itself the independent republic of Somaliland, instituting its own flag, currency and military force. Elsewhere there was general lawlessness, chaos, mayhem, and uncertainty. There was little food, water, infrastructure, or medical aid, and a cholera epidemic swept through the country. There was no national government operating to offer general security or police protection. In fact, what Somalia did seem to have a lot of were kidnappings, hijackings, and trigger happy young men with guns.

priorities and policies is needed to develop Africa's scientific knowledge and expertise." Mr Annan also observed that whereas African economies were growing again after a decline of more than two decades, Africa's share in the world's scientific output had fallen from 0.5% to 0.3%. Africa, with about 12% of the global population, has only 20,000 scientists or 3.6% of the global total.

Africa enters the world market with substantial arrears, for example, with relatively few processing industries, thus depending on the export of raw materials to extremely unstable markets. Moreover, lack of adequate infrastructure in communication, transport and banking makes it difficult to compete with economic superpowers. Africa's total share in the world market is only about 1%. Of all the investments going to developing countries, Africa's share is 3%. The number of poor in Africa has slightly increased. Today, one in three Africans (or 170 million) goes to bed hungry. One in three will never reach the age of 40. Half of the population still has no access to proper health care. And Africa has more than 24.5 million HIV-positive people, who account for two thirds of all global HIV-carriers.

External debts, as a ratio of the Gross Domestic Product (GDP), are a further indication of the increasing economic hardship and rising poverty facing African countries. After the oil crisis of the seventies, banks eagerly granted credits to greedy dictators of the Third World who invested in grand projects that offered minimal benefits to the people. Substantial amounts of the loans disappeared into western bank accounts of the leaders. This 'flight of capital' was then used to finance other loans. External debt kept growing as new loans were given to enable the countries to pay back old ones.

The consequences were predictable, of which the IMF and the World Bank intervened with Structural Adjustment Programmes (SAPs) as *conditio sine qua non* for new loans. More than 30 African countries were

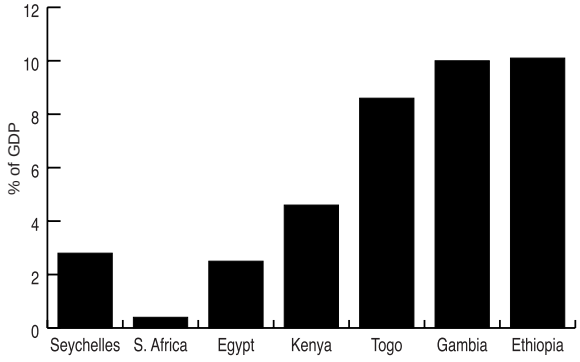


Figure 2. Official Development Assistance in selected African countries

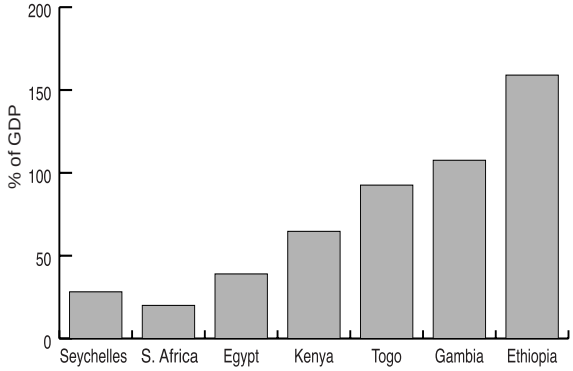


Figure 3. Official external debt in selected African countries

straitjacketed by these measures, leading to devastating cuts on education and healthcare. The reform programmes, although deemed necessary, were catastrophic to the population. Unicef defined the eighties as the 'decade of despair', saying it is no simplification to state that the rich got the loans, and the poor the debts. In the nineties, Africa accumulated an external debt of 200 billion dollars, more than the total annual income of all the countries on the continent put together.

According to the 1997 World Bank data, the mean external debt for sub-Saharan countries amounted to a percentage averaging 95.6 of the GDP. The figures ranged from 2.6 to 366.5 of the GDP between the countries. These figures (see Fig. 2 and Fig. 3) serve to emphasize the gravity of the economic dilemma faced by most African countries. Unless radical debt relief measures are prescribed, the majority of sub-Saharan African countries would spend virtually all their generated income to service and repay external debt, leaving no funds for investment or provision of social services, thus demanding more foreign assistance and creating a situation of total dependency.

Additional pressures are now being generated by the effects of globalization, free trade and other forms of prescribed economic reforms. A closer examination of the social dimensions of these reforms for the poorer countries is required to protect the poor in society from further marginalization. According to available figures, the population below the poverty line - although undocumented for many countries - is high, averaging 37% (range 11-63%) for the 14 African countries where data are available.

According to the World Development Report (1993), overall economic growth and education are seen as central policies for achieving health for all. Earlier reference was made to the low investments in education by

most African countries, hence the high development indices with the lowest being Mauritius with 59 and the highest Gabon with 214. In fact, except for Mauritius and Seychelles, all other African countries have indices above 100. As a whole, adult literacy is low, primary school enrolment being as low as 25% in some cases and often below 50%, with only 10 African countries having a primary school enrolment above 90%. Literacy in women and school enrolment of girls lags behind that of men. As consequences of the low levels of education in women and other cultural and gender issues, participation of women in government is very low in Africa, on the average below 10%.

Conclusion

Africa faces major challenges in the coming decades, which is mainly to maintain the past 30 years progress in the health sector, especially in the face of high population growth rates and scarce economic resources. Together, Africa's decision-makers and donor agencies need to make hard choices about sector priorities, policies, strategies and service-delivery models to make the most of investments in these sectors.

At the dawn of the new millennium, African countries continue to be plagued by civil wars, drought, political instability, refugees and deteriorating health infrastructures. Rising poverty, crippling external debt, and economic crisis are adversely affecting health development with additional pressures coming from globalization, free trade, and other forms of economic reforms.

African leadership should take the blame for failure to broaden and diversify their countries' economic base, with the resultant rapid rise in unemployment and the potentially dangerous fiscal and domestic debt situations. While external influences are important, these economic problems are to a large extent the consequence of a combination of inappropriate policies, weak policy implementation and institutional decay.

Perspective on Health Care in Africa

If all the tears that have been shed over lost ones could flow together, they would form a river so big and powerful, it could wash away all of Africa's ills[1]

-Agnes Makonda-Ridly[1]

Summary

In their early post-independence periods, African countries tended to invest disproportionately on physical structures without due consideration to their sustainability. And with deteriorating economic situations of the countries' immediate past, health sectors became major casualties of expenditure cuts. The 1978 Alma Ata Conference on Primary Health Care (PHC) gave hope for better health of underprivileged populations and correction of health inequities. Whereas the past two of the decades witnessed significant health gains on the continent, the health status of many African populations remain comparatively poor. Childhood infections, *microbial* threats of HIV/AIDS and tuberculosis, re–emerging diseases such as malaria and poor maternal health still account for high disease burdens and, consequently, negative impact on economic development. Despite the above situation, investment in health has remained exceedingly poor and health research in support of development has been given low priority. Only a few African countries have effectively realised that health research has the potential to reduce the current health inequities.

During the immediate post-independence period, health development in Africa called for responses in four strategic areas, namely, development of human resources for health; promotion of environmental hygiene; epidemiological surveillance with control of communicable diseases; and strengthening of health services. Many countries made development of infrastructure the focus of their health policy to help improve the coverage and accessibility of health care to their populations. But the results obtained were uneven because of limited investment capacities. Better results could have been achieved through realistic planning, wise borrowing and community initiatives. Deterioration of the economic and financial situations in recent years has particularly affected the health sector.

A landmark in the development of health policy was the 1978 Alma Ata International Conference on Primary Health Care (PHC). The conference declared that the health status of hundreds of millions of people in the world was unacceptable and called for a new approach to health and health care. This was in order to shrink the gap between the 'haves' and 'have-nots', to achieve a more equitable distribution of health resources, and to attain a level of health for all citizens of the world that would permit them to lead a socially and economically productive lives. The conference further affirmed that the primary health care approach was essential to an acceptable level of health throughout the world and acknowledged that this could be attained through a fuller and better use of the world's resources.

Twenty years after Alma Ata, there have been some substantial global gains in health, but, at the same time, growing inequities in health status and health care for much of the African population remain. Available health statistics in Africa (refer to Table 1) point to the poor state of health on the whole.

Table 1: Health indicators in Africa

Index	Average	Range
Life Expectancy (years)	49.6	37.2 - 71.4
Infant Mortality (per 10^5 live births)	93.7	14 - 191
Maternal Mortality (per 10^5 live births)	880	120 - 1800
Intake of Calories (per person per day)	2278.5	1585 - 3289
Access to Safe Water (% pop)	55.8	25 - 99
Access to Health (% pop)	60.9	26 - 90
Doctors per 10^5 population	30.5	2 - 241

Despite the poor statistics, however, considerable social gains have been made during the past decades. A child born today in Africa can expect to live 16 years longer than a child born 35 years ago. African countries have covered as much distance in human development during the past 30 years as the industrial world managed for over more than a century. Infant mortality has more than halved since 1960. The lives of more than 3 million

[1] Overcoming Africa's Ills: The need for Western understanding and home grown experts

children are being saved each year, thanks to the extension of basic immunization over the past two decades. Child malnutrition rates declined by a quarter; combined primary and secondary school enrolment more than doubled and the share of rural families with access to safe water rose from 10% to about 60% (Human Development Report 1998/UNDP). During the past 36 years life expectancy at birth has increased in developing countries, and much of the progress reflects improvements in the life expectancy for women, up by 10 years in the past 25 years, which is 20% more than for men.

In most sub-Saharan countries, childhood infectious illnesses and poor maternal and perinatal health still predominate. Acute respiratory infections account for between 25% and 66% of childhood illnesses, with diarrhoeal diseases contributing a quarter of the disease burden in children. The microbial menace of HIV/AIDS, as well as tuberculosis and malaria, threaten to reverse economic gains in countries where the burden of disease on productivity is already heavy. In Ivory Coast and Ghana, for example, 15% of the per capita GDP was lost to illness, even excluding the impact of HIV/AIDS. By 1989, the management of AIDS-related illness accounted for almost 70% of government health expenditure in Rwanda and over 40% in Tanzania. Non-communicable diseases and injuries co-exist as major contributors to the burden of disease in Africa. Hypertension, diabetes and vascular diseases, already significant causes of morbidity and mortality, will assume even greater prominence in the coming decades, while demographic changes in sub-Sahara will put more pressure on health systems which are already significantly strained.

Most national health systems in Africa have been developed with special emphasis on the district health subsystems. Commendable results have been observed in terms of service coverage and impact on some diseases, though access to health care is generally inequitable, particularly for the rural populations who are under-served. Even so, many plans were developed without a clear long-term vision.

In most African countries, resource allocation to, and within the health sector remains skewed and inequitable. Expenditures on health are generally very low, ranging from 0.3-4.2% of the government expenditure. Not enough efforts have been made to attain more equitable distribution patterns. For example, pressures to have governments allocate higher percentages of the national budget to the sector and pressures for a more equitable distribution of funds among provinces have, for the most part, not been exerted. Covering the needs of provinces is more expensive, but indispensable.

The World Bank paper on Health Expenditures, Services and Outcomes in Africa identifies a growing differentiation in African country health sector experience. The median annual per capita government expenditure on health was nearly US$6 between 1990 and 1996, but averaged US$3 per capita in the lowest income countries, compared to US$72 per capita in middle income countries. In 1990, governments spent about 1% of GDP on health in the lowest income countries, compared to 1.4% in the low-income countries and 3.1% in the middle income countries. The absolute levels of 1990 government per capita health spending amongst the lowest income African countries (US$2.27) raises serious concerns about the long term feasibility of government budget financing for public health services which ought to provide a minimum package of health services for all the people. The share of the private sector is nearly twice government spending in the lowest income countries. While external assistance constitutes a substantial share of health expenditures in Africa (more than 10% of the total in 1990), information on it is surprisingly little.

In preparation for the 1993 World Development Report, Michaud and Murray reviewed the flow of external assistance to the health sector in developing countries from multilateral and bilateral agencies, as well as non-governmental organisations and foundations. It was found that Africa accounted for the largest share of donor support, both per capita (US$ 2.45) and as percentage of total health aid (38.5%). However, after adjusting for population and income, it was found that the

The case of South Africa

South Africa has continued to confront its main health challenges in the post-1994 democratic election period. These challenges are all rooted in profound inequity, which in health terms translates into vast disparities in the distribution of, and access to health services and resources. The health system was previously characterised by fragmentation, inequitable distribution of services and finances, uncoordinated research infrastructure, and lack of representativeness. The new Department of Health in 1994 inherited an uncoordinated health system from the apartheid government, consisting of provincial departments, independent state departments and homeland departments. This posed a difficult challenge of integrating strategies for providing quality and equitable health care for all South Africans. Policy, legislative and health sector reform has therefore been an important thrust of the Department of Health in order to focus on the health needs of all communities and to provide greater access to comprehensive and integrated health services for all population groups. The areas of focus include improved access to health care; improved quality of care; efficient use of resources and financing; and focus on priority areas to reduce morbidity and mortality.

region did not receive more aid relative to other regions, and that smaller and poorer countries received relatively more aid than larger and richer countries. Half the aid was directed to specific disease programmes while other assistance went to general hospital and health services. External assistance finances accounted for nearly all the capital investments for health in the public sector. This suggests that the donor community has major influence on the long-term patterns of health services and recurrent spending on health through its policy on public investment in health in Africa.

Conclusion

Despite advances in knowledge, science and technology, in many instances health disparities between rich and poor, within and between countries, are widening. New and re-emerging diseases are threatening to undermine gains made in many areas and non-communicable diseases pose new challenges to African countries.

Health research has the potential to reduce many of the current inequities, but it has so far not achieved that potential. If research is to be effective, African countries must seek to upgrade technologically using their base of local scientists, while involving end-users of research and entering into equal partnerships with development partners all over the world.

For science-led development, countries need a long-term policy that is oriented towards stability and the revival of the entrepreneurial spirit to improve the standards of living for all inhabitants.

Historical Perspectives on Health Research

Summary

Africa has documented evidence of science and technology (S+T) in ancient times. However, due to the destructive effects of colonisation, the continent lost the opportunity to build on its S+T achievements of the past. Occupying powers introduced research systems that suited priorities of their home countries and largely ignored local needs. In the field of health, the foreign run laboratories did good science but invested little in the capacity building of local human resources. At independence some colonial powers left minimal infrastructure while others transferred structure and systems that were not suited to local situations. It is on the basis of these research systems that newly emerging states started to construct research policies and build capacities.

Examples of Africa's past achievements in Science and Technology have been documented but additional research is still needed to reveal the full extent of scientific contributions prior to the disruptive process of colonization. Agricultural sites in the Nile basin dating back eight centuries show that scientific cultivation was common practice. But even centuries earlier the cattle had already been domesticated in many African societies. There is also evidence that about two centuries ago carbon steel was being produced around the Great Lakes region using high temperature furnaces comparable to those found in Europe in the 19th century. Observatories to study stars dating before Christ have been discovered at the shores of Lake Turkana. In West Africa advanced astronomical studies under the direction of academic priests were being undertaken in the vicinity of the legendary University of Timbuktu. As was the case in Europe, not all African societies had developed in science of mathematics. However, before the introduction of Arabic numerals in Europe, there is evidence that the Congolese were using numbers, eight thousand years ago. The Yoruba of Nigeria still use a sophisticated number system for their commercial activities. Sailing through large water expanses and trekking across vast desert areas required advanced navigation science. It is known that African desert dwellers and sea traders used to travel long distances in search of trade. In the health field there are numerous examples to demonstrate the advanced nature of medical sciences in the past. Plant medicine and traditional health practice were well entrenched practices. Prior to the colonization process, medical and techniques for control or cure of pain, diarrhoea, cancers, skin infections, intestinal parasites, snake bites, malaria, pneumonia, etc., were well established for centuries. Even vaccination was available for some conditions. In the surgical disciplines, cesarean operations, fixation of fractures and autopsies were practiced.

A major problem for the history of science in Africa is the poorly developed documentation methods in most of the continent leading to loss of important information. The invasion of the continent through slave trade and the introduction of new disease epidemics literally destroyed many aspects of the continent, including its science and cultures.

The picture of health research in Africa is as diverse as the countries themselves. There are only a few countries where indigenous research has a long history. For nearly all African countries, the present situation bears fingerprints of the colonial past with contamination of post independence national research policies. To provide a glimpse of historical perspectives and recent developments a few examples are described below.

Ethiopia

The history of Ethiopian traditional medicine can not be established with certainty for lack of adequate documentation. Early reports of Ethiopian traditional medicine are reported by Francisco Alvarese dating back to the 16th century. The earliest known medicinal texts are the Geez Meshafa Faws of mid seventeenth century and Mashafa Medhanit from early eighteenth century. These medical texts contain several references to the use of plants, animal and mineral products as well as magic and superstition. The introduction of modern health-care delivery into Ethiopia can be traced back to the reign of Emperor Libne Dingel (1508-1540), when the Portuguese mission to his court brought a physician named Bermudes. Over four centuries, modern health care was brought to Ethiopia from many different countries by European travellers, missionaries and members of the diplomatic communities. The reign of Emperor Menilik II (1889-1913), however, stands out as the most significant period for the expansion of organised modern health care in the country.

During the Italian invasion and immediately after, Italian physicians provided most of the healthcare and conducted health research. The major part of their work concentrated on infectious and parasitic diseases. The researchers were mainly located in what was formerly northern Ethiopia, and which is now Eritrea. The expansion of health facilities continued through the era of Emperor Haile Sellasie and during the consecutive governments. The opening of a number of research institutions from 1950 accelerated health research activity in Ethiopia. In 1964 the University of Addis Ababa medical school was added to the growing list of specialised institutions.

Sudan

The country represents one example of health research development in a former British protectorate. Organised medical research in Sudan was developed in the early years of the last century. Sir Andrew Balfour established the germ for medical research in 1903 at Wellcome Tropical Research Laboratories (WTRL) in Khartoum. Most of the research that had been conducted and funded was centred upon environmental sanitation and public health.

Systematic studies of tropical diseases, especially research in Schistosomiasis, were undertaken during the period 1913 -1920. Great expansion, integration and decentralisation of research work occurred during the period 1920-1934. WRTL made significant contributions to the evolution of tropical medicine and to the development of health services and higher education in Sudan. In 1936 the WRTL (Khartoum) was terminated and medical research was thereafter recognised as an official function of the Sudan Medical Research Unit (SRM) within the Ministry of Health. The unit included, Stack Medical Laboratories (built in 1927), Wellcome Chemical Laboratories and Stack Medical Entomology section in Wad Madani. This reshaping of research administration marked the beginning of a centrally directed research programme. Besides routine investigations, some specialised investigations were carried out in the SMR laboratories, and particularly in the fields of malaria, Kala-azar, cerebrospinal meningitis, yellow fever, diphtheria and also onchocerciasis. The laboratories were also associated with the teaching programme of the Kitchener School of Medicine.

Worth of note, however, is that schools of tropical medicine and hygiene had major links with these overseas laboratories and carried away a lot of specimens and publications. Many notable British tropical disease researchers made their names using Sudan as a field base.

East Africa has Kenya and Uganda as examples of yet another model of research in former British colonies, trust territories and protectorates.

Kenya

In the early colonial times, between 1900 to 1930, only research considered of value for production of direct wealth to the British Empire was funded. Thus in that period, only laboratories for the development of cash crops and livestock were established. Industrial and health research were not considered priority and therefore received token support. Consequently, research in health was scanty, often clinical and usually driven by individual interests.

In the period 1940-1960, additional institutions for research of interest to Her Majesty's Government were established under the East African High Commission, later to become the East African Common Services Organisation (EACSO) and more recently the East African Community (EAC). Under EACSO, the East African Medical Research Council ran regional research laboratories dealing with malaria and vector-borne diseases, viral conditions, tuberculosis, leprosy, trypanosomiasis and tropical pesticides. These laboratories continued to operate until the demise of the EAC in 1977.

Under colonial rule, development of local research manpower was unimportant and locals were largely confined to serving as laboratory attendants. Following the break-up of the EAC, Kenya, like its two partner states, assumed responsibility over those research institutions that were located in the country.

Uganda

The Medical School at Makerere University, including its associated teaching hospital at Mulago, have since the 1930s been the centres of medical research in the country. Great contributions were made, particularly in the areas of cardiology, gastroentorology, malnutrition and cancer, where the emphasis was mainly on clinical research. These contributions gave high visibility to Makerere University internationally, and was the centre of

excellence for medical research in Tropical Africa. Although Makerere Medical School was a national institution, there was hardly any link between researchers and officials of the Ministry of Health. Research findings reached the ministry by a process of trickle-down effect rather than through active dialogue between researchers and policy-makers. Similarly, the community only benefited by the same process. Next to the Medical School was a well-developed research unit on malnutrition in children belonging to the British Medical Research Council and not accountable to the MoH. The Unit was closed down during the Idi Amin revolutions of 1973. The premises were later renovated and now house the Child Health and Development Centre. During colonial days, a number of research institutes existed in East Africa. In Uganda were the Virus Research Institute and the Trypanosomiasis Research Organization.

In the former **French and Belgian** occupied countries the systems for health research were totally different from what is described above.

Burundi

Burundi is a former Belgian colony that gained independence in 1962. Unlike their former British neighbours, Burundi has little health research history and hardly any data on health research during colonial times. There are indicators, though, showing that health research was not a priority. The absence of long standing research and training institutes is one such indicator.

In former French colonies, the highest coordinating body for research was the Committee of Historical and Scientific Studies, established in 1919 by the French Governor. In 1936, the French Institute for Black Africa (IFAN) was created to coordinate all studies related to the continent, but after 25 years of existence IFAN proved not to be an internationally recognised African body, though its activities eventually ceased. During colonialism, health research in French Africa was based on the fight against major endemic diseases and was mostly done by foreign researchers. Hardly any structures were developed; national capacity development was non-existent. It was only when local universities were set up that indigenous people became involved in health research.

Benin

During colonialism (1894-1960), scientific research in Benin was based on the interests of the coloniser, with agricultural research forming the major priority. Health research was mostly for the fight against endemic parasitic diseases. After independence, the government put more focus on research and in 1976 a Directorate of Science and Technology was put in place. To better define and implement a national research policy, the National Council for Science and Technology and the Benin Centre for Scientific Technical Research were established in 1986 as the executive bodies for the Directorate. Research structures were also put in place in several ministries. Health research progressed fast after the creation of the university in 1971 (especially the faculty of health sciences), the creation of the Institute of Public Health in 1977 and the District Centre for Health Development in 1983.

Burkina Faso

The first national research programmes were put in place in early 1920s from the agricultural stations of SARA (1923), NIANGOLOKO (1948) and IFAN (1943). After independence and up to about 1970, the management of research structures and programmes was in the hands of French institutes. Therefore those institutes defined research priorities based on strategies of the French researchers.

Guinea Conakry

The first local research centre in Guinea - Centrifan - was established within the Ministry of Education in 1944 by the Governor of French Guinea. At independence, the country had a network of 16 research institutions, two of which were involved in health research. The majority of researchers were of foreign origin and most projects served individual interests. At independence in 1958, Centrifan distinguished itself from IFAN and was renamed the National Institute of Research and Documentation (INRDG). In 1961, the Superior Council for Science and Technology was established as a consultative body for the development and coordination of national science and technology. By 1982, a UNESCO country study identified 74 national research institutes, with only 8 oriented towards health. However, the absence of a national policy, instability of research systems, insufficient qualified personnel and lack of equipment hindered research development in Guinea. It was not until 1984, following a national conference on health, that the importance of research as an instrument for decision making was acknowledged. This resulted in 1988 in the establishment of a health research and training unit within the Ministry of Health and Population to coordinate health research activities.

Cameroon

Between 1884 and 1960, Cameroon was under three colonial masters; the Germans from 1884 to 1916, the French and the British from 1916 to 1960. In the latter period, the country was known as the French Cameroon and British Cameroon respectively. During this pre-independent era, the colonial powers only paid particular attention to health problems that hampered its administration and paid little attention to health priorities of Cameroon citizens. Priorities were given to health research that created immediate wealth to the colonial governments, such as research on botanical gardens and medicinal plants. Research development was carried out in French Cameroon under the umbrella of the ex-French Scientific Research Institute for Development (ORSTOM).

The Cameroon Study Society (SECAM) was created in 1935. The society aimed to study all questions related to anthropology, ethnology, philosophy, history, lifestyles, and health beliefs of Cameroonian peoples. Subsequently, the local centre of the French Institute for Black Africa (IFAN) was created in 1944 to support research mostly by French researchers that was of interest to the colonial government. In British Cameroon, the English started research with the creation of Bambui Research Station in 1942, which carried out agricultural and nutrition research. The Kumba Tropical Disease Research Station was created in 1944 and was responsible for research in onchocerciasis, schistosomiasis and field drug trials. British Cameroon at that time was administered as part of Nigeria and many of its research findings are today found in documents in Nigeria.

In an overview, health research development in Cameroon has evolved under domination of foreigners like the French Institute Pasteur, ORSTOM and OCEAC with indigenous health research institutes having only a minute share, particularly so because of the economic crisis that has plagued the country for the last decade.

South Africa

In South Africa, there has been an overemphasis on expensive, high technology medical research in the past. Early attempts to organise research into health issues in South Africa resulted in the establishment of the South African Institute for Medical Research (SAIMR) in 1917. These attempts were in response to a growing and commercially valuable mining sector. The research was concerned with the imperatives of maintaining production, rather than the individual miner's health and productivity. The Union Government and the Witwatersrand Native Labour Association began collaborating in 1912 and established the SAIMR. Since then, there have been major milestones in health research, including in the fields of polio, malaria, and tuberculosis.

However, the country rapidly developed an enormous capacity for research into first-world conditions (for example, organ transplantation, immunology, cardiac physiology, etc.) and by 1987 was ranked twelfth in the world in terms of output of scientific publications. Males, mostly white males, have historically dominated health research. This is not surprising considering the paucity of science and mathematics education that has been available in the Bantu Education System for so long. South Africa had always been a researchers' paradise because of its first-world technology alongside a third-world population largely unprotected by codes of conduct and with extremely poor human rights protection.

Recently, there has been an exodus of the more talented research scientists to better research appointments overseas. The country was forced into self-imposed exile and isolation by sanctions and international pressure at the same time it was experiencing escalation in military aggression. As a response, research was stepped up in an attempt to become self-sufficient. The Council for Scientific and Industrial Research (CSIR), the Arms Corporation (Armscor), the Atomic Energy Corporation (AEC) and other agencies grew extremely strong. Together with several government departments and universities, these agencies engaged in research with tremendous fervour.

Recent Health Research Initiatives

Research must be demystified and made appropriate to the needs of the country

-Dr Ebrahim Samba, Regional Director, WHO/AFRO

Summary

The Commission on Health Research for Development released its landmark report at the Nobel Conference in 1990. The report contained a number of findings and recommendations. One major finding related to the extremely low global investment in health research in developing countries, despite the heavy burden of poor health borne by these countries. The Commission therefore appealed to the countries and the international research agencies to increase investments in health research. The Commission also urged countries to vigorously undertake Essential National Health Research (ENHR). An international mechanism to promote ENHR was established by creation of the Task Force for Health Research and Development (TFHRD), the predecessor to the Council on Health Research for Development (COHRED). In the post-Commission period, a number of other international initiatives have been established, all for the purposes of advocating for health research development in non-industrialised countries. Despite these initiatives, it still remains uncertain whether the health research situation, ten years after the commission report, has significantly changed. This fact is despite that Africa has been part of the international debate on health research and Africans have held positions in all recent international initiatives. A call is now being made for the African voice to be heard to rectify the existing imbalances in global response to health research development on the continent.

Commission on Health Research for Development

In the realisation that there were fundamental flaws in the health research of developing countries, a Commission on Health Research for Development (CHRD) comprising twelve independent experts was formed in 1987. In its inquiry, the Commission worked to determine the status of health and health research in non-industrialised countries and the factors constraining the development of health research. The Commission, however, observed that despite the realization that research was essential for advancing health development, the power of research, its potential benefits for the world's most vulnerable people had gone largely untapped. In particular, there was little research or use of findings to support informed and intelligent decision making for health action. The Commission reached a number of conclusions and made far-reaching recommendations in its report, which was presented at the Nobel conference in Stockholm in 1990.

A major finding of the Commission was that investments in health research were overwhelmingly in favour of industrialised countries, and that only 5% of the US$30 billion (1988) available for health research was specifically addressing problems of developing countries, yet it was estimated that 93% of the burden of illness was found in these countries. The poorer countries themselves were investing very little in health research. Compounding the issue of financial resources was the lack of clear systems that were used to set priorities, particularly in the developing countries. Health research in these countries was usually characterised by insecure researchers, low outputs, inadequately equipped facilities and poor dissemination of results.

From the viewpoint of developing countries, health research is a critical means of empowering, enabling nations and communities to understand their problems, decide on feasible actions, execute the actions efficiently and effectively, and search for solutions to unresolved problems. Without health research, countries will often be flying blind in their attempts to improve health.

-Commission on Health Research for Development

Considering all the above, the vision of the Commission was the development of a pluralistic global health research system that would support and nurture national scientific groups linked together in transnational networks to address both national and global health problems. The Commission proposed a number of strategies to harness the power of research to accelerate health improvements and overcome existing health disparities. These included giving health a higher priority in national development plans, recognising research as a powerful tool for health development and enabling scientists around the world to work together in stronger collaboration

To realise that vision, the Commission made four major recommendations: that (a) all countries should vigorously undertake Essential National Health Research (ENHR) and invest at least 2% of their national expenditure to support priority research; (b) efforts of developing countries should be joined together with those of industrial countries in international partnerships; (c) larger and more sustained financial support for research from international sources should be mobilised to supplement investments by developing countries and; (d) an international mechanism should be established to monitor progress and promote financial and technical support for research on the health problems of developing countries.

Following the Stockholm Conference, a Task Force on Health Research and Development (TFHRD) was established and charged with the responsibility of implementing the above recommendations. During its two year life, the Task Force supported a number of countries in Africa, Asia and Latin America to establish national mechanisms for ENHR. Only a few countries in Africa had initiated discussion by 1990, but as of 1999, about 40 countries had adopted the ENHR strategy, 22 of them being in Africa. The latter will be part of the analysis of this health research consultation.

In 1993, over 40 developing countries met in Geneva and founded the Council on Health Research for Development (COHRED) to carry out further work started by the Task Force. COHRED's central role has been to foster and support country initiatives, while encouraging global and regional networking activities as supporting elements. The ultimate goal has been to redirect health research activities, allocate available resources and develop new capacities towards such efforts as are considered essential for improving people's health - with each country setting up its own goals, agenda, approaches and time frame.

Ten years hence, it is important to pause and determine whether research development in Africa is on course and whether the situation today differs much from the situation a decade ago, at least based on the highlights of the Commission's findings as follows:

- research on health suffers serious constraints;
- researchers are often unrecognised;
- research capacity in areas relevant to country specific research is seriously lacking;
- training in health services and health research is often inappropriate;
- local research funds are often tied to infrastructure and salaries, therefore foreign funds greatly influence direction;
- linkage of research to action is poor.

Post Commission Initiatives

The work of the Commission on Health Research for Development, which began in 1987 and led to the report, *Health Research: Essential link to equity and development* (1990), served as a catalyst for the formation of a number of major international initiatives in health research in the past ten years. Amongst the main ones are the Council on Health Research for Development (COHRED) (1993), the Ad Hoc Committee on Health Research relating to Future Interventions (1994), the Global Forum for Health Research (GFHR) (1997), and in 1998 the Alliance for Policy and Health Systems Research. The Commission report also stimulated considerable debate on research at national level (ENHR) and international mechanisms for supporting essential research.

Following the WHO resolution (WHA 43.19) of 1990, the global WHO-ACHR established two working groups to consider how best WHO (World Health Organisation) could facilitate member states to conduct essential health research. In 1998 ACHR published its report (WHO/RPS/ACHR/98.1) entitled *'A Research Policy Agenda for science and Technology - To support global health development'.* The document observes that despite gains in health status in the world, health, like wealth, is badly distributed. ACHR discussed the most significant negative trends influencing global health, which included

- uncontrolled population growth and migration;
- anarchic urbanisation and industrialisation;
- environmental degradation;
- social and economic upheaval;
- under- and over-nutrition;
- unhealthy individual and collective behavior.

ACHR concluded that these serious health issues required concerted research and development initiatives and, in particular, that the global scientific community be mobilised with WHO facilitating the networking of the entire research community to bring the power of scientific research, knowledge and technology to bear on global health development.

Like others before, ACHR recognized that despite indisputable progress, the health status of the world population is not what it could be. For instance, billions do not benefit from many current advances in science and medicine, in part due to biological, social, economic and environmental reasons, which are all determinants beyond the scope of any one scientific discipline. ACHR also clearly recognized the world-wide mismatch between the burden of illness and investments in health research.

A major constraint recognised by ACHR is that many developing countries lack scientific and institutional capacity to address their particular problems, especially in the critical fields of epidemiology, health policy, social sciences and other multidisciplinary areas.

In 1993, the World Bank issued the 'World Development Report - Investing in health'. The report stressed the importance of improving use of international assistance for health by paying more careful attention to the role of knowledge generation and dissemination. The report also identified a number of health challenges for the future which included

- significant increase in non-communicable diseases
- spread of HIV and increase in AIDS deaths
- increasing number of disease resistant strains
- continued use of health damaging substances

The Bank report noted that despite major gains in health over the past fifty years, significant health challenges still remain the unacceptably high mortality, disabilities and emerging and re-emerging diseases. Health systems have important issues to address, including misallocation, inequity, inefficiency and exploding costs. The World Bank recommended increased assistance for health research and product development by countries and international agencies. Studies by the Bank had shown that spending on health was a productive investment and a means of accelerating it. This is because improved health contributes to economic growth by reducing production losses, permitting the use of natural resources hitherto inaccessible, by increasing enrolment of children in school and by freeing resources for alternative use. Further, adverse effects of ill-health are greatest for the poor because they are ill more often and mostly because their income depends on physical labour. Health gains therefore would be greater for the poor people who are handicapped by ill-health and who stand to gain the most from the development of under-utilised natural resources.

Following the launch of the World Development Report in 1993, WHO and a number of its partners established in 1994 an Ad-Hoc Committee on Health Research relating to Future Intervention Options. This committee worked through a number of task forces and published its report in 1996. In agreement with the Commission findings, the Ad-Hoc Committee re-affirmed that 90% of the US$ 56 billion yearly (1995) investments in health research and development went to address problems of 10% of the world's population. This meant that only 10% of these resources were used to improve health for the 90% of the world's population. The four critical health problems of the coming decades as identified by the Ad-Hoc committee are:

- the unfinished agenda of communicable diseases, maternal and child health;
- new and re-emerging microbes;
- increase in non-communicable diseases, injuries and violence;

- inequity and inefficiency in delivery of health services.

The Committee came up with 17 recommendations relating to the four critical health problems alluded to above. At the institutional level were four recommendations:

- to develop national agendas for health research;
- to develop new instruments for collaboration;
- to develop a Global Forum for Health Research;
- to re-allocate health sector resources to research and development to bring gains especially to the health of the poor.

Consequent to the third of the above recommendations, the Global Forum for Health Research (GFHR) was established in 1997 to provide a forum to monitor the 10/90(%) disequilibrium, conduct analytical work and establish new initiatives among its five strategies. In 1999, the Alliance for Policy and Health Systems Research (APHSR) was established to promote research in health policy and systems.

Africa's role in International Health Research Initiatives

The African research community has to some extent participated in the international policy debate on health research. Africans are constituent members of WHO, they are members of the WHO-ACHR system and are active in the Special Programmes. African researchers and policy makers have also contributed in the debate leading to formation of the various health research initiatives. What may be in doubt is whether their views are seriously considered because the impression is often created that their membership is largely to legitimize pre-determined processes. There is need for quality African participation and also the desire for the African Voice to be respected.

African countries have also to some extent followed recommendations of international health research initiatives. For example, twenty-two African countries are currently implementing the ENHR strategy as a follow up of the 1990 Commission Report. However, lack of political support and shortage of resources have slowed progress.

African participation in international debates and initiatives must be encouraged and the increasing concern that Africa lags behind in science and technology must be addressed in practical ways through higher investments in the sector. Science and technology and international partnerships are intractably linked and form the pillar for sustainable development. But a close look at the partnerships between the continent and others reveals that control and power still lie in the North. Africa contributes a fair deal to global intellectual capacity for health research, but the North owns intellectual property rights. The British Medical Research Council (MRC) in the Gambia is just one example of how the continent faces obstacles to reclaiming ownership of research, including the country's level of contribution to global knowledge. The British MRC in the Gambia is an island of good research by expatriate scientists with little local participation. Africa is still exploited and often used as a field site for research. A careful examination of research investments made by the North for the so-called African problems reveals that usually the main beneficiaries of the research are the initiators themselves.

It is easy to blame the North for 'intellectual imperialism' and it might be true to some extent, but if Africa is to build self-confidence in tackling its own problems without dependency, it must take a pro-active approach based on its assessed strengths and weaknesses. If Africa is serious in becoming a respected player, it must re-create a tradition of believable successes and re-develop a culture of its own heroes (and heroines) and be competitive in the world market by building its own indigenous capacities.

Health Research in africa: an ever Unfinished Agenda

The following sections present a synthesized analysis of health research in Africa based on a consultative process carried out by a team of African researchers over a period of six months. The analysis demonstrates substantial variation among countries. That scenario can only emphasize the need for country-specific approaches as dictated by differing health research needs, human and institutional capacities and variable funding potentials. The analysis also demonstrates that only few aspects of health research have improved and, on the

whole, the fundamental problems persist. With a few exceptions, the international health research initiatives of the 1990s have made little impact within the continent.

Turning back to one of the objectives of this report, we revisit the concern of the roles and impact of various initiatives in health research. The main ones have been described above. Ten years after the Commission's report and observations of subsequent initiatives, the fundamental questions to ask are:

- Is health presently enjoying a higher priority in national development plans?
- Are research findings being utilised to the extent necessary?
- have the linkages between generators of research findings and consumers improved?
- As capacity strengthening continues, is this accompanied by better equipped institutions and appropriate disciplines for research?
- Is funding still a major constraint to the conduct of research or have investment from local and international sources increased?
- Is international collaboration on the basis of "equal" partnership a reality?

- Have the attitudes and modus operandi for research changed at local and international levels?

METHODOLOGY OF THE STUDY

An inclusive approach was taken in the preparation of this report. Analytical work was done through literature review and collection of country data using a set of instruments. In addition, country teams collected qualitative information by interviewing key informants. Sample countries were visited by regional consultants and at the end of that exercise meetings of all stakeholders in health and health research were held to generate a country consensus document. This report reflects synthesised information from countries.

The region resolved to present an effective African voice at the International Conference on Health Research for Development (in Bangkok). To this end, the fifth African ENHR Networking Meeting in Ghana in October, 1998 led to the formulation of an all-inclusive strategy to implement a broad consultative process for health research in Africa, in partnership with all the stakeholders including development partners. A lead consultant for this process was identified. Supporting this exercise were African members of the COHRED Board (Mentoring Team) and other selected health research experts who served as sub-regional consultants and whose role was to link with national resource teams.

Taking into account the difficulties of collecting information in Africa, it was decided to collect information using available literature, existing communication channels and site visits to as many countries as possible. A number of consultative meetings were conceived to enable construction of a useful and meaningful report, using a bottom up approach from countries through sub-regions to culminate in a continental synthesis meeting for the purpose of regional consensus and ownership.

Strategic Purpose, Objectives and Underlying Concerns

The strategic purpose of this exercise is to make Africa's place in health research more prominent and to highlight Africa's potential to contribute in regional and global health research development.

There are three main objectives of this consultation:

- to determine the current status of health research in Africa;
- to highlight health research developments over the past ten years;
- to solicit people's visions, reflections and views on the way forward.

In the exercise, the major underlying concerns included the role of research in addressing health development, equity in health, global disequilibrium in health research and future arrangements needed for accelerated health research development on the continent.

Study Design

Information was obtained from a cross-section of stakeholders in health and health research, and further enriched by facts and figures from existing literature and views and opinions from stakeholders. The composite of the information base was document reviews, questionnaires, interviews, site visits, national/regional consultative meetings and electronic dialogue. Participants included researchers, policy-decision makers, the wider public, regional offices, donor agencies, other development partners, select global players and a few casual informants. The report is both descriptive and analytical in approach and provides case examples as deemed appropriate.

Instruments

The instruments were designed for the collection of information on developments in health research in Africa in the past, and for gathering opinions and views on ways in which the African continent should strengthen her health research base as a means of accelerating national development.

The study comprised a combination of different data collection techniques that were complementary to maximize the quality of data collected. The following were used:

Literature Review: To get an idea of what information is already available, reviewing published and unpublished information.

One on One Interviews: Detailed conversations were conducted with significant stakeholders at national, regional, and global level. The interviews had two clear foci, i.e. lessons learned and future directions.

National Surveys: The objective of this survey was to critically review the current status of health research, its strengths, weaknesses, thoughts on the future, and to identify crucial issues for future development. In each country, a minimum of three national stakeholders completed this survey.

Institutional Profile Questionnaire: The rationale behind this questionnaire was to make available an inventory of research capacities in countries. In each country, up to five national research/research training institutes and Universities were requested to complete the questionnaire.

Country Packages: Each entry point was requested to compile a brief document on historical development of health research, and to provide some basic data and facts on their country.

Selected Country Visits: 14 countries were studied in-depth, and African consultants made visits to these countries. Short surveys were conducted in 5 other countries

Electronic Conferences: Discussion fora were constructed with regional networks and global partners to discuss issues arising from the country assessments

Consensus Building Meetings: Key messages arising out of individual consultations (at all levels) were communicated to countries and the health and development research community in order to create consensus and come up with a list of critical themes that form the base of a future architecture for health research at all levels.

Francophone Countries: An additional meeting was held in Bamako (end of June 2000) where 6 French-speaking African countries (Benin, Burkina Faso, Ivory Coast, Guinea Conakry, Mali and Senegal) discussed their particular needs, successes and constraints.

The way the instruments mentioned above were utilised, is further illustrated below.

Country Level

In-Depth Studies

To enhance co-ownership of the exercise and to obtain representative facts and views at country level, it had been proposed to carry out 15 detailed country studies. A local team, led by an identified national focal point (also referred to as the entry point), did the country focus and in-depth study. Several criteria were considered in the selection of countries, i.e.

- Linguistic groupings

- Disease profiles
- Development indices (incl. GNP)
- Regional balance
- Health research system and historical aspects
- Population/size
- Available and committed entry points

Based on the above criteria, the following countries were selected: Tunisia, Sudan, Egypt, South Africa, Mozambique, Zambia, Tanzania, Mauritius, Ethiopia, Eritrea, Nigeria, Benin, Senegal, Cameroon, Burundi, and Gabon. Unfortunately, some countries could not be visited. This was the case for Tunisia, Mozambique, Eritrea and Gabon. Two other countries were substituted - Kenya and Mali.

A national team was assigned to carry out a local assessment on health research development consisting of collection of facts and data, focus-group discussions with different stakeholders, institutional profiling, and collection of case stories and studies. The national exercise was followed by a country visit by the consultant. The consultant's task was to consolidate the information collected and have further discussions with the country team and selected key stakeholders. The local team and the consultant then held a national consultation meeting at which the consultant's report and analysis was discussed and a national architecture[2] for accelerated health research development elaborated. Views on architecture for health research at regional and global levels from a country perspective were also sought.

Short Country Assessments

An abbreviated national survey was sent to all African countries, together with the request to compile a brief document on historical developments of health research in their country. The WHO system was used to reach the focal point. Seven additional countries responded, i.e. Burkina Faso, Gabon, Guinea Conacry, Ivory Coast, Niger, Namibia and Senegal. Details were already available for Uganda, Ghana and Zimbabwe.

Regional Level

At the regional level, an analysis was done of the present and the future role of WHO/AFRO in health research in Africa. Short assessments were also made with regional research networks, donors and other development partners based in Nairobi to determine how they saw themselves as players in the regional health and health research agenda. Key issues arising from country consultations were put to networks and some development partners through electronic communication to give them the opportunity to respond.

Global Level

As the focus of this exercise was largely on country activities, the global level analysis team was contacted to discuss issues arising out of country concerns that were considered to have global implications.

Analytical Report

Reports and write-ups from countries were forwarded to the lead consultant who then made an analysis of information collected from the different consultants. The draft report was tabled for discussion to continent wide focal points at which meeting the report was enriched and a consensus reached. Thereafter the report was presented at an inter-regional synthesis meeting, and a final report prepared in readiness for the International Conference.

Participation

Our rough count shows that 18 countries, 110 institutions and 271 individuals participated in this consultation. This report would not be possible without their input. Thanks are due to all participating countries and every individual contributor. Their names can be found in the Appendix.

The report is the outcome of an inclusive and extensive enquiry on the status of health research in Africa. With this consultation, the initiators have attempted to understand the research situation by using a bottom-up approach and involving a wide range of stakeholders, including researchers, policy makers, community representatives and development partners. The study comprised user-friendly data collection instruments to maximise the quality and quantity of facts and views. The voice presented here represents wide opinions, resulting in a set

of key messages the continent wishes to share with the international health research community.

COUNTRY FINDINGS

This chapter captures findings from the analysis of documents received from countries covered in this report. They comprised country survey questionnaires, institutional profiles, reports of consultants and summaries of consensus country meetings. Case examples as provided are also presented where appropriate. The chapter also uses information from literature to enrich country observations.

The chapter is organised in sections that deal with:

- Management of research which has subsections on mechanisms, financing, priority setting, research utilisation, publications and dissemination, collaboration and networking.
- Capacities for health research
- Equity in health and health research
- Research process
- Essential health research (ENHR)

❑ Management of Health Research

Summary

At independence, some countries inherited little in the form of research infrastructures. Others took over institutions but with scarce local expertise to manage them. In the immediate post-independence period, most countries had not developed science and technology research policy frameworks, and in the absence of these research was accorded low priority. A heavy presence of researchers from the North continued to influence the research process and priority setting, while universities failed to provide the expected research leadership. Gradually, science and technology councils got established, although many lacked access to resources to make them effective as, traditionally, health research was ranked low. The existing structures for health research on the continent are based on university systems, research institutes and units of ministries of health. A few non-governmental health research institutions exist. Private sector involvement in health research has remained minimal, while networking and coordination for health research in most countries is poorly developed.

Mechanisms

The domination of research in most countries by colonial governments was described earlier. Depending on the colonial past, the health management systems that were inherited at independence varied in sophistication. Also greatly variable were local human resources for research that had been trained in the pre-independence era. Former Belgian colonies inherited very little at independence as demonstrated by Burundi, Rwanda and Zaire. Former French countries inherited networked institutions, which continued to be run by French scientists due to lack of locally trained research staff. Former British colonies were left with stronger infrastructures and human capacities for health research. In the case of South Africa, strong institutions existed before independence but the indigenous people were deliberately kept away from these institutions.

In the post-independence era countries have struggled with health research and its organisation. There are countries where no formal research policy exists and therefore the equivalent of research councils is absent. In other situations, countries have set up national centres for science and technology to oversee all research in the country. Due to lack of funding and low value for research, these centres have remained non-functional. In **Niger** for example, health research activities are being coordinated at different levels, i.e., the national schools of Public Health, the Faculty of Health Sciences and at ministerial levels. Each institute has its own budget, priorities and work plan. A research and statistics unit exists within the Ministry of Public Health, responsible for the coordination of health research. This unit, however, is not operational due to lack of human resources, lack of a clear policy framework and weak linkages with other institutions.

In a significant number of countries (perhaps 60% of all African countries), ministries of higher education, science and technology, or science and technology commissions have been established to manage research in the countries. The usual arrangement is for these ministries to have national research councils and/or institutes of health research established under them. A few examples are given to highlight these arrangements:

The case of Burundi

The University in Bujumbura was founded after independence in 1964. In its archives there is no information available on research carried out in the colonial period. In 1983 the Department of Scientific Research was established within the Ministry of Education, and under the authority of the General Director of Higher Education and Scientific Research. This department has responsibility for maintaining an inventory of Potential National Scientific and Technological Resources (IPST), organising, co-ordinating and planning research, and custody of Information and Documentation of national scientific and technological data. Since 1990 the department has been strengthened by an inter-ministerial structure, the National Council on Science and Technology (CNRST). So far however, this structure only exists on paper; it has neither a national research policy nor a special technical committee. The Council, which should direct the institution, is yet to be made functional.

Sudan: After independence, the SMR later renamed National Health Laboratory (NHL), was greatly expanded between 1968 and 1969 to accommodate the entomology and chemical laboratories. Also in 1968, the National Council for Scientific and Technological Research was established by an Act of Parliament. This was followed in 1970 by the establishment of the National Centre for Research (NCR) by a Presidential Decree. The NCR focused mainly on biomedical research. In 1971, NCR was affiliated to the Ministry of Higher Education and Research. Five sub-committees of the NCR were created to advise the government on priorities for research. Within the health sector, the NCR created the Medical Research Council (MCR) with representation from all stakeholders, including the Ministry of Health, National Health Laboratories, Universities and health industries.

In 1972, the MRC established the Tropical Medicine Research Institute and later a hospital for tropical medicine which was established in conjunction with the Ministry of health. The MRC adopted a working system based on short-term research projects led by multidisciplinary teams. A review of the published literature between 1983 and 1996 showed that more than 60% of the health research in Sudan was conducted either by expatriates or in collaboration with them. Most of the research was biomedical, and in areas which were not of immediate need to the country. The ministries of Health priorities were addressed in only 1.1% of the research. To meet these challenges in the last decade of the 20th Century, a policy decision was made in 1998 to transform the health system research unit (HSRU), in the Federal Ministry of Health, to a full Research Directorate.

Kenya: At independence and for sometime thereafter, research was not taken as an integral part of national development. Then, the emphasis was to borrow or adopt technologies for immediate application. It is during the 1970-74 National Development Plan that a National Research and Scientific Council was proposed to advise the government on priorities for scientific research related to industry, agriculture and medicine. However, it was not until the collapse of the EAC in 1977 that Parliament established (by Act) the National Council for Science and Technology (NCST) to oversee existing national science and technology laboratories. The Act was amended in 1979 to form semi-autonomous research institutes. One of the several that were established is the Kenya Medical Research Institute (KEMRI) with a mandate to carry out research in biomedical sciences. Although KEMRI has remained a significant institution in health research, a number of other institutions have also continued to contribute in this field. These include several universities, the Ministry of Health and some non-governmental organisations (NGOs).

It is worth noting that in the last two decades a number of policy decisions have been taken to strengthen national research systems for accelerated development. Already mentioned is the establishment of the NCST in 1977. In 1982 the government accepted a Sessional Paper on Science and Technology. Integration of science

and technology in national development was emphasized in the 5th Development Plan and, in 1987, for the first time, a full ministry responsible for science and technology was created. Then in 1993, as a follow up of the Commission's recommendations, Kenya set up the National Health Research for Development Centre (NHRDC) as the national mechanism to coordinate health research. Heads of various governmental and non-governmental institutions are members of the board. Despite the above developments, there exists no comprehensive plan for a national research system to address critical issues of research development. Despite the existence of the NCST, health research remains rather fragmented.

When the **East African countries (Kenya, Uganda and Tanzania)** gained independence from Britain in the early 1960s, a move was made to form the East Africa Community and these research institutes belonged to the Community. The East African Medical Research Council with its Secretariat based in Arusha were responsible for governing these institutes. Research priorities were determined by the institutes and approved by the Council. These institutes reported research findings to the Council and had no direct link between them and the Ministries of Health. Therefore, it took a long time for the research findings to reach health managers in the respective countries.

When the East African Community collapsed in 1977, the research institutes reverted to the host countries. In the case of Uganda, the Virus Research Institute and the Trypasomiasis Research Organization were placed under the Ministry of Health. Even before the collapse of the Community, in the late 1970s, Uganda recognized the need to co-ordinate research in the country and therefore had established the National Research Council in 1970. This Council had six Committees including the Medical and Veterinary Committee. The Council was not a statutory body, but a Department in the Ministry of Planning and Economic Development. It did not have jurisdiction over the research institutes in the East African Community and did not take over these institutes after the demise of the Community. Neither the National Research Council nor its Medical and Veterinary Committee had a direct link with the Ministry of Health. The committee used medical experts to draw up research priorities based on what they perceived to be the burden of disease.

In 1990, **Uganda National Council for Science and Technology** (UNCST) was established by an Act of Parliament to replace the National Research Council and had the mandate to supervise all research, including health research, in the country. In 1991 the ENHR strategy was adopted at a workshop attended by senior researchers, policy makers and representatives of the community. The strategy was to be implemented by UNCST and consequently, the council established an ENHR committee and secretariat in the council. The committee produced a priority research list and a three-year ENHR plan. After consultations with different stakeholders in 1995, the MOH decided to establish a mechanism to supervise the research institutes under its care and coordinate all health research activities going on in the country. The mechanism was to be known as the Uganda National Health Research Organisation (UNHRO), to be established by an Act of Parliament. This body would function on the ENHR principles and take over the functions of the ENHR committee in the UNCST. In 1996 UNHRO secretariat was established by the MOH. Its main functions are to advise the government on the process of establishing UNHRO as a statutory body and to coordinate all health research in the country. It has a steering committee consisting of heads of major research institutions to oversee the activities of the secretariat. In carrying out its functions, the UNHRO secretariat works closely with UNCST.

The level of health research support activity in the above systems is greatly variable, depending on national policies and funding. Some of the national councils are only strong on paper but lack funding to carry out their mandates effectively. Since many of them are under government ministries, their operations are caught up in the usual government bureaucratic mechanisms and so are rendered ineffective. Other councils are relatively active and have strong government backing and therefore manage research effectively, albeit within the usual national constraints. In **Ethiopia** for example, with the increasing number of training and research institutes, the effort in health research increased in quantity and also diversified. In 1975 the Ethiopian Science and Technology Commission (ESTC) was established by decree. ESTC has sectoral committees through which it oversees and funds research. Since 1993 the present government issued a research policy and strategy allocating up to 1.5% of GDP to research, although in reality this percentage has not been attained.

The National Health S+T Council is the highest body, which advises the government on health S+T matters. The Council prepares detailed health S+T policies and guidelines, sets priorities and R&D plans and follows up their implementation following approval. It also reviews and approves national health research projects and programmes. Among other duties, it also tries to facilitate dissemination of useful research results, even though this function requires further strengthening.

With less sophistication are the relatively younger research mechanisms of the former French colonies:

In **Burkina Faso,** ORSTOM, the current IRO, has been in charge of the medical, social and rural sectors. Since 1970, some important changes have taken place with the transformation of the IFAN into the Volta Centre for Scientific Research (CVRS) establishment of the University Ouagadougou in 1974. In 1978 scientific research underwent major changes with the creation of a Department of Higher Education and Scientific Research, and with the transformation of CVRS into the National Centre for Science and Technology, the CNRST.

After independence and the re-unification in 1961 of French and British **Cameroon** to form the Federal Republic, the government made scientific and technological research a priority in order to build the economy on a solid foundation. Consequently, the Scientific and Applied Research Council was created in 1962. This Council was placed under the authority of the Vice President of the Federal Republic with the mandate to establish and approve research programmes, define norms of presentations of reports and cartographic documents and centralise results of studies, and to ensure the dissemination of reports in Cameroon and abroad.

The principal national health research structures comprise mainly institutes of research and the university, all of them under the ministries of higher education and scientific and technical Research. Among the institutes involved in health research are those of Medical Research and Medicinal Plants, of Social Sciences, Agricultural Research for Development and Nutrition, Centre Pasteur, ORSTOM and OCEAC. In the university, the medical school conducts the bulk of the research, but the other faculties such as the Faculty of Science, the Faculty of Letters and the Biotechnology Centre are also involved in different aspects of health research. The Ministry of Health, especially its division of epidemiology, carries out applied, social and operational research. Other ministries involved with some aspects of health research are the Ministries of Agriculture, Animal Husbandry, and Planning and Regional Development.

South Africa by virtue of its unusual history, has a very strong health research system, but there are concerns of equity in the distribution of capacity. Since 1994, the challenge has changed completely. Health issues now dominate over purely medical issues and there is greater understanding and acceptance that ill health is a consequence of poor development more then anything else. In 1996, the Department of Arts, Culture, Science and Technology (DACST) developed a white paper on science and technology that recognized the importance of health research, as part of the broader science system in providing answers to the nation's health problems.

The Case of Namibia

In the first years after independence in 1990, research in the Namibian Ministry of Health and Social Services (MoHSS) was conducted in the absence of an explicit research policy and strategic plan, and without any formalised structure for determining research priorities. It was because of this that the MoHSS in 1996-1999 formulated a research policy. At independence, there was no research focal point. A research committee – mainly consisting of clinicians – coordinated research in the country.

In 1994 a research focal point became operational with the establishment of the Directorate of Planning and HRD, and with this a sub-division for Health Management Information System (MIS) and Research Coordination was put in place. The Research Unit now acts as the secretariat for the appraisal of all envisaged research projects.

Focal points for research have also been established within the four regional directorates, and a new post of Regional information System Programme Administrator has been created in the staff establishment of the 13 Regional Management Teams.

All countries that were visited have universities and many have medical schools. Universities have relatively autonomous research systems and most health research is undertaken within medical schools, schools of public health and faculties of social science. These health research units have tended to operate at a distance from ministries of health. Individual priorities and not a national agenda often drive health research that is conducted in these institutions.

Running in parallel with the above described systems or independent of them are research units of ministries of health. These range from very small and inactive units to very active and well focused research centres. These units tend to emphasise operational research for internal consumption. Unfortunately many of them have very low capacities for carrying out research.

The third scenario consists of independent laboratories, which operate as non-governmental organisations or branches of overseas laboratories. These organisations may have close links with either research institutes, ministries of health or universities, although there are some that are relatively independent and base their operations on their priorities.

Conclusion

A number of significant observations made from this consultation should be mentioned with regard to the present national health research mechanisms. The first is that countries may have set up (by policy statements) research management systems, but governments have not enabled them to function. The emphasis has therefore been on structures and not results. The second observation is that networking within countries is relatively weak, which does not allow for proper utilisation of existing capacity. Finally, lack of effective coordination has permitted

fragmentation of health research to the extent that national priorities are determined poorly or even dictated from outside. Because of some of the above difficulties, a few countries, provoked by the ENHR concept, have attempted to have a fresh view of their health research mechanisms. Uganda, Kenya and Tanzania provide good examples in this regard.

Whereas there are a few countries that would pride in having some long tradition in research, for the majority it is a relatively new culture whose value may not be understood by many in decision making.

The structures for research in most countries have their roots in the distant past and only recently have countries struggled to put new policies in place. In a significant number of cases, these frameworks have been put together but remain non-functional or remain poorly funded and consequently became ineffective. The systems put in place during colonial times did some good work but their interest was for the occupier and therefore paid little attention to capacity building at higher levels. The consequence is that newly emerging countries inherited very little on the ground and therefore have had to re-build from the basics.

In many countries, especially former French countries, domination of research by external researchers is still extensive, with little attention given to local human and institutional capacities. In fact, internal and externally driven parallel systems are confusing local research development, particularly because the larger part of the funding is from outside and therefore largely dictates events locally.

Financing

The poorer the country, the smaller the research; the smaller the research, the poorer the country

-Dr. Ebrahim Samba, Regional Director-WHO AFRO

Summary

Just over a decade ago, the Commission on Health Research for Development conclusively demonstrated the poor state of funding for health research in developing countries. The Commission recommended increased financial flows and mechanism for monitoring the process. In nearly all African countries that were studied, accurate figures on health research budgets or financial expenditures from both local and international sources were absent. Available evidence indicates, with exception for very few countries, local funding may have decre[redacted]untries. This has made dependency on external resources even greater than before.

The Commission on Health Research for Development established that local and international funding for health research was grossly inadequate in developing countries. Over 90% of the global expenditure on health research was on health problems of industrialised countries. Africa received only a tiny fraction of these allocations and received the least of the developing world. As a response to this problem, the Commission recommended that countries should allocate at least 2% of their health budgets to research while external support to health programmes was recommended at 5% of programmatic assistance to research. The Commission also recommended that a mechanism to monitor flow of resources to health research be established to redress the gross imbalances in funding that currently exists.

A major obstacle to health research for most African countries is the lack of financial resources for health research, particularly those needed to support infrastructure and research operations. National allocations for research as a whole have remained too low. Despite the multiplicity of governments, agencies and foundations that purport to support research in African countries, the amounts reaching the countries and the impact of the funding remain insignificant.

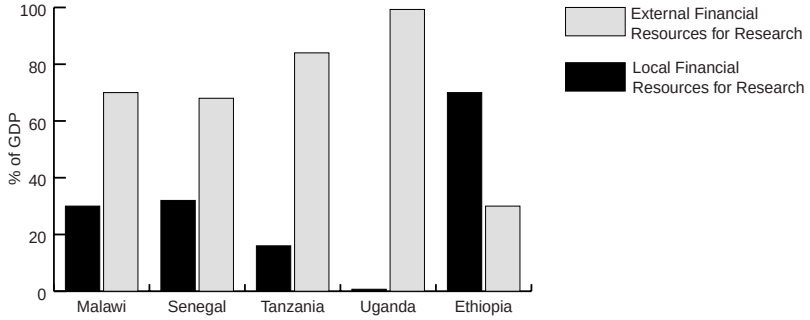


Figure 4. Local and External Input for Health Research

Most African countries are signatory to the Lome Convention which stipulates that 1.5% of countries' resources will be spent on research in general. Governments should be urged to adhere to this declaration and allocate resources accordingly. The health sector should in turn fight for its portion of the resources in order to

allow health research to gain its rightful place in health development.

With only a few exceptions, research funding from local sources is not only too low but in a number of countries the amounts have decreased over the past decade. There are many governments that have no budget item for health research. In this case, funds for research are provided from programmes in an ad-hoc basis and only when such funds are available. And where little funds are available, administration bottlenecks make it very difficult to actually use the funds. Research on health in many countries is not considered a priority and, therefore, there have been significant decreases in allocations. A number of reasons have been cited for this downturn, including deteriorating economies and national socio-political crises. In some countries, structural adjustment programmes (SAP) advocated by the IMF and World Bank have been attributed to those adverse economic changes. Even where local funding is cited to be fair, researchers consider that the amounts allocated for institutional support are well below required levels. In any case, a large proportion of the national funds support personnel costs as opposed to research operations, which amounts to paying people to do nothing. Some of the consequences of the poor funding of research have been demotivation, infrasctructural degradation and flight of human capital.

In the country surveys, it proved rather difficult to get concrete figures on the situation of research funding. Estimates made by researchers and policy makers were relied upon. Estimates of the financial resources for research in a few countries with a comparison of local and external inputs are shown in Fig. 4 on page 45.

The seriousness of the situation of health research support at country level emerges once amounts budgeted for health are disclosed. Most African countries allocate less than 2% of their annual budgets to health and often actual amounts disbursed are in many cases even less than the book estimates. Health research budgets are often lower than 1% of the health budgets and are the first to suffer when measures are taken.

The fact that local financial support is generally low and that most heavily supports personnel expenses, it follows then that external funds are solicited to finance actual research, including human capacity strengthening and institutional development. Many institutions have noted the adverse effects of this situation. The dependency syndrome has increasingly become a culture. Distortion of priorities has also been noted to be widespread. The uncertainties surrounding external financial support make long term research planning a nightmare. In the case of Uganda, 73% of all the external funding went to its HIV/AIDS programme, leaving 27% for all other research. It is true that HIV/AIDS is an important health problem in Uganda, but the high allocation of funds to the programme had more to do with donor preferences and not local choice. General political factors may also determine whether a country receives external resources or not. In one country there was evidence that when the country ceased to be a favourite of donors, the ensuing "embargo" also affected health research funding. In that particular country, international political factors were influencing health research development.

However, there are African countries, although a minority, where governments have taken health research seriously as evidenced by rising budgetary allocations in real terms. In the case of Ethiopia it is stated policy to earmark 1.5% of the GDP to research although in practice much less than that amount is actually disbursed.

South Africa has an impressive record and may be the exception in Africa. Available information shows that total funding for research in 1999 was1.4 billion South African Rands (approx.US$215 million). Although some South African researchers would still argue that the amounts provided are insufficient, and the distribution of the funding is skewed in favour of basic research, this trend is impressive for sub-Sahara Africa.

A number of external donors have indicated that one of the causes of low funding has been the lack of good national research plans. Evidence shows that the actual problem runs deeper. Take the case of Kenya below:

Countries have also been told that there are funds in bilateral or multilateral health programmes that could support research, but the researchers do not go for these funds from the government. This has, for example, been said in the case of World Bank disbursements to national health programs. Unfortunately, researchers, in many instances, have been unable to locate these funds. In industrialized countries, the private sector contributes substantially to all research, including health. With the exception of South Africa, most private sector institutions on the continent contribute minimally to research.

Conclusion

- In the majority of countries local funding for research remains very poor.
- International resources flows for research are inadequate and some times harmful.
- The private sector invests little in health research.
- Documentation of resource flows at country level is rudimentary and requires strengthening.
- There is a knowledge gap when it comes to mobi lizing of finances: country researchers do not have the knowledge and skills to mobilize international funding.

The Case of Kenya

Through a series of consultations facilitated by the National Health Research and Development Center (NHRDC), stakeholders in research decided on a number of health research priorities. Researchers were then invited to present proposals. The highly ranked submissions were presented at a conference where donors were invited for the purposes of picking some of the projects for funding. Very few of these proposals attracted any form of interest and so far none has received funding. This development caused considerable frustrations and shows evidence that unless the originator of the proposal was the funding agency it is unlikely that funding will be forthcoming.

In spite of the Commission report and the establishment of several health research initiatives in the last decade, there has been insignificant progress in funding for research. A new resolve and new strategies are called for if the situation is to improve in the next decade.

Priority Setting

Summary

Setting of health research priorities in African countries was not a structured process until recently. In the past, colonial health research interests drove the priorities. The Commission highlighted the value of an inclusive consultative process in determining national health research priorities as a way of linking scarce resources and capacity to essential research for health development. Despite this recommendation, individuals, institutions and donors still tend to direct this process in the majority of countries. However, in the countries that have adopted Essential National Health (ENHR) principles, national mechanisms that promote a participatory process have been established and increasingly communities and decision makers are becoming important players in the research process. This approach is believed to stimulate demand for priority research and to make utilization of research a more likely end result.

Producing a national health research priority agenda has been a challenge to African countries. A few decades back, for most countries, priorities had little to do with pressing local problems because colonial strategic interests were paramount. Then priorities were more geared to the interests of the foreign governments or their institutions. In East Africa, for instance, British universities, their tropical institutes and the medical research council had a lot to do with the type of research that was conducted. In French West Africa, the OCCGE, ORSTOM, Institute Pasteur and other French laboratories of the colonial era regulated research within a network involving several countries in West and Central Africa.

It is only in the past decade, as a result of the Commission Report particularly because of the concerns of capacity, equity and funding, that setting up of priorities has taken a higher profile. Worth noting is the following Commission Statement on Priorities: “In making plans, each developing country should set its goals in terms of

The Case of Ghana

Ghana started the process of Health Reforms in 1995. One of the outcomes was a series of consultations, which resulted in the production of a document on the policy guidelines for health research development in the country. The other outcome was the redefinition of the research agenda for the country. The Medium Term Health Strategy document had identified reasons for the poor performance of the health sector. If these were addressed, it was concluded, then there was bound to be improvement in the sector. The cross-cutting issues were:

- Access to health services
- Quality of health services
- Efficiency in the use of resources
- Linkages in the health sector, and
- Health financing and health technology assessment.

These cross-cutting issues have been adopted as the research priorities for the country, but are only followed at the government level.

The Case of Tanzania

In 1999, the National Forum on Health Research conducted a process of priority setting for health research. As a first step, a questionnaire was sent to District Medical Officers in 113 districts. They were to list the top ten disease problems, the top ten health systems/problems and five socio-cultural problems in their districts. Responses were received from 45 districts.

At a workshop in February 1999, research institutions gave their experiences out of which the national priorities were arrived at. The methods used represented views of researchers, policy and decision makers, and the community. Priorities were ranked and grouped into three categories: disease, health systems and socio-economic problems. The Forum developed the questionnaires, which the districts used, and the district management teams set the priorities.

Institutional research priorities are in tune with the national priorities because institutional priority settings follow national guidelines. And also regional and district research priorities match the national priorities.

Some key lessons learnt:

- Ownership: the participants in the Priority Setting workshop were reluctant to use the existing criteria for priority setting; they preferred to set the criteria themselves and own this process.
- Inclusiveness: the step from research topics to research questions was done in this workshop including all stakeholders; researchers should not underestimate the users of research in this step of the exercise.
- Partnership and coalition building are very important for a successful priority setting.
- The dynamics of the process: priority setting is not static; there is a need to continuously follow up and accommodate changes.

the two principal objectives of ENHR:

- to identify country-specific health problems and design and evaluate action programmes for dealing with them;

- to join in the international effort to find new knowledge, methods and technologies for addressing global health problems that are of high priority for the country in question.

On the subject of research priorities, an examination of African countries reveals differing situations. There are many countries that have no clearly articulated national health research priorities. In these countries, research decisions are based on impressions, common sense or whatever health information has been compiled by the ministries of health. Some of the countries in this category indicate that in recent times, committees have been set up to formulate the way forward in the process of priority setting. One of the difficulties for them has been lack of funds from government to facilitate a national consultative process. Their hope is that alternative sources of funding can be identified to enable appropriate activities to start.

Table 2: Countries that have set national priorities

Benin	✔
Burundi	
Bukina Faso	✔
Cameroon	
Egypt	
Ethiopia	✔
Gabon	
Guinea Conacry	
Ivory Coast	
Kenya	✔
Mali	
Mauritius	
Namibia	
Niger	
Nigeria	
Senegal	
South Africa	✔
Sudan	
Tanzania	✔
Uganda	✔

In other countries, research priorities are said to exist. However, these may not be termed national because they are determined by one stakeholder, usually ministries of health, institutes of research or universities. In **French-speaking Africa,** where most countries are still highly centralised, inclusive priority setting is quite rare. The scenario in this case is that priorities are heavily influenced by service programmes, individual researchers or funding agencies. The priorities are therefore more institutional than national. The individuals or institutions concerned, of course, believe that their research interests coincide with health needs of the country because they have good knowledge of the local scene. As might be expected in these cases, the involvement of policy makers and other stakeholders is minimal and the ensuing research does not place the end user as a primary target. In all fairness to this group of countries, there are situations where an institution or an individual has close links with the Ministry of Health and therefore the research projects may be demand-driven by the government.

In **Namibia**, the research agenda is coordinated through inputs from within the Ministry. The role of the District Coordinating Committee (DCC) is to identify and prioritise research needs. The DCC reviews research progress in the district, prioritises topics, identifies training needs and ensures the utilisation of research results and feedback to relevant stakeholders. The prioritised research needs are then submitted to the Regional Research Committees (RRC), which subsequently established regional research priorities. All regional research priority lists are submitted annually to the national research unit which then compiles the national research agenda.

The third scenario is for countries where the priority setting process is a deliberate and well structured process which often starts at the village level. The information collected is processed at district level through a series of workshops. The outcome of these workshops is then presented at a broader national convention where debate takes place and a long list of topics is finally grouped and ranked to produce a shorter list of the most pressing needs for research. This list is then left to the market place. At the village and district levels, communities, health agents and administrators are invited to provide their views. At the national convention, effort is made to involve diverse players from the Ministry of Health, community agents, policy makers and researchers.

As a variation of the above are countries where the documented disease burden of communities is presented to a panel of experts who then use their knowledge to define the top priorities. The communities and other

stakeholders in this case are represented in absentia.

In a number of countries, national health research priorities are biased by needs of a major stakeholder, usually the Ministry of Health. This often occurs in countries where the ministry has a strong health research unit with its own researchers. The situation in Ghana where priorities are determined around health care reform is a case in point (see box on page 51).

In Ghana, it should be remembered that research institutes and universities also conduct health research based on their perceived priorities.

To give examples of major consultative processes in priority setting, the cases of Tanzania and Uganda are important to note. In Tanzania (see box on page 51) questionnaires were prepared and sent to districts. The information on priorities was then discussed in a workshop where views of the major research institutions, universities and representatives of the Ministry of Health were solicited to enrich the report. Priorities were then grouped into three clusters or categories.

In 1992, **Uganda** established an Ad-Hoc committee which was mandated to consult with decision-makers, researchers and communities. Community participation involved four districts from the grassroots. Evidence obtained indicated that nearly 70% of the research was biomedical or clinical and only 30% was community oriented. In 1994, a national workshop was organized where priorities were determined and a five year research plan made. Since then the priority list has been updated and a second five-year research plan written. The origins of this process has greatly influenced the formation of the Uganda National Health Research Organization (UNHRO) whose head was the prime mover of essential national health research network in the country. Of the 21 countries sampled in the consultative process (Table 2) only seven had national priorities for research.

Follow up of the priority setting process has been problematic for countries due to lack of either national or international resources to implement research. Sometimes priorities were set only for the country to realise that there was inadequate capacity to advance the research agenda. Decentralisation of the processes to regional and sub-regional levels was yet another concern raised by countries for the reasons that it is in the periphery where research findings would make the most impact. Yet decentralisation brings into focus the shortage of capacity to conduct quality research at the lower levels. Setting of priorities was found useful by national groups, but for research implementation to be effective, strong national mechanisms to follow through with activities and establish networking were needed. That was a major challenge to countries. As might be expected, there were participants to the priority process who despite their interest in the process still went back to their old ways and followed priority agenda that were more personal or donor driven. National governments in nearly all cases showed great interest in these processes, but few had sufficient funds for research. Development partners at country level, as described above, only maintained their interest but kept a safe distance when the issue of research funding was raised.

Setting national health research priorities has been one thing; accessing funds for health research is another. In at least two countries, the process was taken even further by inviting researchers to present detailed research protocols based on the identified priorities. In the two cases, response by national researchers to proposal generation was enthusiastic. Sadly, nobody was available to finance the projects, which was demoralising to many researchers.

The Butajira Rural Health Programme

The Butajira Rural Health Programme has, since 1987, been devoted to continuous population-based studies in rural Ethiopia. It has maintained a 'field population laboratory' in ten villages by registering vital events. The overall objectives are to develop and evaluate a system for continuous registration of births and deaths, to generate valid data on fertility and mortality, and to provide a study base for essential health research and intervention in the area. Many of the surveys conducted in the study base have offered treatment for the specific diseases targeted in the study.

One of the community members had this to say about the project: *"Community members did not appreciate the importance of health research at the beginning, but later on health studies were accepted when the aims and objectives became clear with the assumption that local health problems will be tackled with the establishment of health care facilities, either by research projects or the government, or any other donor agency".* -Ato Bekele, Butajira

He also noted that acceptance of health research activity depends on the researchers' consideration of local health priorities and the attempt to address them. In Butajira area, according to Ato Bekele, local people's cooperation in health researches is commendable because of the provision of health-care facilities to the people. For instance, the health posts established by Butajira Rural Health Project provide health services to fight the main diseases, including malaria.

Several donors (development partners) that were interviewed during the consultation gave the impression that the main reason why they do not seem to respond to national priorities is that countries do not have clear national research plans. It is paradoxical that when these were identified in some countries the donor response turned out to be lukewarm.

Also, many country participants talked to during the consultations were unaware of the existence of their national health research agenda because only in a few countries has the process of priority setting been fully consultative.

A major challenge nevertheless remains: *to ensure that all players (including the donors) will address the newly identified priority agenda.*

Defined priorities are not always adhered to when it comes to implementation, as budget allocation does not always follow the priorities. Even when a national agenda is set, institutional priorities do not always correspond because the bulk of funding for institutions comes from donors who have their own priorities which are not necessarily based on country needs.

In order to get a better outcome from the priority process, in terms of ownership and support for research, the participating countries suggested that:

- the national consultative process be improved.
- local funding for priority research be increased.
- a better balance between biomedical research as opposed to other research be developed.
- institutions base their negotiations on the priority lists while dealing with donors.
- donor profiles to funding of priorities matches on both sides – the researchers' and the donors'.
- donor funding in support of national priorities be increased.

Community participation in the setting of research priorities is an issue that continued to attract considerable interest in the countries visited. Communities are one of the three major stakeholders, not least because they are the ultimate beneficiaries of health services and end users of research findings. The Alma Ata Declaration emphasized the vital role of community participation in health development. Thus, one of the recurring themes in primary health care is the centrality of community involvement for the sustainability of health programmes. In health research, community participation has been considered essential if results of research are to be effectively applied. Their participation in research priority setting, the conduct of research itself and finally in the implementation results emerging from research is of vital importance.

Community participation in research, however, has been a difficult concept to put into practice. It has been difficult to define communities and to determine their role as generators of demand, beneficiaries and study subjects. In simple terms, a community is defined as a social structure of people in a locality who share common interests. The grouping therefore may comprise people from all walks of life, who may include religious groups, teachers, administrators, farmers, etc. A community may be a collection of people of differing education background, ethnicity, political inclinations - the commonality between them being the group interest and their representation at the grassroots.

Politicians know the power of grassroots involvement. Decision-makers in the form of administrators also know that they can only succeed in their programmes if communities identify with them. Until recently, in contrast,

researchers had not paid too much attention to community participation in the research process, except when individuals within a community were subjects of research. In Africa, communities have been viewed as being rather unsophisticated and therefore not too useful in a process as complex as research.

ENHR emphasises the important role of communities in priority setting, the conduct of research and their involvement as an effective way of linking research and action.

In **Uganda**, community participation in health research has always been put high on the agenda:

- Districts have actively participated in the two national priority setting exercises. In each district there was a two-day seminar involving the District Planning Committee and the District Health Team. Some members of the Planning Committee were local politicians representing counties in the district. After the seminar there were focus group discussions in one or two villages of the same district. Participants in the village discussions included men and women, young and old. Members of the Ad-hoc Committee were impressed by the deep interest of the people in discussing their health problems frankly. Unlike the researchers, whose priorities were based on disease burden, communities had more holistic views on health problems. All communities expressed the view that emphasis should be put not only on disease, but on fighting the factors that predispose people to ill health.

- In the period 1998-99, Uganda carried out a study on community participation in research, investigating community participation in the research and control of tsetse flies, a community project on needs assessment of persons with AIDS, care givers and orphans, and a project on Community Development Trust. The main objectives of the study focused on defining and describing community, community participation, assessment and contextualisation. Conclusions from the study included the following:

  - definitions and meanings of community, as well as community participation, depend on who is defining it and who is being targeted.

  - criteria for selection of the community participants depended on one's level of education, competence and willingness to participate. Channels of participation used were through existing political and administrative structures.

  - limited forms of participation are sometimes inevitable.

One major lesson in the Uganda case study is that communities want a say in matters that affect them. It is only when the community is fully participating in a research project, by coming up with answers to their identified problem, that the intervention made will be their own. That is when they will also own the outcome and defend it. Recommendations of the Uganda study:

- The duration of the study should provide enough time for the community to participate;

- Discussions with a community should start from the onset;

- The results of the study should be disseminated to the community in the shortest time possible and in a manner they understand;

- Research proposals should have a component on how the community will be involved or participate;

- Some facilitation, where needed, is important to avoid disinterest and over-dependence on volunteers;

- Communities need to be more sensitised on the value of essential research;

- Gender concerns should be incorporated in the research process to allow participation of the disadvantaged gender.

Another important lesson learnt from countries is that community participation is enriching to research and may

be variable assuming different forms and modalities, depending on the research being undertaken. But it also needs to be understood that there are constraints to community participation which may include community fatigue, lack of incentives to participation, political interference, educational level, high expectations and problems related to dissemination of findings.
The consultation picked up a number or general recommendations that would lead to more effective community participation:

- Sensations of the community should be done from the outset and involvement in research incorporated early.
- Research results should be communicated in the shortest time possible and in a format the people can understand.
- To get meaningful participation in research, the duration of studies should be long enough.
- The community should in some ways benefit from research including a gain in knowledge.

Conclusion
An increasing number of countries appreciate the value of involving researchers, decision makers and communities in the process of priority setting. Mechanisms for enabling this to happen and ways of obtaining useful community participation remain a challenge. Translating priorities to research projects has been a problem because of the lack of capacity and shortage of funding.

Research Utilisation

Absence of Evidence is no Evidence for Absence.

-Dr. Timothy J Stamps, Minister for Health and Child Welfare, Zimbabwe

For the majority of countries, health research has not made visible impact on development. Researchers, on the whole, have not considered application on their findings an important goal of their work. The poor interaction between research and end user in the planning for research, the poor capacities in health ministries for demand and utilisation, and ineffective network arrangements are all to blame. However, there are examples where utilisation of research for policy and programme change exist. Several countries have also started to address the weakness by creating fora to link the key stakeholders better. Other strategies being used include integration of research into health programmes and better representation of users in research institutions. More opportunities for publishing results locally and better strategies for dissemination of information would greatly increase consumption of findings.

Research for implementation is an important principle. However, it is often health service providers who are the implementers and not the researchers. If it is desirable to conduct research aimed at improving the health of the community in the context of social justice and equity, the research exercise itself needs to be subjected to critical scrutiny. To ensure that policy and practice reflect the interest of the majority, there needs to be a move towards more community participation in policy formulation and decision making about implementation. Researchers need to be part of this process of change by perceiving all levels of the entire research process as crucial: health policy makers, health workers and the community must be involved up to the implementation of findings.

The consultation revealed a very varied picture in countries. Even within the countries there were differing degrees of the research action linkage depending on the type of research, the research institutions involved and funding sources for the research. By their nature, some institutions (e.g., research institutes) are closer to the chief policy actor (MoH), while others, such as universities, are more removed from the chief policy actors. Where ministries of health have an internal research unit, the linkage is the closest.

Most participants admit that health research as a whole has not been very effective and therefore the impact outcome has remained low. The reasons for this, in part, have to do with inherent difficulties facing research itself which have largely to do with existing capacity and levels of financing. But part of the difficulty also has to do with a natural interaction between the research and the end-user.

Many countries, and some exceptions will be cited, admit that utilisation of research within countries at policy, programme and community levels remains low. Reasons for this failure are highlighted below.

In general, the involvement of policy decision-makers in the research process has been weak, or sometimes absent. This weakness is most notable in the relationship between universities and Ministries of Health. Universities, being significant contributors in research, have traditionally maintained their autonomy by minding their own business.

The above view is not an isolated case. It is common to hear statements from university dons that it is not the business of government bureaucrats to do research, and so why all the talk about their involvement?

Links with communities in most cases are extremely poor when it comes to priority setting, conduct of research or dissemination of research findings. The public, as end user, is left to benefit through a passive process with decisions made elsewhere in their interest by people who purport to know what is best for them.

At the university level, the interest is not whether results are utilized or not. The interest is to look at the question, provide the results and publish a paper for own interest... for progress in the academic career and enhancement of the curriculum vitae. What happens to the results is not of interest. It wasn't to me, except that my own work of research had direct application to a patient group so it was regularly applied. And this was easy, I didn't have to go to a ministry, just apply it to the patient.

- Prof. Essien, Nigeria

The second problem in the research to action process is that researchers have not considered application of the results of their work as an important objective. In many instances the research is individual driven and is meant for peers - researcher to researcher, for curiosity and for career development. The situation described below may in a way highlight the problem.

Between 1990 and 1995, the National Institute for Medical Research (NIMR) in **Tanzania** documented 257 publications, an average of 43 publications per year. Of these, one third were published locally and the rest in international journals. Some of the papers were read at local meetings. A few reports reached health-care workers, and even fewer were directed at policy makers and the public. Most of the publications were targeted at other scientists. In the past year the situation is changing and better linkage with consumers has become an important objective.

Countries also identified lack of co-ordination mechanisms in the planning for research as a significant problem. Lack of effective research mechanisms at national and institutional levels is made worse by low funding for publication and dissemination activities. As observed by most researchers, funds are provided to conduct research and the matter often ends there. Many research protocols often do not mention use of the research or provide budgets for dissemination of findings.

The other substantive constraint identified regarding research to action relates to inadequate capacity. A number of countries lack technical skills and competencies to prepare appropriate briefs for policy makers and the public. But this problem has another angle to it. At policy levels, many decision-makers neither have time to listen to researchers nor the inclination to consider presented recommendations. Contact between the two is like any other routine. The issue can be stated thus: capacity for analysis is poor in most Ministries of Health.

However, as has been pointed out earlier, research will not be supported from public resources unless its value can be demonstrated. That means therefore that results should reach users and be shown to have an impact. Without this, the scarce resources available in most national exchequers will not be invested in research.

While the above discussion has pointed to the problems, there are examples in countries where utilisation of research for policy change and programme operation exist. Examples cited involved operations research within programmes and where research units are close to health ministries. The demand aspect of these programmes

brings researchers and utilizers closer in terms of research, analysis and recommendations. That enhances application. For example, since **Senegal** adopted a National Health Development Plan, research tends to be more oriented towards support for that plan.

In the case of **Mali**, the chairperson of INRSP is from the Ministry of Health, which facilitates linkages starting with identification of research priorities and ending with discussion on recommendations for action.

To strengthen research to action, countries made several recommendations. These included incorporation of users in the planning for research, regular meetings between the stakeholders, more dissemination workshops tailored to users, better use of publication and dissemination systems including the public media, establishment of linkage mechanisms that enable closer interaction between institutions of research and policy arms, and the

1. Getting Research into Policy and Practice: The experience of the Malawi National TB Control Programme

Malawi has a strong National Tuberculosis Control Programme (NTP), which is supported by the government of Malawi as well as international donors. All aspects of TB control are supported, including operational research. The NTP attempts to conduct research that is relevant to the needs of the programme, feeding the results of this research back into policy and practice.

What are the necessary ingredients to make this work? First, the NTP has a well-defined goal and several clearly identified objectives, and research projects are based around these objectives. A second important component is the full integration of the research programme into the management structure of the NTP. A programme management group – consisting of the central unit and advisors from district hospitals, the medical school and other relevant stakeholders – meets almost monthly and reviews all aspects of TB control in Malawi, including new ideas of operational research and the progress of ongoing research. Thirdly, the entire TB programme is involved in research – district TB officers assist with data collection, annual operational research training workshops are organised among other activities.

And, finally, there is strong advocacy for operational research from senior Malawian personnel in the Ministry of Health and Population (MOHP). Research is recognised as an important and established part of TB control efforts. This strong support allows the NTP to request donor funds for programme support and also for operational research. The success of the research is judged, not so much on how many papers have been written, but on whether NTP performance has improved.

2. The case of Uganda

In **Uganda**, the Ministry of Health together with the Institute of Public Health, Makerere University, is running a Masters of Public Health Programme. The students are assigned to Districts as their field sites where they spend approximately 75% of their training time. Many studies have been carried out by these students and most of the results have been put to action or use in the districts where the research is designed, developed and done. Examples of these studies include:

Surveillance of Measles in Mbarara District: The findings of these studies have led to the establishment of more outreaches in the district; enrolment of children into primary schools by presentation of a completed immunisation card; repair and replacement of fridges located at health centresm, which receives high priority.

Tuberculosis case finding, a case of laboratory diagnosis in Tororo District: Following the results of this study, several health units in the district with qualified medical personnel have been facilitated to perform ZN tests and to carry out examinations and health education programmes for the community.

strengthening of capacities for research utilisation, especially in Ministries of Health.

Publications and Dissemination

Dissemination of research findings continues to present challenges to most of the countries visited. In several countries, local journals which once thrived have now ceased because of lack of funding and other issues of sustainability. Yet, most stakeholders expressed a major need for results of research to be communicated in a variety of ways, including publications in journals. International journals are valued by academic institutions, and publications outside certain refereed journals are considered of little value for career advancement purposes. Yet it has been pointed out that information therein published is not available to the countries - it may be information lost just like "brain drain". As much as these international journals are valued, it is difficult for African researchers to publish in them. Whereas researchers accept that quality may be an issue, many also believe there is outright bias by referees. There are challenges too that have to do with policies of these international journals, language difficulties and sheer lack of feedback from them.

> *You know the problem of publishing? When we want to publish something, we have to go through lots of procedures. We come from the third world ... we have to wait very long before we can proceed and we can't proceed before we get approval or disapproval from the [publisher]. Sometimes this is very frustrating. Can't we have our own newsletters journals.*
>
> *- B. Zhaki, Egypt*

There are other problems. Many of the research organizations in Africa have no documentation departments. Sometimes the institution does not even know what has been published internally. Institutional support for publishing is also weak in most countries. Countries are calling for more dissemination of results using different methods - seminars, round tables, workshops, journals, reports, newsletters, media articles, etc - all intended to reach the various audiences. Capacity building in science writing is seen as important in overcoming this constraint.

But our scientists also admit that for a variety of reasons, research output in most countries is low. Output by local researchers, although rising, are also not optimal for lack of capacities and other resources. In **Zambia,** for example, poor dissemination of research outcomes has resulted in uncoordinated research activities because individuals and institutions are not aware of what has been done or not done. An analysis of publication records from **Ethiopia** (Table 3) illustrates a number of issues under discussion.

Table 3: Comparison of publications produced by expatriates and Ethiopians (1940-99)

Year of Publication	Expatriate (%)	Ethiopians (%)	All Publications
1940 - 1944	100	0	217
1945 - 1949	100	0	166
1950 - 1954	100	0	50
1955 - 1959	97.6	2.4	42
1960 - 1964	90.35	9.64	197
1964 - 1969	98.14	1.86	161
1970 - 1974	92.4	7.6	341
1975 - 1979	81.2	18.8	372
1980 - 1984	65.6	34.4	302
1985 - 1989	69.6	30.4	537
1990 - 1994	59.3	41.7	650
1995 - 1999	59.8	40.2	580
Total	**75.38**	**24.62**	**3615**

In this survey, the average number of publications per institution per year was 10, which is low. It is worth noting that according to available statistics, Africa contributes less than 3.6% of the global health research output.

African countries, through professional associations, have journals that they support. These journals in many cases have sustainability problems. Some of the journals are national, others regional and a number are indexed journals. It was the appeal of the participants that a select number of these journals should be supported to provide better opportunities and avenues for local research and enhance accessibility of

results by users. Training, financial support, and twinning arrangements are some of the suggestions made.

But there are some success stories as well. The **Kenya** Medical Research Institute (KEMRI) has recently launched a non-technical AIDS information newsletter, which it is distributing on subscription to various organizations. According to KEMRI, the need for simplified, reliable information has not been adequately addressed. Organisations working in the area of HIV/AIDS have tended to distribute their publications only among themselves, while dissemination workshops are usually attended by 'relevant' organisations.

We need to provide information to those in other sectors as well. We hope the companies will get copies for all their employees to take home...giving people correct information is empowering them, and it has been shown that sustained information can influence behaviour.

-Bernard Muthaka, KEMRI information officer

In **Malawi,** the Commonwealth Regional Health Community (CRHCS) Secretariat for East, Central and Southern Africa is supporting a project on information dissemination and communication. The goal of this programme is to strengthen the capacity in the country to collect, synthesise, repackage and disseminate information that is available in the country and beyond. The disseminated information is prepared for selected audiences in a bid to promote the use of research findings. From specific programmes, the objective of this initiative is policy formulation and improvement in the delivery of health care services. To achieve the overall goal, the programme utilises a variety of mechanisms to move valuable information in appropriate forms to its key audiences. The mechanisms used include synthesis of research findings into programme and policy implications booklets, research seminars, special presentations, print and audio-visual materials, technical reports and use of public media.

Conclusion

Countries need to promote the conduct of essential research and establish better means and effective ways of disseminating useful findings. National and regional research journals that have potential to provide opportunities for publishing relevant materials ought to be supported technically and financially to widen opportunities for local researchers, and to make research findings available to a wider audience.

Collaboration in Research

Countries should stop their beggar attitude and realise that it is their global right to demand for equity in health research.

-Dr. Mohamed Abdullah, Kenya

Collaboration between countries in the African region is under developed, while linkages with external partners is better established. At the same time, despite notable contributions made so far, this linkage is seen to be largely responsible for the prevailing fragmentation of research. Development partners have identified a number of problems with national research systems, but they also recognise the negative impacts of their own lack of co-ordination. WHO should provide better health research leadership in the region than has been the case.

External collaboration has two dimensions, regional and global. Countries admit that regional collaboration as a basis for S-S linkages is poorly developed. Many researchers and policy makers consulted were unaware of certain development partners, despite the fact that some have existed in the region for a decade or longer. However, a majority of them were of the opinion that good networking in the region could be useful in promoting research for development.

According to researchers, international collaboration becomes well known in the countries because of financing of research projects, provision of training opportunities, financing of infrastructure, conference support, secondment of experts, improvement of logistics and transfer of technology. The main disadvantages or drawbacks noted include uncertainty of continuation, imposition of policies, priorities and programs, multiple rules and regulations to contend with, and lack of trust in the management of projects. The continent receives research support from numerous agencies who have their influence spread by geographical preferences, and who shift local alliances at will for reasons best known to them. According to Prof. R. Owor from Uganda, *"Donors seem to like supporting research ..., but according to their own interests. Yes, they are also research institutions by themselves. I do not know what will stop that ... it is really a donor problem ... a country level problem"*

However, despite the good work of these funding agencies a large part of the fragmentation of research in African countries has to do with funding systems.

A representative sample of development partners who were interviewed had some interesting observations to make. There was a strong opinion that the root cause of donor driving the research process occurs because countries lack organised research agenda. Others blame the lack of a research culture for the difficulties surrounding research development and think that the way forward is sustained capacity building over a long time. One representative indicated that their mandate in the country was development projects and not research, because research was a responsibility of another directorate of the parent organisation. Therefore the country delegate was not even aware of the research funded by his agency.

Development Partners

Fifteen partners based in Nairobi, many of whom have regional networks, were identified for discussion. The purpose was to obtain their perspectives of health research in the region and among individual countries. Some of the contribution of donors (or development partners) have both been appreciated and blamed for some of their practices, it was considered useful to get their perspectives. Representative from ten agencies were interviewed.

Although a majority were convinced that research is important for decision making, a significant number were not supporting research directly. They viewed their role as more in development projects as determined in bilateral aid agreements. They attributed the problem to lack of national priority to health. In the case of Kenya, bilateral projects include university support, poverty eradication, basic education, agriculture, infrastructural development, energy, environmental conservation, etc., but health is conspicuously missing in bilateral protocols. But some of the agencies interviewed (e.g., IDRC) have specific research mandates, or have a well developed research support departments (e.g., JICA, SIDA, UNAIDS, USAID).

Several problems and constraints were brought up in discussions. In the recent past there has been declining support for health research due to diminishing donor resources, which were linked to shifts in interest or cuts by parent governments. But there are a few cases where levels of support have increased in the past ten years or have started to show a positive trend in the recent past. Problems related to poor research infrastructure, including lack of maintenance and poor management of institutions were alluded to in many interviews. Poor government policies, including decentralised decision making, has made it difficult for donors to know who is accountable for the funds provided. Poor human capacity, rapid turnover of technical staff, poor work ethics, lack of motivation, inappropriate appointments and low utilisation of local expertise were seen as serious constraints to research development. Sometimes obvious misappropriation and lack of accountability eroded trust between donor and recipient, thus causing long delays in project approval and disbursements.

... you put your strategy on paper and the case is closed. That is a key (Kenyan) problem. That is why you had a national health policy in 1994 and an implementation guide for that policy in 1996... I have never seen elsewhere in Africa the possibility of producing such an amount of excellent papers with no impact on reality. This really frustrates donors.

-SIDA official, Nairobi

It was also said that countries often lacked a clear health research focus based on a coordinated national plan. This in part accounts for unclear priorities, which lead to inappropriate donor responses. Poor dialogue between donor and recipient compounded the issue.

In the perception of one donor there was an inherent problem related to research culture: *(...) as a result of the past colonial legacy in Africa, which left a culture where research for decision making was not inculcated and where responsibility was someone else's, it will take time to get (research) development realised. Therefore donors should be patient and should cater for long-term engagement with countries -JICA Representative, Nairobi*

The particular donor identified above, was convinced that the way forward is to have a long term relationship with a country. The long term collaboration would enable a clear understanding of confounding issues, how to overcome these and then work towards a more sustainable health and health research development.

A few donors also accepted that donor coordination is poor and is in part responsible for the fragmentation in research: *"there can be a difficult situation where a country is bound to be divided with different flags, and none of them is national. Big money is poured and the government will not take its responsibilities seriously (...) there is the risk of non-sustainability (...) it is sometimes better to work in accordance with available resources and not provide too much donor funding." -SIDA official, Nairobi*

The idea of donors contributing into a simple basket is not popular. Donors prefer to identify with particular

projects as a way of demonstrating to their taxpayers where their funds are invested. Poor information systems between the donor headquarters and their country office is common with some of the country based agencies unaware of what research is funded from their mother country.

To overcome some of the above constraints, it was strongly suggested that countries must put their act together. The countries have to get organised, focused, define priorities and present a common entry point. Practical research with an implementation framework is called for. Some countries were accused of very good theoretical papers that are not action oriented.

Governments need to take the lead and promote dialogue among donors themselves, and between donors and countries for mutual understanding and benefit. The real issues involved between global and national have to be in mutual perspective, including the relationship between donor headquarters and country operations. Locals must get involved to ensure sustainability. The information base at country level has to be improved so that dialogue between different parties has meaning. At the international level more donor coordination would help countries benefit from donor assistance.

One donor was very emphatic that only research that actually informs the community about an issue of their concern deserves priority funding - research that has an impact. According to the Ford Foundation, "*When asking researchers about the utilisation of their results, they all quoted 'publications in reputable journals'. Now let me ask you, do we need to spend public money on this? Whose interests are covered by this approach?*"

WHO -African Region

WHO has been a very significant force in health development in Africa. WHO-AFRO has built an extensive network covering all the 48 member states. Its relationships with Ministers of Health in health services, disease control programmes and technical advise has been the main thrust of the body whose clout emanates from the fact that it is owned by countries in the region. However, its role in research development has somewhat lagged behind its other strengths.

With regard to research, important insights on the status of health research in the continent and the role of WHO-AFRO were gathered from the Regional Director and a number of regional technical staff. Most were of the opinion that health research development in the region has been slow and WHO-AFRO must do more in the future. A fundamental problem was that countries have accorded low priority to research. For lack of appropriate policies, research largely remains a jungle comprising many isolated, uncoordinated islands of researchers with no sense of ownership. On the whole, there has been too much preoccupation with research standards based on the North, and less attention to research for decision making.

For reasons of underdevelopment, health-care workers operating without sufficient resources are faced with a multitude of health problems at short notice. The result is management by crisis and little time is given to serious thinking and analysis. There is a large gap between research and its relevance to consumers on the one hand, and frequently between research projects in health and the real problems of ministries on the other. This gap needs to be closed.

The feeling was expressed that for research to have an impact, several concerns should be addressed. These were that research should be demystified and made the business for all at different levels of the health system and society; a closer relationship with Ministries of Health (and public) needs to be cultivated and the thrust of research should be problem solving and utility oriented. Stress should be put on country-specific research from where regional and global priorities derive their agenda.

Fear was expressed that large international meetings result in rhetoric and little benefit to health needs of the poor. It was hoped that Bangkok would lead to tangible output. It was affirmed that:

- as a result of the colonial hangovers, the "weaning syndrome" in Africa had taken too long;
- a stop should be put to blind health and health research decisions whose only basis were "global health trends" and not evidence from countries.

An identified weakness of the regional office is the absence of a strong research focal point and the low profile of the regional ACHR. But beyond the regional office, there are several other weaknesses in health research in Africa. For instance, research in most university programmes are perceived as weak - which can be a major handicap and there has been little emphasis on operational and applied research to link research to change. Also

thick barriers exist between Franco- and Anglo-phone Africa making the exchange of information difficult, while poor networking and collaboration reduces cost-effective approaches in the utilisation of existing resources. A very major handicap for countries is the mobilisation of resources. Lack of strategic plans constrain research development. For the latter reason, countries take a back stage and abdicate the responsibility of priority setting to the donors. Countries have little capacity to guide discussions with donors to their advantage.

Despite these weaknesses, the regional office has been involved in a number of successful programmes. Perhaps among the most important are the HSR initiative and the Onchocerciasis Control Programme (OCP) in West Africa (both of these are described elsewhere).

Discussions in WHO-AFRO generated a series of recommendations that relate to countries and the region. These are highlighted below.

Country level:

- Countries must be the main focus of activities to strengthen existing mechanisms, capacity building, and all other relevant research initiatives. Countries must take a lead in determining their priorities.

- Equity issues have hitherto not been well-understood by countries, but demand for equity is increasing and countries are just starting to address the problem of inequities. Therefore research on this subject needs to be intensified.

- Effective communication policies and mechanisms are needed in countries if the right audiences are to be reached and research has to be demystified.

- Countries need to make hard choices in terms of health provisions and health research. Without a clear focus, the crisis of management will continue and research will not be an effective tool for decision making.

- Researchers (and also decision makers) should redirect their loyalty to countries and always work for the good of the continent - a new paradigm shift is needed to *take pride in what we do*.

- Ministries of health should be strengthened considerably in their capacity to identify issues for research and in being able to bring research findings to relevant desks.

Regional Level:

- WHO-AFRO must develop a stronger research advisory body with a more operational rather than structure orientation, and with capacity to communicate with experts, advocate at all levels of government to deal with cross-cutting issues with other sectors, and be in a position to generate ideas and give direction to other regional and global partners.

- The regional office and its entire network system of WHO Country Representatives should be more pro-active in research development in countries within WHO-AFRO's strategic roles which have been defined as promotion, orientation and initiation.

- The Region, like countries, has to define its strengths and develop a clear focus on the basis of its capabilities.

- Regional networking in support of country efforts must be effective to facilitate exchange of experiences between countries.

- To demonstrate that research is valued, all divisions should allocate 10% of their budgets to research.

- WHO being a vehicle for countries, the regional office should provide a platform and provide a forum for agenda setting and catalyse the creation of partnerships to address the agenda.

- Since the region has a few well established centres, it may be strategically useful to identify and support

the more capable ones with the aim of increasing S-S technology transfer.

Global Level:
The main concern for COHRED and other similar initiatives should be to work with countries in their efforts to build capacity for research in their aim at appropriate mechanisms, including translating research to action. For a successful outcome, another key role would be to assist in the mobilisation of funds for research.

Conclusion
Regional collaboration (S-S linkages) should be promoted. Development partners have the potential to contribute more to health research development, but for this to happen countries need to organise their national research mechanisms and improve co-ordination among donors. COHRED should intensify its country directed initiatives.

ther international initiatives should take a similar approach and work more closely with countries. WHO-AFRO should give research a higher profile and be more pro-active in promoting health research in member countries.

Networking
Networking within countries is reported to be weak. To rectify this deficiency, several countries have began to establish mechanisms to bring researchers closer. Similarly, networking at regional level remains poorly developed despite existence of a number of reputedly strong networks. International networks are perceived to be distant and their activities dispersed.

National Networking
Effective networking must start at the departmental or institutional levels. Researchers in an institution should be aware of what is going on within their institution. Out of this, institutional network develops internal national networking.

In **Uganda**, the implementation of the ENHR strategy depends largely on the institutional networking mechanisms. Currently, about 45 institutions are locally implementing the ENHR strategy. The linkage between these institutions is primarily through the sharing of research capacity or research activities. Some of the research institutions are multidisciplinary which enables alliances to be formed when carrying out research activities. For instance, the former Health Policy Analysis Group drew researchers from the Faculty of Social Sciences, the Makerere Institute of Social Research, the Child Health and Development Centre, the Institute of Public Health and the Clinical Epidemiology Unit. The Child Health and Development Centre has researchers from the Faculty of Medicine, Faculty of Social Sciences, Faculty of Agriculture, etc.

In **Tanzania**, networking of researchers is good. Research networking mechanisms in the country are the National Health Research Forum, the Public Health Association, the Traditional Medicine Research and Development Network, the Annual Joint Scientific Committee, and the Research Bulletin. The networking has been very valuable and establishment of the Health Research Forum is the result of networking. Challenges in establishing and maintaining the network in Tanzania are creating a feeling of ownership of the mechanism by researchers and institutions, financing the mechanism, and maintaining participation and communication.

Unfortunately, not all countries have good experiences with networking. Country consultations revealed that in most African countries, networking is very weak, informal, spontaneous, mostly within the same discipline or as part of specific programmes and has so far not been very valuable. The few successes are mainly due to the existence of an ENHR network, the availability of local journals and annual scientific meetings. Networking is clearly not a priority and appears to be closely linked to the perceived value of advocacy and promotion for health research (which is also weak at the country level).

On the other hand, countries seem to realise the advantages of networking, stated as common research projects, effective dialogue, exchange of experts and experiences, and shared use of facilities. The existence of a strong inclusive national coordination mechanism was stated as the main solution to improve networking at the local level and to overcome current constraints such as lack of interest, inactive prime-movers, financial limitations, institutional bureaucracy and weak meansof communication.

Regional Networking

Networking should be primarily national, but regional and global networking are necessary and can support the national effort.

At the regional level, there exists a strong African ENHR Network which has held meetings in Mombasa (Kenya), Sogakope (Ghana), Kampala (Uganda), Arusha (Tanzania) and Harare (Zimbabwe), where regional issues were discussed. Some of these issues included sharing ENHR experiences with countries in the region; research capacity development through training visits, consultancies and sharing the use of some facilities; carrying out a common research protocol among two or more countries; regional meetings to share experiences; and monitoring and evaluation of ENHR at regional level.

Other regional networks include the Commonwealth Regional Health Community Secretariat, the Joint Project on HSR (now absorbed by WHO-AFRO), the International Clinical Epidemiology Network, the International Health Policy Programme, the Network of African Public Health Institutions, the Social Science and Medicine Africa Network, the University Partnership Project, African Network on Malaria and Vaccine Trials, among others. Below is a brief description of some of them.

The African Network on Malaria and Vaccine Trials (AMVTN) was founded in 1995, with the main aim of providing capacity building and networking. Capacity building started in 1997 and the network has since then organised six workshops, an international conference and a seminar. The workshops have trained over 100 African scientists to fill identified gaps. AMVTN also recently launched advocacy with policy makers in the region and abroad.

The Social Science and Medicine Africa Network's (SOMA-Net) main function is to create linkages (including collaboration and networking) between social science and health (SSH) scientists and policy makers. It also identifies and facilitates opportunities for research and training in SSH. During the past two years, SOMA-Net has established a database of individuals and institutions in the field of social science and health, and a database of relevant training materials and existing curricula in health training institutions world-wide.

The International Health Policy Programme (IHPP) was established to create capacity for health policy analysis oriented towards resource issues with the aim of enabling effective and equity oriented health policies. The programme finances health policy analysis and development groups and offers career development fellowships.

The Commonwealth Regional Health Community Secretariat (CRHCS) for East, Central and Southern Africa, which is mainly involved in the area of reproductive health, assists member countries to determine their health needs, harmonise cooperation between health administrators and international health organs and provide training for research. CRHCS also publishes and disseminates research results.

The International Clinical Epidemiology Network (INCLEN) aims at improving health care through research capacity building in faculties of medicine using as multidisciplinary approach in health issues. INCLEN is strongly represented in Africa through its sub-network AFRICLEN which provides, amongst others, short courses and workshops organised by local university-based Clinical Epidemiology Units (CEUs).

Consequent to recommendations of the Second ENHR Networking Meeting, the ENHR regional focal point, in collaboration with COHRED, in 1996 organised an exploratory meeting that explored possibilities for regional co-operation of existing health networks. This meeting was called the *ENHR: Networking the networks Meeting* and took place in Victoria Falls, Zimbabwe, with the following objectives:

- to exchange information between the invited networks about their objectives, organisation, and their ongoing and planned activities;
- to explore ways whereby the networks could better complement each other's efforts;
- to identify constraints and weaknesses in networking activities and to assess how networking the networks can overcome existing shortcomings;
- to discuss the potentials for a minimum core agenda and draw up and agree on such an agenda.

In September 1996 a report called *"ENHR in the African Region; Networking the Networks: Reg*

Health Research Organisations" was published. There has been little follow up since then.

At the country level, few people are aware of the existence of regional networks. Main causes stated for this were weak means of communication at the national level and insufficient advocacy and information dissemination from the network base, resulting in insufficient local involvement.

Since the countries are aware of the multiple benefits of being part of a network - such as sharing of experiences, logistical support, access to documentation, training opportunities, easier resource mobilisation, joint research, link up with other institutes and increased opportunities to participate in conferences - they urge regional networks to apply a more pro-active approach and intensify their advocacy efforts.

SHARED: Electronic Networking

SHARED stands for Scientists for Health and Research for Development. Three basic principles have generated the SHARED approach:

1. Genuine partnership and equitable international networking are indispensable to improve the current situation of health and health research for developing countries;

2. To achieve more effective networking, first and foremost a structural, updated and easily accessible knowledge base is needed about what everybody is doing, where, how and with whom;

3. Everybody wants co-ordination, but nobody wants to be co-ordinated.

Based on these principles, SHARED has developed a participatory approach to the sharing of essential public information, and making it available to everyone. SHARED offers a meeting place on the Internet. Its databases are fed with information about ongoing research and development projects in the field of health. It allows scientists and policy makers to analyse and compare information, look at relevance, opportunities and gaps, find new partners and, in all, make better decisions. National focal points are responsible for data entry and management and have their 'own shelf' in the virtual SHARED library.

International Networking

In the past ten years there has been a number of international initiatives, all aimed at supporting health research in developing countries. Some of these include COHRED, the Global Forum, the Alliance for Policy and Health Systems Research and SHARED (see box).

Country opinions were generated on these initiatives and how their impact at the country level on health research development could be improved. With the exception of COHRED, it was striking to note that many participants had ever heard of these initiatives, implying that their efforts are poorly disseminated. Even for COHRED, outside the ENHR Network, there was little knowledge about its work. As a result, the discussions on this topic were held in very broad terms.

An opinion clearly heard all over the continent was that multiplicity of such initiatives was not beneficial for the countries in that it created confusion, was not cost-effective nor efficient and, as one participant mentioned, *isn't competition for help a contradiction in terms?*

The following were seen as primary responsibilities of global initiatives:

- coalition building;
- information dissemination;
- advocacy;
- networking;
- support for research;
- establishment of strong country counterparts;
- management and leadership for health research;
- effective brokering;
- donor coordination.

Suggestions to create a bigger impact at the country level include common initiatives based on assessed country needs, increased advocacy and brokering at all levels, and working in equal partnership with national institutions.

Recommendations

The main recommendation is that networks, whether initiated at the national, regional or global level, should try to work together so that local people (supposed to be the main beneficiaries) don't get confused on who is doing what. Networks should be complementary rather than in competition, they should work out common programmes to avoid duplication, and they should share experiences and learn from each other. Furthermore, increased advocacy is needed, especially at the national level. Every network can present a list of their country representatives spread all over the continent, so it is not that they are not represented. The problem lies in knowledge will ever be observed. Countries would greatly benefit from a more pro-active approach, starting with the set up of an effective communication system accessible to all involved. Or, as Prof. Owor stated it: "*Networks should in the first place try to facilitate the act of networking: coming together, talking together, sharing the good and the bad together, initiating projects together, and most of all, creating a sense of fighting together for a better world."*

All countries appreciate the potential value of national, regional and global networks. At the national level, a forum to bring key players together is desirable. A mechanism at regional level to guide effective networking across the region and between countries and external networks has been proposed.

Essential National Health Research

Essential National Health Research (ENHR) was introduced by the Commission on Health Research for Development as a sound concept to guide health research, especially in the poorer countries. The Task Force for Health Research and Development (TFHRD) and its successor, the Council on Health Research and Development (COHRED) were established following the Commissions landmark report of 1990 to work with countries in introducing the concept. Ten years hence 22 African countries are members of the African ENHR network having embraced the strategy.

ENHR remains a very appealing philosophy. The reason why it has caught on in Africa like wild fire is because it's the kind of song we have been waiting for, for a long time. We want equity, we want consensus, we want to priorize so that the few resources we have can be shared, we want to work together and network together. I think this is the kind of philosophy we have been waiting for. (Dr. Mohamed Abdullah, Kenya)

According to many respondents the concept of ENHR is still valid in Africa. However there is need to get the strategy better understood to remove the misconception that ENHR is anything other than health research. Whereas COHRED was commended for its achievements, it was nevertheless the opinion of many respondents that for effectiveness, a stronger regional forum is needed.

In practice, the adoption of the strategy at country level has taken different approaches. In general terms, however, structural processes that have invariably brought different health research stakeholders together have been followed. A series of sub national consultations have led to a national conference at which health research priorities have were determined. For effective implementation of an action plan many countries have set up a new mechanism to coordinate research. The nature of this mechanism has varied from country to country. For instance, in some countries, the mechanism has taken the form of a loose network while in other countries units in health ministries have taken the lead. In others, NGOs and Health Research Forums were established.

During the African consultation a number of countries which has adopted the ENHR strategy were sampled to provide insights into the contribution of ENHR to health research development. The general view was that the concept of ENHR had assisted countries to focus health research by determining priorities, developing management mechanisms and in promoting networking.

The practice of involving different stakeholders in the research process had the potential of stimulating demand from users and also enhancing utilization of research results. The regional network was considered a good example of S-S collaboration, which provided opportunities to share country experiences and expertise. One of the problems was the misunderstanding that ENHR was a vertical programme rather than a new approach for the conduct of health research.

In summary the quotation below in a reflection of the general opinion regarding ENHR. *"Countries are now beginning to feel that health research is for the people. The results should be felt in the country. I think that many countries that have followed the recommendations now are convinced that research is not for its own sake Research should be used and they are trying very hard to use the research findings. There are of course obstacles but the willingness to say it and do it is there. The second thing is that now every country feels that they are controlling their own research priorities. We have to do it ourselves, maybe in a bad way, maybe with a lot of promises we do not fulfil. But they feel the research priority setting is theirs and many countries have tried it. They*

probably don't have the money to implement, but the feeling that it is theirs, rather than waiting for somebody to tell them what to do. Now they think we know what to do, but we don't have the resources which is always the case infact, where is the money is always the question. But I think this is important, instead of just sitting there and not even thinking about what your priorities are, you're hoping that some rich donor will come and give you the money and what to do. I think countries now want their own priorities implemented. As well countries are trying new ways of managing research. I think the old ways are gone; they don't seem to fit into the system anymore. If you are talking about a research system which requires community participation, which requires country level priority setting and so on, we can no longer manage research with the tools we used to have. The mechanisms we had in the past can no longer manage the new principles and every country is trying to find ways of managing the present system. At the local level, the national and even the regional level, people are busy thinking about how the new system and I think that is something which is challenging the world now at all levels"

Prof. Raphael Owor, Uganda

❑ Capacities for Health Research

Lack of capacity in the broadest sense of the definition is the most critical constraint to health research development in Africa. Due to a non-conducive working environment, brain drain continues while African countries spend a high proportion of programmatic ODA on external technical assistance.

Continuing civil conflicts not only contribute to worsening health of the people, but cause significant flight of capital. Whereas in the decade leading to the year 2000 a number of countries made progress in capacity building and strengthening, there were many where either no progress was made or deterioration occurred in health research. Future efforts in capacity development in the sector should ensure strengthening all aspects in health research, including catering for all stakeholders.

Preamble

The problem of under capacity remains the most important concern for African countries. All country consultations did underscore the fact that unless concerted efforts were made to develop critical institutional and human capacities, Africa risked becoming further marginalised. The problems associated with capacity development in health research are multiple, pervasive and differ in degree from country to country.

It is important that capacity in research be holistic. In the immediate research relationships, an individual operates within an institutional framework, but more distantly in a broader environment. For individual or group capacities to be effective and sustained, the totality of the opreative environment must be enabling. Whereas the thrust of capability strengthening may be directed at an individual to provide requisite research skills and expertise, capacity building or strengthening should also be viewed in the context of research institutions, their relationships (networks) and the national or international support systems.

Government tendency to allocate professionals irrelevant duties has contributed to killing research capacity in Kenya. How do you take a primate scientist and give him or her an administrative post totally irrelevant to his or her professional training? It is a waste of manpower.

-Prof. King'oria, Secretary, National Council for Science and Technology, Kenya

Thus individual researchers and research groups are part of a wider system that may facilitate performance or stiffle output. Research today demands teamwork, and especially so in applied research where several professional disciplines may be needed to address a research question effectively. Whereas good training should enable a researcher to handle the different steps of a research process, it is unlikely that for a complex research problem the same individual will have sufficient scope to cover epidemiology, sociology, statistics, economics, etc. Capacity building therefore should be viewed in the broader context of ability of teams to undertake multi-disciplinary research.

Capacity should also take into account individual motivation or drive. It is common to find researchers with the necessary skills, but whose productivity is low. This phenomenon may be a reflection of the broader environment but could also be independent of it. Bureaucratic research organisations often carry that costly baggage which effectively means waste of resources that could have been more usefully directed elsewhere.

Research outputs by individuals or research organisations are in themselves not sufficient. In the poorer countries, a high proportion of the research should be tied to priorities and results should be geared to development through influencing change towards better health. Therefore, research to action becomes an important objective and outcome. For this reason, individual researchers or their institutions should operate closely with generators of policy and programme management for easier consumption of research outputs. These latter groups also require capacity building to enable them appreciate the value of research, create demand for research and develop a culture that respects research findings and their use as a basis for informed decision making.

The Commission and subsequent initiatives all decry lack of capacity as the most important impediment to health research development. The Commission made a number of recommendations to address this weakness. It stated that in order to build capacity, each developing country needs

- to invest in long-term development of the research capacity of individuals and institutions;

- to set national priorities for research, using both domestic and external resources;
- to accord professional recognition of good research and build career paths to attract and retain able researchers;
- to develop reliable and continuing links between researchers and research users.

A 1992 study estimated that Africa counted only 20,000 scientists and engineers, who make up only 0.36% of the world total. According to another study, the region was responsible for only 0.8% of total world scientific publications. Its world share of patents was close to zero. In Japan, the United States of America and Europe, there are between twenty and fifty scientists and engineers per a population of 10,000 people. Parts of sub-Saharan Africa have only one scientist for about every 10,000 people (UNESCO 1998 World Science Report).

Country findings

Capacity considerations formed the greatest area of concern for all the African countries. As would be expected, individual countries placed emphasis on different aspects of capacity strengthening that were most peculiar to them. However, without exception, all surveyed countries pointed to the inadequacy of capacities for health research. The shortage of capacity were exhibited in aspects of human resources (quantity and quality), institutional weaknesses, under-utilization/mis-utilization, poor national networking/ collaboration and user capacity.

Studies conducted in the past demonstrate the low ratio of health researchers and scientists per population of 100,000 as one index of measure. The Commission, for example, in 1987 estimated that in Ethiopia the ratio was 5 per 100,000. From the recent count (using the crude figures that were provided during the consultation) the ratio now is about 3 per 100,000, indicating a deteriorating situation over the past 10 years. South Africa estimates the total number of health researchers to be 2,000 for a population of nearly 40 million, a ratio of about 5 per 100,000 population. Other countries may not be in any better position. The inevitable conclusion is that there is a shortage of health reseachers in absolute numbers. A closer scrutiny of these figures also reveals other underlying problems. In the case of Ethiopia, for instance, 85% of the health researchers are in basic and clinical sciences. Of the total, only less than 10% are Ph.D. holders. In South Africa, also, the greater strength is found in basic sciences. Consequent to its history of apartheid, the black population is grossly under represented by a ratio of 1 to 10, compared to the white population.

Essential disciplines that enable multidisciplinary research have very low capacities. Also lacking are capacities for health research at the district level, where the needs are greatest. Countries such as Uganda and South Africa are taking a lead in capacity development for districts. There are examples where national governments have abdicated the responsibility for high level capacity development to international development agencies with two major consequences, i.e.,

- training is preferentially given in sometimes inappropriate techniques, and
- a significant proportion of those selected for training abroad fail to return home.

In other situations, development partners who fund vertical health programs support capacity building to suit

The case of Cameroon

In Cameroon, some of the areas where groundbreaking research has been undertaken in recent years are in Onchocerciasis and malaria. The rapid epidemiological mapping of onchocerciasis was developed through work done in Cameroon with the support of the TDR programme of the WHO. This work was spearheaded in Cameroon by local researchers. Another breakthrough in Onchocerciasis - the detection of a difference in the DNA sequence of O*nchocerca volvulus,* which is responsible for forest and savanna variants of the disease was achieved through collaborative studies between Cameroon scientists and their American colleagues. Unfortunately, the control of this particular study was not in the hands of local scientists and the discovery, as exciting as it was, was not pursued to any reasonable conclusion. This illustrates one of the important disadvantages of relying excessively on outside experts for research by African institutions. The partners' agenda may be different and their commitment to the project ends when they have reached their own goal, which may not coincide with that of the local scientists. Hence, African research institutions must develop capability to undertake research of all types needed to tackle health problems facing their communities.

those programmes and not capacity strengthening within the wider framework of national health research needs. At the national level, universities train as best they know. In Egypt, for example, the training of doctors has little bearing on needs of the Ministry of Health. Graduates have to be retrained to provide services in the rural areas.

A characteristic found in many national institutions was the low degree of networking and capacity sharing. There was a frequent reference to the fact that 'our researchers prefer to work on their own in isolation' for reasons that were unclear. Many of those interviewed therefore pointed to the need to put a lot of effort in forging alliances and coalitions at the national level for optimal utilization of expertise may that exists locally. Aside from poor under-utilization of capacities, the other adverse effect of poor networking is undue duplication in investments for research and projects.

Around the individual environment, there was frequent reference to high turnover of researchers, far too little time allocated to research (particularly by clinicians) and low research output. Many reasons were given to explain these problems. Identified causes included poor incentives, institutional mismanagement, lack of resources, and bureaucratic bottlenecks.

In many countries, expatriate researchers were invited to fill in and supplement the low national capacities. These exchanges were found valuable in their contribution to local training, transfer of technology, exchange of information and reduction of isolation.

However, several other down-sides to the issue of foreign researchers were noted. Cases were cited where the government became over-dependent on this form of technical assistance to the extent that visiting expertise was preferred, a practice that led to worsening the under-utilization syndrome. Another disadvantage related to the distortion of research priorities because not infrequently, the visiting workers tended to emphasize their choices of projects.

Brain drain remains a major drawback to sustainable capacity building efforts in Africa, as illustrated by the example of Dr. Pinto (see box).

The continent continues to lose increasing numbers of its brightest to the industrialised countries. The level of human capital flight was about 2,000 per year in the 1960's. In the 1990's, this loss has risen to over 20,000 annually, representing about 30% of the most highly skilled manpower. Over the years, donors have attempted to improve the capacity situation through financial handouts and technical assistance. In sub-Sahara Africa, the latter has led to substitution of foreign experts for indigenous experts. This has resulted in under-utilization of local expertise. Available data for the 1990's shows that there are tens of thousands of expatriate technical assistance personnel employed in development projects in all sectors, costing about $4 billion per year - nearly 35% of the ODA to the region. This situation exists while a large pool of African professionals is available in industrialized countries.

The example of Dr. Pinto

Martin M. Pinto is a valiant frontline soldier in a just world war whose battles often unjustifiably use poor people in poor countries to fight their wars. He and his colleagues deserve a new approach to pricing the spoils of their victories. Dr Pinto is a native of Uganda – one of the poorest countries in the world – who lives and works in the United States – one of the wealthiest countries in the world. He is a family physician currently involved in research on Alzheimer's disease. Alzheimer's disease usually affects people over the age of 65; in Uganda the average life expectancy is only about 40, so the disease is certainly not one of Uganda's most pressing health problems. Consequently, Dr Pinto's research work is of no significance to Uganda. Furthermore, the cost to Uganda of deploying one of its few doctors to work on this research is certainly very high.

Health research is a major victim of brain drain in Africa. The problem is highly prevalent in the majority of countries and only very few countries indicate that this problem is insignificant. Human capital flight occurs in a variety of ways. Trainees fail to return when they complete their training in industrialized countries. In other cases bright, highly skilled and promising researchers are enticed by offer of high remuneration and promise of better careers. There are those who are forced out of their countries by civil unrest, lack of a conducive working environment, poor salaries and uncertain career paths, while within a country there is a tendency to drift towards the center (rural-urban shift).

Countries would benefit by maintenance of a database of expertise of their nationals in the diaspora as this would encourage usage of their skills and thus organise brain gain schemes.

There are other aspects of capacity development that need attention. As an example, there was a feeling that the capacity in African countries to negotiate with donors was very limited. This is an issue that requires attention. Leadership capacity development may in part address this concern.

For long, research has been considered to be the responsibility of "graduates" and feared by the non-academic layers of the health system. Increasingly, there are calls to demystify research and get different

stakeholders to play their appropriate roles. This requires building capacities at different levels. A success story of demystifying research is the Tintswalo Primary Health Care Nurse Training Programme in South Africa (see box below).

Filling the Gaps

Since countries have their own peculiar capacity needs, there are no general rules to guide development partners on how to approach capacity building in countries. For each country, the first step should be to conduct a good situation analysis and work with all the stakeholders to encourage development of a strategic plan which takes account of individual skills development, institutional support, and capacity links research and action.

The idea of establishing centers of excellence for training of researchers in Africa was proposed. Most participants did not consider this either as a good idea or a sustainable one. Widespread feeling that the base for training should be the country on the basis of a development plan. Regional and international support should strengthen existing institutions and use the stronger ones (by financing, etc.) to bring up the weaker ones.

In 1998, an inter-disciplinary study team was assembled in **Uganda** to undertake a study on capacity development for ENHR, which included the assessment of research capacity in the country and a workshop to discuss the findings. The team's objectives were:

- To review Uganda's current capacity to conduct, use and manage priority driven health research;
- To use the results of the review to develop a Capacity Development Plan as an integral component of Uganda's new ENHR Plan;
- To contribute to an international exploration of capacity development for ENHR.

The study team decided to focus on two categories of institutions and organisations, which included those directly involved in conducting health research and those which were primarily funders and users of research. An interview protocol was developed which featured relevant aspects of the ENHR process, and the capacity required for implementing ENHR. Team members interviewed key informants from relevant organisations, obtained documents and where appropriate, conducted an on site inspection of the existing research infrastructure. A Medline search was conducted for the period 1993 and 1998 for publications on health research in Uganda. The search yielded 311 articles that were then categorised according to the six health research priority areas, based on the 1997 revised priorities. Similarly, a review of health research projects registered in the database of the UNCST was conducted for the 5-year period (1993-1998). These dates coincided with the time when Uganda's first ENHR plan was launched, including the initial determination of health research priority areas. In addition, an analysis of health research funding for the same 5-year period was conducted, to determine the amount, pattern and source (national or external) of funding for health research in Uganda.

Among the findings of the study, were the

Tintswalo Primary Health Care Nurse Training Programme

The Tintswalo Primary Health Care Nurse Training Programme is primarily focused on training clinic sisters to be more effective in the delivery of health care to their communities. One of the elements of this course is a research component, which has evolved over a few years, starting as a module and is now presented as a year long block. Why should nurses do research? Presently, very few nurses are involved in research, and when they are, they are often used only in the data collection stage of projects. It is the belief of the trainers that PHC workers have an important role to play in undertaking relevant research. These workers have distinct advantages with respect to other researchers who are usually from outside the community. The nurses are thus in a position to have an intuitive feel for, and an understanding of the real problems and needs of the community. The basic aim of the research projects by these workers is to produce relevant information that can be turned into action locally. The programme also aims to generate an inquiring yet critical approach to health care, while promoting the understanding of research and evaluation methodology. A crucial part is to disseminate the research findings, for example at local conferences, workshops and relevant fora. Research findings are fed back to the local health services and brought to the attention of planners and decision makers in the health sector.

following: the publication analysis revealed that all but 30 (of 311) publications could be categorized within the six priority areas. The largest cluster, 182 publications, was in the category of communicable diseases, including 107 publications which were focused on the problem of AIDS. Only two publications appeared under another priority area, i.e., water, sanitation and environment. Also of interest in this study was the fact that Ugandan scientists appeared as first authors in only 123 (39%) of all publications in this time period. The analysis of the UNCST project list showed a similar pattern. Each of the 111 projects could be categorized under one of the six priority areas. Again the largest number (67) appeared under the category of communicable diseases; most of these related to research on AIDS. Only one project was concerned with water, sanitation and environment.

Regarding funding during the 5-year period (1993-1997), the total budget for the 111 projects was US $11,683,660. Of this amount, only $104,823 (0.9%) came from internal national sources, supporting 19 projects. There was no particular trend over time, other than the fact that in 1997 the sum of all externally funded project budgets was almost $6 million. The results of the survey were discussed in a National Capacity Development Workshop with representatives of the relevant research organisations, funders and user agencies, government, non-governmental organisations, students and the community at large. A plan of action was developed and is currently in the process of implementation. One of the activities that took place as a follow up to this initial survey was the strengthening of ENHR activities at the district level. The project encouraged the participation of students, especially in their home districts. Training workshops were held on proposal writing at district level. A small grant was given to each of the districts to support the implementation of one research project.

Aside from Uganda, nearly all countries did not have accurate records of health research capacities, especially human capacities. One of the reasons for this situation was lack of standardised instruments to collect this data. Availability of such instruments would be of value to countries. The majority of countries had no strategic plans for capacity development, which would also include instruments to judge progress and measure impact. Ways to increase local training should be sought as a way to reduce brain drain. This effort should go hand in hand with schemes to retain existing capacities. Stronger countries in Africa can assist their weaker partners is South-to-South linkages.

❑ Equity in Research

Equity has traditionally been linked to health. Inequity refers to differences in health which are considered unfair and unjust. Equity therefore refers to reduction of unfair disparities.

-David Gwatkin, IHPP

Summary

At all levels of development, the three essential capabilities of human development are for people to lead long and healthy lives, to be knowledgeable and to have the resources needed for a decent standard of living. Equity concerns therefore take centre stage in human development perspectives in terms of equity in basic capabilities and opportunities for all, and in access to education, health and political rights.

In many societies, the poor remain invisible as the rich drive the national agenda. The very poor usually live in a state of total despair and eventually accept their economic isolation as a matter of fate. National development programmes, in response to this problem, should design social programmes that alleviate existing suffering of those living in extreme poverty.

Economic inequity world-wide seems to be increasing rather than decreasing, despite the appreciation of the role of poverty in disease. In 1960, the income gap between the fifth of the world's population living in the world's richest countries and the fifth living in the poorest countries was 30 to 1. In 1997, it was 74 to 1. These differences do not lead to a just world.

Science and technology continues to create new wealth, but the gains do not easily reach the poor countries for political and economic reasons. The direction of current global science and technology must be directed more towards challenges of the undeveloped world from the current bias placed on the problems of the rich. The scientific divide is presently too large, even bigger than the economic differences. According to UNESCO (1995) the population of advanced economies, which is less than 20% of the entire world population, generates 60% of the global GNP. When it comes to publications, over 80% of the rest of the world contribute less than 20% and hold less than 5% of the patents. To overcome these existing barriers, a new approach is called for. The rich and the poor have to engage in meaningful dialogue. The rich and the poor have to give high priority to the mobilization of science and technology for the poor, including the need for financing of the public goods for the poor countries to achieve prosperity.

It is generally accepted that inequalities in health are undesirable and should be minimized in order to promote human development and to reduce social upheavals. But more importantly, it is ethically and morally unacceptable to have societies of haves and have nots living side by side.

The 1995 Social Summit in Copenhagen set goals to be achieved by 2015 with regard to poverty reduction and health inequity. These goals include reducing by half the population living in extreme poverty in developing countries, attaining primary school enrollment for all, reducing death rate for infants and children under five by two-thirds of the 1990 level, and ensuring access through primary health-care system to reproductive health services for all in need.

There are documented studies in Africa on the subject of inequalities. These include studies on child mortality, on health-care use and expenditures, and on public spending in health-care. The last of the studies demonstrate that public spending on curative health favours mostly the wealthier rather that the poor, and that even health subsidies may not be effective in reaching the poor. Unfortunately, it would seem many of the studies in Africa on equity have been conducted by foreign researchers and the results published in international journals. The participation of local researchers has remained minimal and availability of the findings to programme implementers in affected countries is doubtful.

The Commission on Health Research for Development argued that health research was an essential link to equity and ENHR was a sound strategy to build up research and link it to action. COHRED was set up to carry forward recommendations of the Commission. COHRED's approach therefore puts countries first, and works for equity in health while linking research to action for development. The Commission further urgues that health research can be a powerful tool for health and development. A major dilemma identified for African countries

however was that policy makers did not see many examples where research had significant impact in their countries, and therefore had difficulties justifying investments in research.

However, these same policy makers also know that industrialized countries invest heavily on research and development, and that is one of the reasons that has led to major progress in these countries. Far too few resources for research are available to African countries, but even these tend to be driven by international interests with little concern for the most needy in society. Therefore, the key consideration for African countries in financing research is how to invest their scarce resources in potential areas of benefit for their poor, while not immediately linking research to this benefit. One way for the poor in society to benefit therefore is to have countries put focus on local health priorities and use research to improve health through application of existing tools or generation of new knowledge. Thus, not only do African countries need to invest more in essential health research, but researchers also need to show that the investments in research are effectively and efficiently used to provide solutions that have tangible returns.

The primary health care strategy, which was adopted by African countries following the Alma-Ata Conference, was a bold step towards improvement of health of populations through the provisions of basic, inexpensive and more equitable services. This noble goal, however, could not be achieved due to a variety of reasons, mostly related to lack of commitment and inadequate capacities, including the countries' economic downturns.

Economic development and education are important pillars of health improvement. Thus more investments in basic education, water, housing and food are key to reducing inequalities in health as long as these provisions preferentially reach the poor.

International prescriptions for African problems have tended to confuse policy makers. Structural adjustment programmes, health-care reforms and, more recently, poverty reduction strategies have all produced undesirable effects, with the poorer in society suffering the most. Structural adjustment programmes have in many cases heightened poverty. Cost sharing programmes in health financing have made accessibility to health-care services worse for disadvantaged groups. Many of the adverse decisions taken by governments lacked a research basis - perhaps one lesson that research for decision making is a vital step.

Despite the recent improvement of most African economies, investments in health still remain low - in some countries as low as 0.3% of national budgets. Even in those very few countries that are high investors, the allocations to health research do not exceed 4.2% of the GDP. The majority of African populations live in rural areas where health services are inadequate. On the whole, therefore, these populations suffer more inequality compared to urban dwellers. However, in most African cities are significant slum populations who live in extreme poverty, and whose access to health care is poor. And within a country there often are inequities between different regions, ethnic groups, religious affiliation, sexes, etc.

The consultation revealed that equity in health is a goal in nearly all countries. Most countries have policy statements on the subject. Countries give examples of health services and the social programmes that are being provided by governments and non-governmental organisations that have the poor in mind. A few examples include essential health-care packages, essential drugs programmes or cost sharing exemptions. Many of the countries however admit that even service provisions for the poor are seriously constrained by the countries' poor economies. Poverty remains the central cause of inequalities. Research on equity was not very much evident other than as reflected through health research priorities in the countries. There are a number of recent studies, however, mostly stimulated by health-care reforms and sustainability of health services which show equity concerns. In conclusion, it would be fair to state that research on equity is far from satisfactory for the majority of African countries.

South Africa may be cited as one of the countries where equity issues have been identified prominently and research on the subject is active. Quoting from **HST** update No. 49 of February 2000, *"we are lucky in South Africa that we have a constitution in which the principle of equity is enshrined. In addition, there has been a concerted effort since 1994 to attempt to redress the inequalities forged during the apartheid era. In all spheres of social welfare, equity promoting policies underpin the plans and practices of departments such as education, housing and health… [H]owever, implementation of those policies has proved harder than imagined… At the moment, it is usually those who have the most who have access to the best resources … Before 1994, "Gauteng", the West Cape and parts of Kwazulu-Natal were far better endowed with hospitals, health facilities and staff…But the Department of Health has attempted to redistribute resources… However, a myriad problems inhibit this, not least of which is lack of infrastructure coupled with dilapidated condition of many health centres in rural areas. The Equity Gauge is a tool to help monitor how we are progressing with achieving equity in health*

and health care in a number of key areas, including distribution of personnel and quality care. The Gauge monitors equity between rural and urban areas, equity between provinces, equity between races. The Equity Gauge project is a partnership between national and provincial legislators. Some of the projects underway include: the clinic upgrading and building programme, social Health Insurance Policy and decentralization of public hospital management."

It should be noted that health research is an important means of promoting equity because it is a means of identifying the disparities, describing the causes of the differences, identifying appropriate responses and monitoring progress towards equity.

Equity is stated in every country document as an important goal, but is not addressed as such in policies. Research on equity or research leading to equity has so far not received enough attention and should be put high on the agenda if we really want to talk about Health Research for Development.

The two most evocative images from my visit to Tanzania were the sight of an exhausted and emaciated man carrying his unconscious wife on his shoulders towards a district health hospital, and witnessing life in a rural village dominated by poverty and malaria. For me, these images crystallize the essential question for health research: can health research be justified in the face of such unmet basic needs? Only if it improves the health of the people. And does so efficiently and equitably.

-D. Harrison, South Africa

❑ The Research Process: An Overview

I hope our visitors will understand this carefully: some are trying to stop our progress with bad propaganda using the foreign press. Bad things are blown out of proportion and spread all around, but the good things of the land will never be mentioned.

Our scholars have sat and passed for the test – there's nothing like that in the foreign press. Our music is rated amongst the best – there's nothing like that in the foreign press. There was a little riot in one of our towns – the headline it got was as if the whole land was burning down. A little shaggy town and a woman in a raggy dress – it's making headlines in the foreign press. But all the lovely buildings which show our progress and a visitor saying our hospitality is amongst the best –I wish they would write about that in the foreign press.

-Extracted from the song Foreign Press by Lord Laro

Context for Research

In the majority of African countries, health research is still accorded a low priority. Consequently necessary capacities have not been developed and funding remains poor. Systems for guiding the development of health research vary in different countries. As a whole, ministries of health provide services and are small generators of research and have limited consumer capabilities. Apart from a few countries, health research has been left to universities and dedicated research institutes. Both of these have poor links with health ministries. Exceptions are countries like Zimbabwe and Ghana which have strong health research institutes with semi-autonomous status affiliated to health ministries. South-Africa and Egypt use the European or North American system where health research is done in universities and institutes under the general guidance of medical research councils.

Most countries have councils for science and technology whose purpose is to guide science and technology policy. In practice these bodies have little power or resources to influence research direction. At most these councils have produced good documentation spelling out the desired situation, but with little means to implement them. As a result of the above, health research in countries has remained rudimentary and highly fragmented.

Poor networking at national level has been highlighted previously. Local coordination of research and collaboration between individuals and institutions remains a challenge for institutional managers. Without effective coordination mechanisms it is not possible to fully utilize local expertise, while national research efforts remain fragmented.

I have often told the allegorical story of the new drug that was introduced into a number of African countries under pressure from a major international organization. The drug had not been tested for safety, nor had the appropriate dosage and other therapeutic features been optimized. After its introduction, UNICEF and other groups raised the alarm that in some of the countries that had adopted this remedy, children were dying in increasing numbers. The drug was called "Structural Adjustment Programme". Poor countries that were pressurized to adopt this macro-economic measure markedly reduced public investments in health and other social sectors. UNICEF and other agencies drew attention to the need to protect vulnerable group[s]... structural adjustment with a human face.

- Ade Lucas, Global Forum

External collaboration has two dimensions - regional and global. That presents challenges but of a different nature. Countries admit that regional collaboration as a basis for S-S linkages is poorly developed. It therefore remains a challenge to the research community and sponsors of these linkages to define how best they can be used. International collaboration is better known in the countries and the continent receives research support from numerous agencies who have their influence spread by geographical preferences, and who shift local alliances at will for reasons best known to them. Despite the good work that these funding agencies have done it is also felt in many quarters that a large part of the fragmentation in research in African countries has to do with funding systems.

Ethics in Research

According to the countries, ethics in research involving human subjects requires more attention. Most countries have institutional ethical review committees (ERC) and some have national ethical review systems. However, the composition of some of these bodies does not fully comply with the generally accepted WHO guidelines, while others need to have more training of ERC members so that their roles can be made clearer. Cases of unethical research have been documented in several countries visited. Often, visiting researchers, with local collaboration, committed the offences particularly in clinical trials and field research. Frequently, collection of unauthorized specimens for export was of concern.

Priorities for Research

For a continent so large and diverse, it is somewhat difficult to be specific on priorities for research that are common to all. Even at the country level, where this topic should be addressed in detail, major regional differences do exist. Nonetheless in the consultation, countries were requested to name top ten priorities. It was hoped that certain trends would be identified which could form common research themes for regional collaboration. It was also of interest to note how these priorities compare with those briefly alluded to in the Regional Research Strategic Plan, as endorsed by the Regional Committee which comprises Ministers of Health of the WHO Region.

The WHO-AFRO regional five year strategic plan (1999-2003) deals briefly with several key issues that require intensified research. These are infectious diseases, new pathogens (e.g. HIV), the evolution of drug resistant variants of known conditions (e.g. malaria and tuberculosis), non-communicable diseases and injury, health sector reforms and mother-child initiatives.

From the consultative process, although there were a number of non-responding countries, the health issues that were most prominent related to communicable diseases (mostly malaria, HIV/AIDS, tuberclosis), Maternal and child health, health policy and system research, non-commucable diseases and accidents and social cultural influences. This listing could be extended.

Research Output

It has been indicated elsewhere that Africa's contribution to S+T research outputs is small. Her share of patents is virtually zero, and in science publications the share is only 0.8%, perhaps about 3.5% in health research.

An attempt to get information on health research outputs from countries was not very successful for reasons that may be related to poor documentation at national level. From the responses obtained, it may be concluded that research outputs, as evidenced by publications, is generally low. There are exceptions. For example the MRC of South Africa puts out about 700 publications annually. The Kenya Medical Research Institute, the Medical Research Council-Zimbabwe also record fairly impressive lists of publications. It is quite possible that there are a number of other outstanding examples, but information on that was not forthcoming.

Osuntokun

Studies on degenerative neuropathy in Nigeria were an outstanding example. Clinical, physiological, biochemical, epidemiology, and experimental pathology were rolled into one to clarify on a syndrome hitherto attributed to nutrition deficiencies. Osuntokun's studies conclusively demonstrated that the disease was due to chronic cyanide intoxication of dietary origin. It is universally accepted that his work was a brilliant contribution to health. Since his discovery, the disease has virtually disappeared from the endemic areas. His findings have guided studies in other parts of the world where ataxic neuropathy occurs. His findings are widely cited by scientists all over the world.

-Ade Lucas

Adverse comments concerning the effectiveness of health research in Africa were made at national consensus meetings. It was the general impression that health research has not made much impact in health development in the continent. This observation is of concern particularly when research is advocating for higher financial support from governments.

The above impression is not to say that the continent is devoid of projects that are making a difference in their contribution to science and capacity development. It is possible, again for reasons of poor documentation, that researchers are not generally aware of these projects. There are many externally funded research projects which are under the control of individuals or groups within universities and institutes, which are closely guarded and therefore not widely known. In this regard, studies on HIV/AIDS, malaria, maternal and child survival may be cited.

Two international WHO programs - TDR and HRP - have heavily invested in Africa where significant contributions in, for instance Kala-azar or contraceptives respectively have been made. These latter programmes are part of the global analysis also being undertaken for the international conference by a global team. However most participants commended the role of these two progammes in the conduct of high quality and relevant research. Their capacity building efforts have also been outstanding.

Among regional based programmes, the HSR-project now under WHO-AFRO is an outstanding example as illustrated below.

This project was initiated in 1987 by a number of partners - WHO, RTI and DGIS. By 1999 there were 18 participating countries. The project was fully absorbed by WHO-AFRO and presently all member countries are participating. The overriding aim of the project was to improve PHC by empowering policy makers and health managers at all levels in decision making on the basis of research results.

Two projects have so far produced six training manuals dealing with promoting HSR, proposal development, report writing, computer bases, strategies for involving universities and research institutes in HSR, managing HSR and training of trainers. Capacity building, with emphasis on involvement of health workers in research, has received a lot of resources. So far close to 2000 persons at different levels have received research training. As a result of close association of the project with ministers of health, a good number of countries have now established budget lines for HSR and some of the units have provided an entry point for ENHR efforts. Research studies have also been funded in areas such as management, policy, MCH/FP, PHC, STD-HIV-AIDS and disease control. A high proportion of the funded projects have been successful with many leading to implementation of research findings. For example, a 1993 review of 20 studies showed those that led to 156 recommendations. Of the latter, 69 were fully implemented, 42 were partially implemented and 45 not at all.

Constraints to sustainability have been found to be weak national structures, uninformed policy makers, few HSR specialists, scarcity of funding and brain drain. However, it may be unfair to the continent not to mention a few examples where research studies under the guidance of African scientists have made contributions to global health. For example, consider the case of Osuntokun (see box opposite page).

The example of Onsuntokun is a good demonstration of how different disciplines in research, through extensive collaboration by multi disciplinary teams, can lead to effective research. The example cited below illustrates how operational research can guide a disease control programme where epidemiology of the condition is known and tools for its management are already established (see Onchocerciasis Control Programme in box).

In reproductive health, studies on maternal mortality conducted in West Africa made a significant contribution to the understanding and management of maternal mortality**.**

In South Africa, there emerged important research that led to the World's first heart transplantation (Barnard), and immunological studies that led to better understanding and management of chronic inflammatory and degenerative disorders (Anderson). Others include ground breaking basic research in Kinins and Kallikreins (Bhoola), paediatric studies ranging from nephrosis in African children to measles and Vitamin A supplementation (Coovadia).

The above are all outstanding research studies, which have made great contributions to global health science. In a continent where there is concern with the state of health research it is important to also recognise that the potential for quality research exists if the correct research environment can be created.

ONCHOCERCIASIS

Onchocerciasis, which affects over 15 million people in Africa, has major social and economic consequences. Effects of infection with the worm *Onchocerca volvulus* can lead to severe itching, disfiguring skin lesions and blindness.

An Ochocerciasis and Control Programme (OCP) involving eleven West African countries was launched over 20 years ago. The programme, whose participation has included communities, research teams, the private sector and WHO is considered the largest human disease control operation. Notable achievements have included community mobilization and involvement, extensive operations filed research, programme management, product development, gender studies and research capacity strengthening. Many African researchers, decision makers and research institutions have been active participants in a disease programme that is making positive impacts in disease endemic areas.

Recommendations

The following recommendations conclude this section:

- Support and training for institutional management is vital, not least to improve on information management systems for research.
- Leadership development for research and health programme management is required to energize and give direction to health research in countries.
- Success stories (cases) in health research need to be documented to provide convincing evidence on the impact of research to funding authorities.

CONCLUSIONS

This report is part of Africa's contribution to the International Conference (September 2000). It is intended to give a critical review of health research development in Africa over the last two decades since the Commission's report of 1990. This report should bring to the notice of national governments and the international community the plight facing health research development in Africa, and thus advocate for change with all the stakeholders.

Methodology and Tools used for this consultation are: review of documents, extracts from country reports and contributions, interviews and discussions with different stakeholders at country and regional level, mail survey of health experts and research institutions in the African Region, selected country visits and a regional synthesis meeting. It should be stressed that this report is a regional document with inputs from constituents of the African health research community and therefore representative for Africa.

The report has dealt with the following components:

Description of Africa: In this section an attempt has been made to describe the African situation in population, socio-political and economic terms. Relevant economic, health and other indices were shown and changes over time discussed.

Health Research Initiatives: This part has provided a panoramic view of health research initiatives over the past few decades with the purpose of highlighting trends and significant developments over time. Three sections were developed:

> *Pre-Commission Era:* To provide insights into health research in colonial times and post-independence period up to 1990. The pre-occupation of colonial rulers with economic benefit and the inheritance of former colonial research structures and systems, which slowed growth in research that is characteristic of sub-Saharan Africa.
>
> *The Commission Report:* The work of independent experts leading to presentation of the Commission Report in 1990, findings and recommendations were briefly analysed. The significance of the Commission findings and the process leading to ENHR adoption by African countries has received emphasis.
>
> *Post-Commission Initiatives:* Notable in this respect are: the World Development Report - investing in health, leading to the establishment of the WHO-Ad-Hoc-Committee (and report in 1996) and establishment of the Forum; the work of the WHO global ACHR leading to its report (WHO/RPS/ACHR/98.1). The findings contained in the two reports were discussed in terms of their similarities and differences and implications of the recommendations for ENHR.

Historical Perspectives: Considerable health research activities have been going on in Africa since the turn of the century. In-depth country stories on those activities and how they have influenced current research, were given in this chapters.

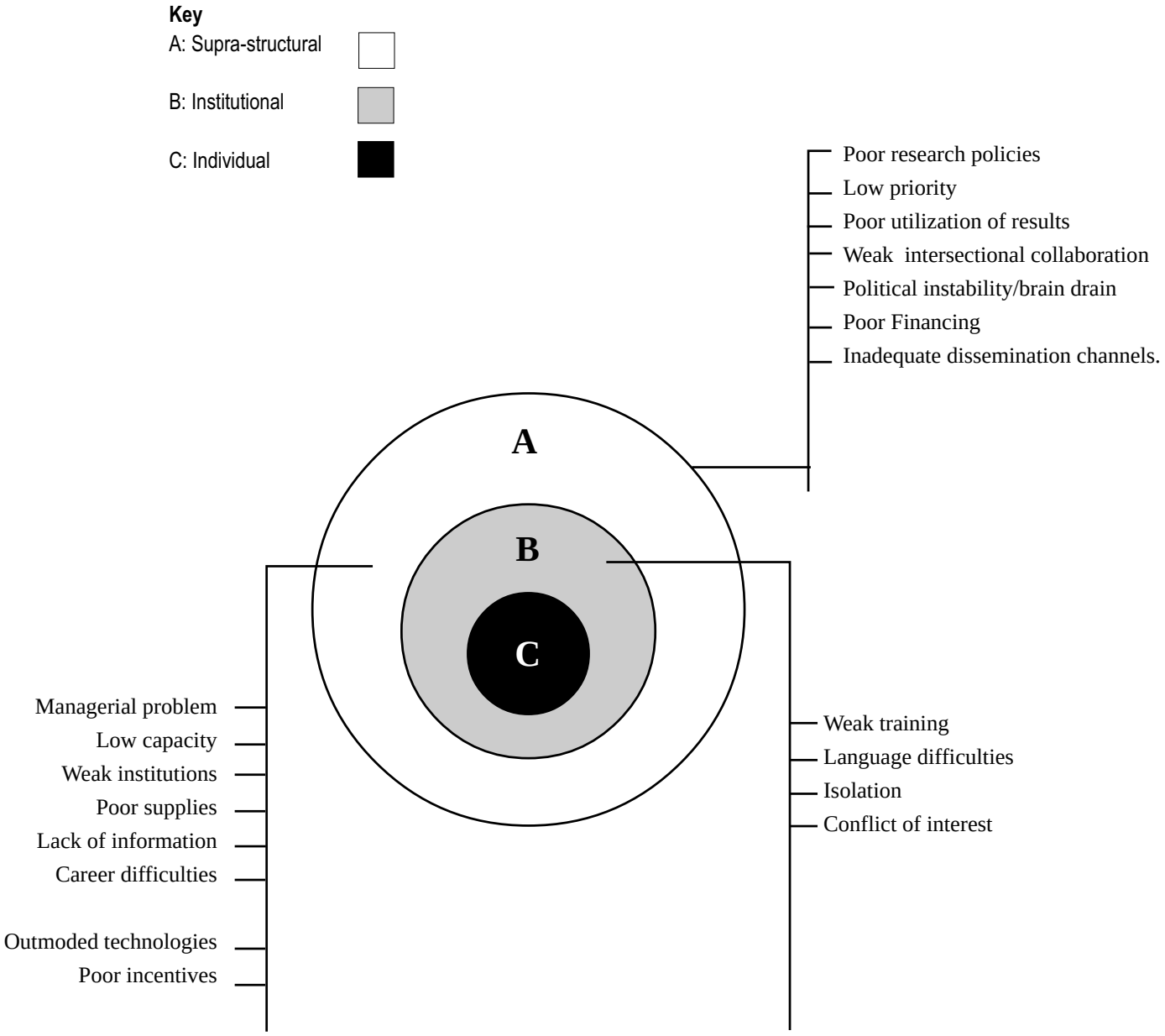
ENHR in Africa: The process of ENHR development among the 22 countries which, as a network, was given a critical review in terms of advocacy, priority setting, mechanisms etc. What differences the ENHR strategy has made to health research in countries was analysed; achievements highlighted and constraints discussed.

Country Findings: This is the main chapter of the report, analysing the numerous country consultations. Management of research, capacities for research and equity concerns were assessed. National, regional and global contributions to health research development in Africa have received a critical review, including the roles of national exchaquers and 'donor' financing in support of priority health research. Alternative strategies and plain recommendations to enhance health research development have been highlighted.

Research Process: This chapter is mainly a synthesis of the country findings and highlights some interesting research outputs from the continent.

The Future: All stakeholders have been asked how they wish to see health research develop in the next decade. Based on their recommendations, a direction for health research beneficial to Africa is presentedin the next chapter.

Constraints: A catalogue of factors that constrain research in Africa is long. This report can only repeat what has been established previously. The recurring issues may be grouped as shown below:



FUTURE ARCHITECTURE FOR HEALTH RESEARCH IN AFRICA

To make the most of the valuable findings and concerted efforts of this consultation, proper action must be taken before the report ends up in library shelves. The following chapter therefore deals with a plan of action, based on the proposed architecture.

Assessing the country constraints

An analysis of the findings of the Africa consultation shows that the main constraints to health research development in the continent fall into three broad categories: the broader environment-policy and other related issues; institutional related problems; and the individual environment. Viewed in a different way, the key constraints relate to capacities for research, mechanisms for research and the enabling environment.

Capacities for Research

African countries lack sufficient critical masses in planning, management, implementation and use of research. Efficient use of the available human resources is constrained by weak institutional and infrastructural support, including poor networking, lack of equipment, logistics and up to date information and technology. Information starvation is one of the most serious obstacles facing health professionals in Africa, and most especially French speaking Africa. The basic problems of equipment, computers, telephones and electricity are a major source of isolation for researchers. This problem is closely linked with the absence of an enabling environment that assures a motivational system for researchers. There are also weaknesses related to the quality of training in the conduct of research and capacities for multidisciplinary teamwork. This includes weaknesses on how to negotiate with donors, link with other stakeholders and advocate for research as a tool for development.

Dialogue between national and international agencies is crucial. External donors feel frustrated because they think we are slow, they think we are corrupt, we are inefficient and our capacity is no good. They need to develop trust to work with the locals, to develop philanthropy in the sense that even we don't have the capacity they expect us to have, they are there to assist us develop that capacity, not to throw us away. If they continue saying "you have no capacity, we don't have anything to do with you", this will go on for another hundred years and capacity will never be developed. So they need to say, "okay we know you have weaknesses, but we will work with you, we will even enhance your capacity. You have three scientists, we'll give you three more". And then maybe five years from now we shall have all the people that we need

-Dr. Mohammed Abdullah, Kenya.

Mechanisms for Research

The problem is not always that there is no research going on in the countries. It often is driven by the interests of individual researchers or funders. Most of the research is scattered and not co-ordinated in such a way that priority national health concerns are addressed. Moreover, due to lack of access to good means of communication and weak networking, researchers feel isolated. Inadequate dialogue, knowledge sharing, networking, collaboration and long-term inclusive planning are weaknesses that are perceived to constitute major constraints for health research in Africa: the absence of strong, efficient coordination and management mechanisms at national and regional levels.

Enabling Environment

The overall absence of a deep research culture and inadequate political commitment means that health research development in the region is hindered by low financing, administrative bottlenecks, conflict of interests and weak

governmental support. As Prof. Awor puts it, political instability, economic problems, lack of motivation are root causes for brain drain and too much external dependence. This dependence makes it difficult to orient research investments towards country priorities and to negotiate with partners for more transparent and coherent assistance.

The architecture presented in the next paragraphs is based on recommendations on key thematic areas during the numerous consultations, and therefore is representative of the participating countries. Despite the constraints discussed, Africa is at the stage where it can identify what it wants for the future, and what it does not want.

Future Architecture at the National level

The way ahead for health research at the national level is very country-specific. However, in all cases, health research must be country-driven. All other efforts, regional and global, must support that principle. Still there are common suggestions and recommendations, mainly targeting capacity development and coordination:

Capacity Development: *'Whatever little that we have, we should be able to perform excellently and build from a national [platform]. That's the way I would urge African countries to go. Do a small thing that you think you can do, but do it well and then share it with everybody (...) To me that's the way forward'*

-Dr. Abdullah, Kenya.

Capacity building is required in:

- quantity and quality
- multidisciplinary research
- demand and utilisation of research
- health leadership and management for research
- policy analysis
- publication and dissemination
- partnership development
- communication technology
- institutional facilities, appropriate to the country

Coordination Mechanism: Every country emphasised the need for an efficient national coordination mechanism. This mechanism should be legally established and get political and financial support from the government and other national partners. It should be appropriate to the country, self-reliant, transparent and bottom-up with a clear orientation towards national and district problems. A national Forum as exemplified by a few countries is worth debating. The following functions of the mechanism are recommended:

Advocacy:

- advocate for a multidisciplinary approach to health research
- advocate for more equitable distribution of funding
- encourage equal partnership with development partners.

Coordination: as part of effective capacity utilisation and efficient use of resources to:

- coordinate development partners' initiatives and thus help shape priorities and funding;
- coordinate the development of a strategic national research plan;
- seek for solutions in accordance to the available resources;
- create a platform for national development partners to increase synergy of the various initiatives.

Networking: to reduce isolation, create synergies, build confidence and plan with a vision to:

- improve networking between researchers and amongst different stakeholders;
- actively include the private sector, traditional practitioners and health care providers in health research initiatives.

Knowledge Utilisation: end user and equity orientation are crucial since knowledge empowers those who have it. The recommendations are to:

- develop a database of national experts at home and abroad
- broker for improved communication between national stakeholders
- encourage utilisation of research results by developing user-friendly end products
- establish and encourage local journals

Future Architecture at the Regional level

At the regional level, there were strong views that Africa should have an effective, autonomous Health Research Forum with a secretariat. Willing donors should contribute to its establishment and, together with African countries, decide upon its functions in its first five years of existence. Located in Africa, it must have a Board and work in close association with WHO-AFRO and other major health research development partners. The main functions of such a mechanism would be to:

- Define general policy and work plan for the Region
- Be the African Voice to International Initiatives and Development Partners:
  - Build coalitions;
  - Act as a link between member countries and the global system;
  - Provide strong advocacy for getting country needs into the aid agenda of development partners;
  - Promote South-to-South Collaboration and create a platform for partnerships;
  - Unify networks in regional partnerships where countries are the primary focus;
  - Encourage cooperative agreements between countries to have one voice towards its partners;
  - Scientific lobbying on behalf of the continent;
  - Represent the network at different forums.

- Provide Active Networking:
  - Organise regional workshops and regional initiatives
  - Facilitate the knowledge sharing by setting up a network mechanism (electronic communication, newsletter and meetings)

- Support Mechanism for country activities:
  - Broker for technical and financial support for regional and country-activities;
  - Secure and process funding for health research, ensuring that external funding is consistent with national priorities and promoting the utilisation of research results;
  - Establishment of an African Health Research Fund for joint research protocols;
  - Assist member countries in the definition, implementation, and evaluation of their country plans;
  - Information/education and dissemination of useful guidelines, events, etc.;
  - Develop a database on African Research institutes and African Consultants;
  - Sensitise African leaders on the importance of health research.

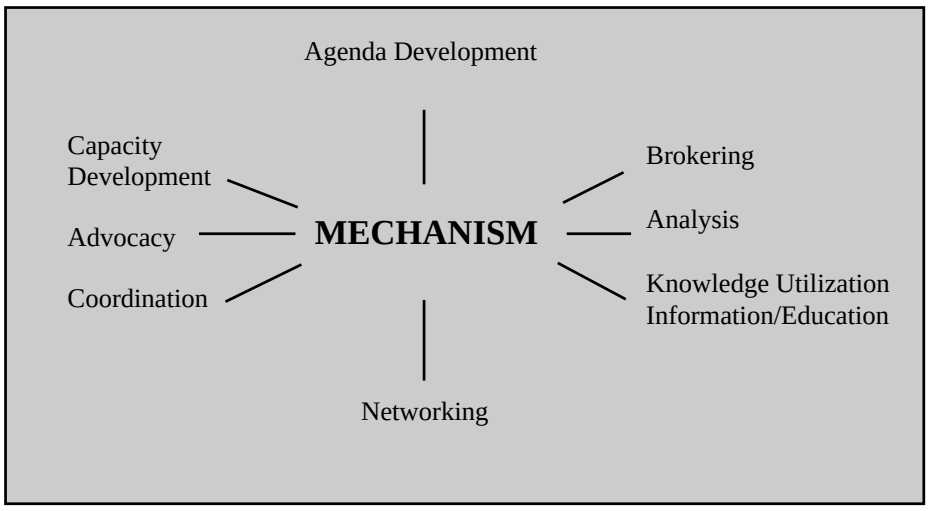
- Analytical Function:
  - Provide instruments for data capturing
  - Follow and report trends
  - Evaluate progress

In addition, Francophone countries expressed the need to have a separate coordinative body that can focus on specific needs of the sub-region, and stimulate further integration of French speaking researchers into the global and regional health research community.

Future Architecture at the Global Level

Most participants of this consultation indicated that they do not understand the work of international initiatives, nor how they function and whose interests they represent. Lack of focused coordination at the international level bears down on countries causing confusion of national research stakeholders with their arbitrary choices on what is to be done, who to collaborate with, and who to bring as experts, etc. This approach was condemned by most countries. Their wish is to see a more united donor community that respects national priorities and mechanisms. It should be in the interest of countries that the donors should work with their partners to promote better management, effectiveness and sustainability of research. The most important functions of an international mechanism are:

- be active in information sharing
- broker for/provide resources
- strong advocacy for country needs
- invest in communication in Africa
- increase North-South collaboration
- make global agendas and funding policies available to countries
- make global agendas and funding based on country needs



ACTION PLAN

National Level

Health Research System		
Building appropriate capacities	⇒Document status health research ⇒Develop Inventory of existing capacity	⇒Develop plan to strengthen • Critical mass • Institutional • Knowledge • Leadership development
Towards developing effective national mechanisms	⇒Stakeholders meeting	⇒Develop research plan and agenda ⇒Discuss financing strategies ⇒Discuss coordination strategies ⇒Develop knowledge management systems
Creating enabling environments	⇒Stakeholders meeting	⇒Analyse critica constraints ⇒Discuss national networking and collaboration ⇒Advocate for change

Regional Level

African Forum		
Regional Policy and Plan of Work	⇒Establish Steering Committee	⇒ Define general policy and work plan for the region ⇒ Create country ownership of the African Forum
The African voice in the international scene	⇒ Develop effective promotion and advocacy tools	⇒ Build effective voice
Develop active networking	⇒Regional stakeholders meeting	⇒Discuss coalition building, donor dialogue and SS-collaboration ⇒Build into modern Information Technology
Analytical function	⇒Develop tools to document existing capacities health research starts resource flows. ⇒Follow up on the African report to Bangkok ⇒Documentation of research at regional level	⇒More in-depth analysis based on country findings ⇒write into book form ⇒develop instruments and methodology
Support to country activities	⇒Facilitate and monitor country activities ⇒Information sharing/active dissemination of analytical function outcomes ⇒Technology sharing	⇒Towards regional health research system

APPENDIX

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Francophone Inter-country Meeting in Bamako in preparation for the International Conference in Bangkok 2000-summary

The development of the Subregional Francophone African Network began in 1998 at the 5th African ENHR Networking Meeting in Accra. The francophone countries present decided to create their own network in response to the growing awareness of health research for development and the special needs of francophone countries. They elaborated a number of proposals for periodic meetings, a standing committee and setting up a headquarters. UNDP leant its support to the initiative and the group established links with WHO. At the 6th African ENHR Networking Meeting in Harare in 1999 cooperation with WHO and other international organizations was formalized, as well as initial contacts with COHRED.

The meeting was held on 28-30 June 2000 in Bamako, Mali and was attended by Benin, Burkina Faso, Burundi, Cameroon, Guinea, Ivory Coast, Mali and Senegal. Participants recalled that during the colonial period health research in francophone African countries had focused on epidemic diseases and was carried out entirely by foreign researchers. This situation had persisted for a time after independence and it was the creation of universities that brought about gradual change. The lack of dissemination of information about research and its findings had also marginalized francophone African countries and it was not until the Commission for Health Research for Development began its work that these countries became more actively involved.

The meeting focussed on the formulation of the francophone countries' contribution to the Bangkok Conference. A number of issues were discussed through an exchange of views and experience and in the light of responses to the questionnaires used in the consultative process for the Bangkok Conference.

Participants reviewed the workshops held on the promotion and advocacy of health research for development and found the results inadequate. They expressed the hope that there would be greater government support, notably support for training and research institutions. They also called for greater involvement of other stakeholders, including technical and financial partners.

The meeting noted that some countries had set up a national mechanism and programmes for health research. National priorities had also been set in some countries, while others had experienced difficulty doing so because of the political situation or the lack of funding. Yet others had insisted upon the need to pay special attention to such issues as the eradication of poverty, equity and gender.

Most countries agreed there were insufficient efforts to strengthen national research capacity. especially in the training of young researchers. In addition to the lack of funding, there were inadequate research structures and obsolete facilities. Researchers were presented with insufficient incentives and inadequate technology. These conditions had encouraged the brain drain.

There was inadequate networking at all levels and a poor dissemination of information about research and its findings in most countries with few outlets for the flow of information. The lack of funds to organize international meetings or to travel abroad to them aggravated the situation.

Most countries had not been able to translate research findings into action or policy, since there were weak links between researches and policy makers. Co-operation between researchers and decision-makers and communities non existent. Even S/S cooperation has been little developed, as has interdisciplinary and multi-sectoral collaboration.

All countries suffered the lack of resources and in most cases governments contributed no funds to health research. When they did, there were complex administrative procedures that served as an impediment. The private sector has shown no interest in local research and the predominance of external funding tends to distort priorities There is, in general, no policy or strategy to mobilise national resources for research. At the same time the absence of effective structures for co-ordination of research and the absence of criteria and mechanisms make it hard to evaluate research results and gauge progress.

The meeting summarized its discussions in a number of recommendations. They focussed on the need for access to new technology of information and communications; for capacity building to enhance available human, material and financial resources; co-ordination mechanisms and partnerships at national and regional levels; a mechanism to mobilize resources with government and private sector and development partners; and a determination to implement and follow-up recommendations of the forthcoming Bangkok conference

The meeting closed with the adoption of a series of conclusions relating to key challenges for the coming decade. They concerned the strengthening of promotion and advocacy of HRD; the development of research capacity at all levels; the mobilisation of necessary financing ; the development of bettor communications between researchers and decision makers , communities and development partners; the need to ensure the sustainability of the francophone Network.

Health Research in Burkina Faso – a summary

Burkina Faso lies within the Sahelian enclave and covers a territory of 274,200 km2. It has a population of 10.3 million, with a growth rate of 2.37%. The mortality rate is 16.4 per 1,000, and life expectancy at birth is 52.2 years. Women make up 52% of the population, which is essentially young, with nearly 48% under the age of 15. The literacy rate is no higher than 26%, with major disparities between urban and rural communities. There are some 60 ethnic groups within the country, of which the Mossi comprise 48%. Islam is the predominant religion (52%). Administratively the country is divided into 45 provinces and 350 departments. Economically Burkina Faso is considered underdeveloped, with a dependence on the export of agricultural produce and the public sector. While, in 1998, the economy grew by 5.7% , some 44.5% of the population lived below the poverty line.

The establishment of national research programmes dates back to the beginning of the 1920s with the opening of agricultural centres. After independence and through the 1960s management of these programmes was entrusted to French institutes (IFAN and ORSTOM). In 1970 IFAN became the Volta Centre for Research into Rice Growing (CVRS). Several regional and international related programmes were set up. In 1978 scientific research underwent major changes with the creation of higher education and scientific research following the transformation of the CVRS into the National Scientific and Technical Research Centre (CNRST).

The CNRST is organised in 4 institutes and oversees national research policy. It guides research towards solutions to the constraints to development of the country. It coordinates and controls all research activities under way in the country. In 1997 the Ministry of Health set up the Health Research Office to reinforce this work. In co-operation with the University, the CNRST and other ministries and institutes, the HRO organized the first symposium on EHHR in the country (*New Strategy for Action for Health and Human Development*). Building on the work accomplished in 1995, when health was included as one of the four national priorities, the symposium resulted in the setting of priorities within the health sector, by identifying 20 vertical (disease) priority areas and 20 horizontal (health system) priorities.

Today research is accepted as an integral part of the evolution of medical practice and health programmes in the country. This is reflected in the adoption of an Action Plan for the development of ENHR for 1999-2001 and the strengthening of various institutions engaged in health related activities.

Nevertheless the general research situation faces a number of constraints, such as a lack of coordination, fragmentation of activities, the dispersion of researchers and an imbalance of financing. There is still too much focus on health issues of interest to the industrialised countries, and not enough on epidemiology, public health policies, social sciences, and the practical use of research findings. The major challenges that the country must address in the future in the field of health research include the provision of adequate resources, mechanisms for coordination and planning, the shortage of institutional structures and discrepancies between set priorities and research topics chosen.

Health Research for Development in Burundi – a summary

Burundi is one of the 15 countries selected for the African Consultative Process in preparation for the Bangkok Conference. As part of the same process a National Consultative Meeting was held in Bujumbura in March 2000.

Burundi is a landlocked country, situated in Central Africa, covering a territory of 27,834 km 2. It has a population of 6.2 million, of which more than 90% live in a rural environment. The population growth rate is 3% per annum. It is composed of three main ethnic groups with a mixture of Roman Catholic and Muslim religions. There is an adult literacy rate of 37% with 35% primary school enrolment. The GNP is estimated at US$ 140 per annum, with 36% of the population living below the poverty line. Life expectancy at birth is 53.54 years with no more than 8% of the population having direct access to health care.

The report refers to the socio-political strife in October 1993, which marked the country and left thousands dead and a million displaced persons. These events have increased greatly the precariousness of life in the country and the propagation of disease. Much bilateral cooperation has been replaced by emergency multilateral aid. The 1996 embargo has also put a brake on national development efforts and been a source of inflation.

Health research began in the colonial period with some 200 publications. While there is no readily accessible information about the organisation of research during that time, it is clear that it was all done by external researchers and largely published abroad. With the foundation of the University in 1964 several research centres came into being, including two in Faculty of Medicine.

In 1983 the Department of Scientific Research was set up and focussed its activities on three main areas of interest: a regular inventory of national scientific and technological potential; the planning and coordination of research; and the organisation of science and technology information and documentation. In 1990 the Department was reinforced by a National Council and a series of special technical committees, which, the report indicates, have yet to be fully operational.

The structural organisation of research in the country functions at three levels: the decision making , general policy level at the ministerial level; the conceptual, planning, budgeting and management level run by the Department of Scientific Research supported by its committees; and the executive level in the work pf the research centres, science and technology services etc.

The Ministry of Public Health is active in developing health research and setting health policy based on the right to health

for all and equity. Nonetheless, the report suggests there is an absence of coherent national health research policy, in terms of planning, programming, budgeting, coordination, evaluation and dissemination. It refers to the need for a new national debate, with all stakeholders and development partners, to define the necessary strategies and elaborate a policy framework for research and to reinforce public support for research.

The report indicates a lack of coordinated priority setting. There is advocacy for according priority to health research and for procedures for setting national priorities in order that it respond to national targets. In addition there are virtually no research networks and the dissemination of research information and results is poor. Few results find their way into action or policy, despite allegedly good links with end users.

The country's research capacity suffers from insufficient institutional capacity, and shortcomings in human, material and financial resources. There are no training programmes for the staff and a lack of incentives to keep them. While the level of individual researchers is satisfactory, the brain drain has aggravated the shortage of researchers.

The budget for research, especially for health research, is said to be inadequate and occasionally wasted through irrational use of scarce resources. There is a need for mechanisms to identify resources and establish procedures for funding. Local financing of health research is no more than 30%. The rest is external.

The country's capacity to coordinate all aspects of research is in need of reinforcement. The work of the Department, the National Council and its special committees is a step in that direction. The challenges of the future will focus sharply on the overriding need for better coordination of the structures of health research.Health Research for Development in Cameroon:

an Historical Perspective; and a Situational Analysis of Health Research in Cameroon

Cameroon's contribution to the African Consultative Process is in two parts: an Historical Perspective and a Situational Analysis. Both documents were prepared by the National Team for the consultative process, led by the National Focal Point.

The Historical Perspective provides background information about the health sector and related research in Cameroon undertaken prior to and after independence, gained in 1960. During the colonial period it indicates that emphasis was placed on health problems that hampered the administration of the territory or which created wealth for the colonial power, such as medicinal plants. Clinical and laboratory based reseasrch was rare, as too were qualified indigenous researchers. An account of activities initiated, each in turn, by the German, English and French authorities describes the institutions set up during the colonial period.

There is also a description of the evolution of the research apparatus during the post- independence period from 1962 to the 1990s. Various presidential decrees are cited as the legislative basis for the creation of a series of institutions and government departments. The emphasis throughout was largely on higher education and scientific and technical research. This period also witnessed the efforts made to bring about a sharp increase in the number of indigenous researchers in the country. The Government emphasized the need for scientific and technical research in the country and appropriate training of researchers and technicians to accomplish it.

The Situational Analysis provides an outline of the health system in Cameroon, where national health policy had long been determined within the scope of the five-year plans, and was oriented towards the provision of health services sufficient to cover fundamental needs. The most important objectives were:

- to eliminate imbalances in the health infrastructure, in particular the lack of medical assistance in country and isolated areas;
- to ensure better supplies of pharmaceutical products;
- to extend mother and child services;
- to improve hospital and first aid capacity;
- to campaign against infant and child mortality.

The Analysis points out, however, that there is very little data on the Cameroon health system. It is necessary to obtain international statistics whenever possible, but such data are mainly confined to diseases that have reached epidemic proportions. There are no recent figures for malaria and, as yet, no national monitoring programme for AIDS. The present inadequacies in the preventive medicine are also reflected in the relatively low proportion of the population with access to primary health care.

The major goals of health research are said to be the improvement of existing interventions, and the search for new, better and more cost-effective measures. It acknowledges that to achieve these goals, there is a need to designate health research as a priority area, underpinned by a governmental commitment to support the sector. Health research must receive a promise of adequate funding to encourage the sector to balance limited resources with the actual needs for health, and this requires setting priorities. The Analysis argues that priority setting for research is essential, if it is to contribute to development, reduce duplication and rationalize the use of scarce resources.

Basic and applied research is under way in biomedical, epidemiological and social fields, as well as operational and health systems research. However, a number of factors are cited as constraints on health research. They include poor funding by the Government and failure to recognize the significance of research in health care planning. This list includes poor dissemination of information about research and its findings, and the lack of clear priority setting. The shortage of manpower and materials is also mentioned, along with the lack of training and recycling, and the lack of coordination of research efforts among stakeholders. In looking ahead the Analysis envisages measures to remedy these shortcomings, They include the adoption of a clear national policy on health research, backed up by a plan of action and the setting of priorities among research topics. Other measures could be taken to strengthen research capacity, including human resource training, research management and coordination to ensure the participation of key stakeholders.

The Analysis concludes with an explanation of the current economic crisis in the country, which has paralysed health research. Cameroon's potential for economic growth was high throughout the 1970's and early 80's. Petroleum revenues boosted private and public spending. Despite large capital expenditures, the Government was able to maintain a balanced budget without extensive recourse to foreign borrowing. Since 1985, the fall in the US dollar has exposed major structural weaknesses in the economy and plunged it into deep recession. These factors have brought economic growth in Cameroon to a halt. Before June 1986 health research in Cameroon was generally well funded. Since then there has been no national funding for health research.

Consultative Visit to Egypt - a summary

A country visit was made to Egypt on 9-14 April 2000 as part of the consultative process in Africa. The visit included a review of documents, a meeting with the National Team and the National Focal Point, visits to institutions, interviews with key informants, and, finally, a visit to upgraded health facilities. It was agreed in advance that the following measures would be taken to prepare the visit, not all of which proved possible: a country situational analysis; a short historical perspective of health research development in Egypt; a listing of key partners in health and health research; institutional profiles; health research questionnaires by key stakeholders; arrangements for key informant interviews and focus group discussions; national publications and country case studies relevant to this exercise.

Egypt is one of the larger countries in Africa with a population of 65 million people, mainly of Arab origin. The capital, Cairo, has a population of 12 million. The country has a rich tradition of centres of higher learning and has made great strides since independence in 1956. Since that time, remarkable development of the infrastructure of health care facilities has been achieved. There are about 5,000 health care units in the country and a further 460 mobile clinics that serve isolated areas. Between 1981 and 1997 infant mortality rate was reduced from 70 to 25 per 1,000 live births, neonatal mortality was reduced from 12.2 to 8.1; maternal mortality from 77 to 40; life expectancy increased from 52 to 66 years; and immunization coverage is now more than 97% countrywide. These figures compare favourably with the rest of Africa.

Egypt has many universities, including 24 medical schools, and produces trained personnel in excess of its needs, which has given it a reputation for exporting skilled manpower. The current training budget for the Ministry of Health is just under US $ 10 million per annum. At present the country is almost self-sufficient in health manpower, both for health care services and research. Three government ministries carry out research in the field of health, namely the Ministry of Higher Education and Research, the Ministry of Science and Technology and the Ministry of Health and Population. There are also many other independent bodies and organizations that do research related to health, foremost among them being the National Research Centre and the Centre for Field and Applied Research. Most of these centres collect research results in a vertical form, with little collaboration between the major stakeholders.

The report on the consultations describes in some detail the field visit to Menoufia Governorate, one of 24 provinces of the country, 150 kms from Cairo, comprising 10 districts with a poulation of some 2.7 million people. The centre typifies the health units upgraded within the programmes of the Ministry of Health. A key feature of the unit is the records office, which keeps a file on every family under its jurisdiction. The file has health and demographic records of all members of the family entered on the computer and forwarded to the district office at regular intervals. The data is processed and forwarded to the governorate office where again it is processed and transmitted to the national headquarters. In this fashion it is hoped that the system of data retrieval will soon become part of the national health statistics. Such health units are run by the community and charge for services rendered. An insurance scheme assists with the funding of the centre, partculary for vulnerable groups. A recent client survey showed very high levels of satisfaction with the scheme.

The consultations also included consideration of the role of ENHR in Egypt, based upon a paper prepared by the Egyptian authorities. ENHR, it claimed, was practiced on a large scale in the country, even if it did not always go under that name. The emphasis was mainly on systems research and enjoyed the support of the Centre for Field and Applied Research of the Ministry of Health. Most key informants, however, had never heard of ENHR, the Global Commission for Health Research or COHRED.

Current national activities in the health research for development focus on a number of the competencies, which comprise the ENHR strategy. These include the promotion of local health research; community participation; leadership development in health and health research; coordination of cooperation with donors and funding agencies; the development of effective

databanks to provide comoputerized technical support for health care services and national health statistics used in research; the elaboration of a strategy for national health and health research, with the support of all major stake holders.

In discussing ENHR in Africa participants expressed strong support for sharing the national experience with the rest of Africa, and emphasis was placed on the dissemination of information on ENHR, the coordination and communication of ENHR throughout the continent, and cooperative agreements within and between countries in Africa. At the world level, talk focused on the global agenda and funding policies and on a regional forum for Africa.

The conclusions drawn at the end of the visit are of an overall impression that Egypt has more than just a critical mass of trained manpower, despite a few critical areas where there is a lack of expertise. Equity, it was said, had been the mainstay of the country's policy, and with that in view, it had been able to achieve a large measure of success in providing safe water to more than 85% of families, balanced nutrition to more than 90% of the homes, immunization approaching 100% coverage and demographic and health indices are equally impresssive.

Most of the social programmes running on a national scale were said to be operated by highly skilled personnel and led by teams of experts from the universities, scientific institutes and technical colleges. They have in-built monitoring mechanisms that ensure effective implementation. Data in these programmes is readily available and resources spent are easily accountable. For this reason Egypt is not short of donors and the country is able to dictate the terms of cooperation.

Particpants considered there was adequate manpower in areas of health developemnt and research, but most of the key informants interviewed would like to see effective networking and communication, both within the country and with the rest of Africa, as well as with the developed world. One of the big problems in the country, was said to stem from an occasional lack of cooperation among its leaders and the heavy bureaucracy and reporting mechanisms in health and in research in general.

Health Research in Ethiopia - a summary

Ethiopia is one of the countries selected for the Africa Consultative Process. This report reflects a culmination of that process to which key national research and teaching institutions have contributed under the guidance of the Ethiopian Science and Technology Commission (ESTC).

Covering an area of approximately 1.14 million square kilometres, Ethiopia is bordered by Sudan on the west, Somalia and Djibouti on the east, Eritrea on the north and Kenya on the south. With a population of more than 61 million, it represents a melting pot of ancient Middle Eastern and African cultures, evident in the composition of its many nationalities. Ethiopia belongs to the group of least developed countries, with 85% of the population living in rural areas. The population growth rate is about 3% and50% are between the ages of 14 and 60. Life expectancy at birth is estimated at 53 years. Nonetheless, the population is expected to double in the next two decades, putting pressure on social services, including health. Mortality rates among children under five and infants are among the highest in the world.

Ethiopian traditional medicine dates back to antiquity and modern health care services, brought European travellers, missionaries and the diplomatic community, can be traced back to the early 16th century. During the Italian invasion, Italian physicians carried out most of the health care and health research which concentrated on infectious and parasitic diseases in northern Ethiopia (Eritrea). The expansion of health facilities continued through the era of Emperor Haile Selassie and subsequent governments. The opening of a number of well-known health institutions in the country accelerated research activity.

The ESTC was established in 1975 and its activities were supported mainly by external funds. However, as of 1993, the present Government adopted a policy of allocating up to 1.5% of GDP to research. As a result there are over 200 health research projects in progress, which focus on the following key issues: utilizing research to help improve the health status of the population and raise the quality of life; coordinating health research to strengthen national capacity; promoting Essential National Health Research (ENHR) to ensure greater equity and a cross-sectoral approach to health development.

The coordination mechanism has been set up, led by the National Health Science and Technology Council that advises the Government on health policies and guidelines, priorities and the dissemination of useful research results, whenever possible. Despite this policy framework for research, developments in health research have been slow, due to other constraints. For example, the country's research capacity suffers from a shortage of human and institutional resources. Leadership and management of research institutions is weak, and available skills are not used rationally. The problem is compounded by the brain drain, for which a number of possible remedies are under consideration. Although a degree of collaboration in research and training takes place between institutions, networking at the national level is said to be poor. At both regional and global levels, networking is virtually non-existent

The broad categories of national priorities have been defined through a consultative process. However, the process did not involve all stakeholders, particularly the communities. There is a general feeling that, despite priority setting, health research as a whole is not effective and that its results have not had a significant impact. Linkages with policy makers and other end users must be strengthened through joint planning and participatory research.

Funding for research is another area where information is hard to access. Analysis of resource flows into the country, within the country and within institutions is an area for capacity development with major implications for the management of research. There is a need for a mechanism to review research budgets against output in order to judge the effectiveness of

research funding. The low level of funding leaves the impression that Ethiopia does not attract a sufficient number of donors.

The report also describes the Butajira Rural Health Programme (BRHP). The overall objectives of this "field laboratory" are to provide a current epidemiological surveillance system at the district level that would assess fertility and mortality trends, analyze public health, and guage the use made of health services in the area. The study site is located in a densely populated district 130 km south of Addis Ababa. The initial tasks were to perform a census in selected villages to ascertain the baseline population and establish a system of demographic surveillance, with continuous registration of vital and migratory events at a household level. The BRHP is primarily collaborative research, undertaken between the Addis Ababa University and the University of Umea, Sweden. Though not yet extensive, some medical benefits have accrued to the population in the study villages. BRHP has contributed to human resource development and the building of research capacity at the University. The study-base has required a tremendous financial and professional investment and the major challenge in sustaining the study-base is to acquire continuous funding for the activities.

Health Research for Development in Benin – a summary

Benin is situated in West Africa and covers a territory of 114,764km2. It has a population of 6.8 million, of which some 73% live in a rural environment. The economy is dominated by agriculture, with some 33% of the population living below the poverty line. The mortality rate is 15.6 per thousand and mortality among children less than 5 years of age is 116.2 per thousand. Life expectancy is at 48.7 years. Benin is considered one of the least developed countries.

During the colonial period research was based on the interests of the colonial authorities. It was focussed on epidemics and on agronomic research. Research stations were set up as early as 1904 and several followed in the next twenty years. After independence in 1960, the State paid greater attention to research. The Directorate for Scientific and Technical Research (DRST) was set up in 1976. With a view to better defining and implementing a national research policy, the National Council for Scientific and Technical Research was established in 1986, as well as the Benin Centre for Scientific and Technical Research. Certain ministries also created research structures.

The opening of the University in 1971 allowed the Faculty of Health Sciences to gradually develop health research, especially clinical research. The creation of the Institute for Public Health in 1977 and the Regional Centre for the Development of Health in 1983 contributed to research into health systems, behaviours, attitudes and practices of certain groups of the population towards certain diseases.

Serious problems of applying research findings persisted in the absence of a proper coordination mechanism, despite the creation of the Institute for Advanced Biomedical Science, which, with the support of WHO, was intended to be the reference centre for the subregion. Organizational and financial problems, however, prevented it from achieving its targets.

The adoption in 1991 of the ENHR strategy opened new horizons for health research in the country. Benin was the first francophone West African Country to adhere to the ENHR strategy. Priorities were set and structures at the national, community and district levels were put in place. Training to elaborate research protocols was also organized. But ENHR in Benin has known its ups and downs. In the mid 90s lethargy set in as a result of major constraints that contributed to a general slow-down in health research in the country. They included an insufficient number of researchers; a weak motivational system; inadequate equipment and logistics; a lack of information due to poor communications; an absence of networking and cooperation at all levels, and poor financing of health research.

Since 1998, however, ENHR has enjoyed a new lease of life in the country. The health sector is undergoing reform, based on decentralisation of administrative and financial management, the participation of the district and community levels in managing hygiene training and creating health zones to improve access to primary health care. The new national structure will be based within the Ministry of Public Health and work closely with the National Board on Scientific and Technical Research, as well as the Benin Centre for Scientific and Technical Research. Priorities have been redefined and a 10-year plan of action was drawn up. Political support appears to be on the increase through the National Strategic Plan for Health. The national budget for health increased from 3.22% in 1992 to 6.72% in 1998, although the funds earmarked for health research are still insufficient. To this national effort we must add the important contributions from various partners, such as WHO, UNICEF and bilateral aid from European and North American countries. But to date the private sector has not been encouraged to invest in the country's health research.

The development of health research suffers from the lack of adequate human resources, a lack of incentives, the brain drain, an inadequate supply of equipment and laboratories and, more fundamentally, to the absence of a national capacity development plan and poor leadership in the management of research.

The research, which is done, is seldom translated into practical applications for health care services, because of the lack of communication between researchers and research institutes, on the one hand, and policy makers and other end users, on the other. The dissemination of research findings is hindered by difficult access to specialized journals and a lack of knowledge about where and how to publish.

In general, scientific and technical research, and health research in particular, are progressively evolving in the country. There is a growing awareness of the importance and usefulness of research in the process of national development, reflected in the reawakening of interest in ENHR. The way ahead holds a number of key challenges to improve the country's research

capacities, to ensure adequate research funding and to provide better government support in general. If ENHR is to succeed, there must be more advocacy at the national level and a national strategic plan, which seeks solutions in accordance with available resources.

The country, therefore, looks forward to a better development of scientific and technical research in the 21st century, especially in the health sector. The recent establishment of the Directorate for Research in Health and Development within the Ministry of Public Health augurs well in this context.

Health research for development in Guinea – a summary

Guinea is located in West Africa, 10 degrees north of the equator, with a 300km coastline on the Atlantic Ocean. It covers a territory of 245,857 km2, with a population of 7.2 million. One third of the population lives in an urban environment, with half of that number in the capital, Conakry. The population growth rate is 2.6%, with a fertility rate of 5.6.

During the colonial period, scientific and technical research in the country was part of that conducted in French West Africa. The Committee for Historical and Scientific Studies, set up in 1915, was the first to coordinate research and publish the results. This was succeeded in 1936 by IFAN, which undertook research considered uncoordinated and too liberal. Despite growing opinion in favour of research, colonial administrative inertia and the absence of African researchers were constraints on further development.

Prior to independence the network of research in the country consisted of 16 institutes, two of which did health research, namely the Research Station on Cinchona and the Pasteur Institute. The latter is today known as the Guinea Research and Applied Biology Institute. Most of the work done at that time was related to veterinary medicine and agriculture.

Since independence in 1958, the Government has grasped the importance of research in socio-economic development. Thus, a Higher Council for Scientific and Technical Research was set up in 1961, and made responsible for elaborating proposals on all questions relating to the development of scientific research and its coordination. But the almost total lack of a conceptual framework and the many structural and staff changes did not help the development of research in general, and health research in particular, which was limited to a number of chemical trials.

It was only in 1984 that the National Conference on Health put the accent on the use of research as an instrument for decision making. A Research and Training Unit was created in 1988 in the Office for Planning and Research of the Ministry of Public Health and Social Affairs. Its task was to stimulate health research. Cooperation between the Ministry and the WHO led to the adoption of the ENHR strategy in 1992. The implementation of this strategy has made it possible to carry out certain activities despite existing constraints.

Today Guinea has a structure for health research that includes five institutions. However, the discrepancy between the regulations determining the role of each institution and practice has resulted in poor coordirnation between them and with researchers. Other continuing constraints include inadequate human, material and financial resources, insufficient promotion and advocacy of health research and poor dissemination of research findings and their translation into action and policy. Future prospects, which pose major challenges for the country, relate to greater awareness among development partners, a merger of the National Health Research Plan with that for hygiene development, the declaration of an annual national health day, and a mechanism for fund raising.

Health Research in Côte d'Ivoire – a summary

Côte d'Ivoire is located in West Africa on the Gulf of Guinea. It covers a territory of 322,463 km2 and has a population of over 12 million, made up of several ethnic groups.

Before independence in 1960, health research dealt essentially with endemic diseases, such as malaria, leprosy, trypanosisame and onchocercose. After independence, research experienced upsurge with the establishment of a number of schools of health at the university, as well as both public and private research centres and institutes.

In the new framework, research activities involved biomedical research and epidemiology, as well as health services. Research, although financed essentially from abroad, enabled the formation of a critical mass of researchers. However, the economic crisis and deflation of a reliable technical assistance programme, put the brake on funding for the new thrust of research. The slow-down also discouraged researchers.

In the framework of the health reforms today, the importance of research has been clearly expressed in the National Plan for Health Development for 1996-2000. This became apparent, in institutional terms, by the creation of a Sub-Directorate of Applied Research in 1997, which was given responsibility for reorganizing research with a new legislative basis that included proposals for the funding of research . The adoption, in 1998, of the ENHR strategy and the appointment of a focal point, as well as the reactivation of missions of the INSP under the Ministry of Health all suggested a new lease of life for health research. To date two workshops and a promotion seminar have taken place, and a model for requesting the designation of priority areas has been drawn up. The mobilization of resources is under way with the help of COHRED and WHO for regional consultations leading to a national symposium on the identification of country research priorities.

The list of continuing constraints includes the need to strengthen research capacity and to set up mechanisms for the coordination of research. There is still no clear status for researchers outside the university and the lack of State funding

means continuing uncertainty for research institutions. On the other hand, the research community benefits from a number of strengths, such as the existing National Health Development Plan, a critical mass of researchers - even if they are currently demotivated -, and a cluster of public and private research institutions. Against this background prospects for the future are encouraging in as much as a new structure for research is about to be introduced and the reform of health policy and of the university both augur well for the future of research. In addition, the country's political will has been reaffirmed in the promotion of ENHR by all stakeholders

Kenyan Consultative Process on Health Research – a summary

Kenya is one of the countries included in the African Consultative Process. The report gives an account of the consultations with the National Team, the National Consultative Group and with key informants, which took place in May 2000. It also lists the institutional profiles and national surveys prepared for this exercise.

Kenya has a population of 29.8 million people, with a majority of below the age of fifteen. It has high morbidity and mortality rates affecting the population of all ages, especially children under 5 years. Although a significant proportion of this morbidity and mortality is due to infectious conditions, many other non-infectious factors play a role. These include chronic diseases and economic deprivation resulting in poverty, malnutrition and inadequate health care.

The culture of health research in the country dates back many years. During the colonial period research was catered mainly for the needs of the colonial authorities. The Medical Research Council (MRC) of Britain was responsible for research in the country. Research stations were opened all over East Africa in areas of interest to the colonial government, such as malaria, trypanosomiasis and tuberculosis. The data obtained had no direct links with the health authorities in East Africa. However, at the time of independence these research activities and stations were placed under the Ministry of East African Cooperation. Meanwhile the Medical School in Makerere University, and subsequently medical schools in Nairobi and Dar-es-Salaam, carried out health research, especially in clinical areas, in the national and teaching hospitals. However, such research was not guided by any national interest, policy or prioritization.

After independence, the East African Research Council replaced the MRC as the coordinating mechanism for the various research stations, which had no direct linkages with the ministries of health in the respective countries.

In Kenya, after the collapse of the East African Community in 1977, the National Council for Science and Technology (NCST) was set up to advise the government on matters relating to science and technology and research for development, and to coordinate research. The areas covered by the NCST included priority areas like food, health, employment, environment and housing. In 1979 the Science and Technology Act was amended to create semi-autonomous, sector-related research institutes and the existing institutes were thereby absorbed. However, the NCST did not have the executive authority required to coordinate the activities and guide policies. It was not until 1987 that a full ministry was created, the Ministry for Research and Technical Training (MRTT), which gave the required authority to the Council and to the research institutes to coordinate research, science and technology. In the meantime the Government felt it was necessary to build its own new research institutions and seven such institutes were created in various sector ministries. These ministries, however, came under pressure to use the research funds for more pressing national needs. Once the MRTT was set up, all research institutes were then placed under it.

Nonetheless, health research has continued to be carried out by various institutions, which provide data on mortality, morbidity, risk factors, utility of diagnostic techniques, treatment outcomes, preventive strategies, disease surveillance, health policy and health economics. The research has often failed to focus on critical national needs, since these institutions are concentrated in urban, non-slum areas and do not adequately address health problems of the rural and urban slum areas.

Major issues in research methodology and utility, such as selection of research fields and topics, evaluation of outcomes and cost-effectiveness, have not been adequately tackled. This may be attributed to the lack of coordination and prioritzation of research. Placing emphasis on the highest priority needs will help to optimize available human, material and economic resources. There is growing recognition of the need for communities to be more actively involved in research in order to facilitate the implementation of research findings.

Kenya was among the first countries to adopt the ENHR strategy in June 1991, following a national convention, which recognized that capacity building, prioritization and co-ordination in the area of national health research offered the greatest challenge to the nation. The most appealing aspect of ENHR was seen to be its stated goal of addressing equity and its all-inclusiveness that makes it appropriate for a country like Kenya. At the end of the conference, it was recommended, as the way forward for ENHR in Kenya, that a body be created to coordinate all activities of ENHR, and with that in view, that a task force be set up to ensure the following :

- the coordination and networking of all institutions involved in health research;
- the amplification of action plans ;
- the review of the role of the Medical Science Advisory Research Committee ;
- the identification and prioritization of Essential Health Research.;
- the creation of a national health research information and documentation centre ;

Accordingly, the National Health Research and Development Centre (NHRDC) was established as the national mechanism to coordinate ENHR in the country. The conference also recommended that a formal system of networking among research institutions be built. At the close of the meeting of the National Consultative Group a number of major points emerged. They related to national priority setting, the level of resources for research, research capacity, African bargaining power and the creation of an effective African network.

The report draws the following general conclusions from the national consultative process. It is acknowledged that Kenya has a critical mass of trained manpower, and an adequate infrastructure - albeit not equitably distributed – as well as workable health systems. However, there are significant inadequacies, including a weak policy framework, and the lack of expertise in certain critical areas. These include public health and policy research, as well as capacity for critical analysis of issues. Other serious problems include the country's generally poor economic performance and the severe donor squeeze aimed at forcing the country to effect major changes in its policies and systems. The public health sector is currently weak and the majority of the poor do not have access to adequate health services. The non-governmental sector, however, which accounts for 50% of the services is robust and growing. The Manpower training it provides is good, as too are its health research system and facilities. Researchers however would welcome an improvement in policy framework, better health research coordination, and effective networking and communications with the rest of Africa, so that they may share experiences. Joint collaborative research in the region should be encouraged and African governments should jointly seek better apportionment of global resources.

Health Research for Development in Mali – a summary

Mali is located in northwestern Africa and covers a territory of 1.24 million km 2.
The population of the country is 7.9 million, comprising a number of major ethnic groups. The average population density is 6 persons per km2. 90% of the population are Islamic. The country is divided into 7 regions plus the capital, Bamako with a population of 700,000. It is considered one of the world's poorest countries with a predominantly agricultural economy.

In December 1990 the Declaration on the Sectoral Policy for Health and Population was based on the principles of the Bamako Initiative, although no direct reference was made to health research. But in 1992 a great need and potential for health research was identified in implementing health policy. On 10 May 1993 the General Policy Declaration reaffirmed the worth of scientific and technological research and the function of the researcher. The importance of health research rests in the adaptation and innovation of the General Policy Decalaration, which is ambitious in medical, socio-economic and socio-cultural specialities of the country.

A great many national and international bodies are involved in health research in the country, but as yet no national research policy framework has been adopted, and no coordination mechanism set up. Two ministries are involved in the administration and management of health research in Mali, the Ministry of Secondary and Higher Education and Scientific Research (MESSRS) and the Ministry of Health. MESSRS set up the National Centre for Scientific and Technological Research, which has organised several national meetings that have also attracted those engaged in health research and medicine. The Centre, however, plays no coordinating role. The National Institute for Research in Public Health was set up by MoH in 1981 as a privileged instrument for public health research. It was promoted to the status of a Public Administrative Office in 1993 and was granted relative autonomy in the management and flexibility in organising its research activities. Its mandate includes
promoting medical and pharmaceutical research for public health of all kinds, organizing technical training and recycling for health professionals, standardizing the production of common medicines and vaccines, safeguarding the country's scientific heritage and promoting international co-operation.

The national Institute has encountered difficulties, such as the shortage of trained researchers, the absence of career plans, the lack of evaluation of researchers, the lack of information equipment, and poor communications structures. The lack of domestic funds for research was seen as an important obstacle, noting that from the State contributes no more than 1% of the national budget to research as a whole. Research, therefore, is heavily dependent on foreign sources. There are also shortcomings in the dissemination and publication of health research findings. As far as scientific outputs go, there is a wish to publish in international journals, often in collaboration with external partners. This makes articles inaccessible to domestic readers, since they are usually published in English. The INRSP is the only publisher of scientific reports in the country.

The positive aspects of health research in the country were listed as the contribution that basic research has made to the growth of general knowledge about health in Africa and the influence it has had on WHO global and regional strategies. Mention was also made of its contribution to the enlargement of the list of essential medicines and for the light it has shed on the scale of socio-health problems and the impact this has had on the allocation of resources and national policies.

Health research for development in Mauritius – a summary

The report describes the evolution of health research in the country and gives an account of latest developments in that field.

Mauritius is a small group of islands situated in the South East Indian Ocean, 800 km off the east coast of Madagascar and covers an area of 1,865 kms2. It has a population of 1.2 million. Over the last twenty years, Mauritius has undergone major structural change from an agricultural economy with rapid population growth, high unemployment and low per capita income to a situation characterized by a fairly stable population, almost full employment and a diversifying economy. There are new sources of income from the export manufacturing sector, tourism and financial and business services.

From independence in 1968 to the late 1980's, health research was carried out mainly by the Ministry of Health. Whatever research was done, was geared towards communicable diseases and fertility control and financial input was mainly from overseas. However, the country's commitment to the *Health for All* strategy, using primary health care as the key approach, dictated the orientation of national research. In 1989 the Government set up the Mauritius Institute of Health (MIH) under the umbrella of the Ministry of Health. Its research unit has been mainly conducting Health Systems Research and evaluation and epidemiological studies that contribute to the health of the community. The topics include patterns of health and disease in the population; determinants and risk factors; operation and utilization of health services; and quality of health care. The MIH also plays a key role in capacity development at the regional level and provides supportive skills to researchers. The University of Mauritius established SSR Centre for Medical Studies and Research in 1989. Its main goals are to conduct research on relevant medical/biomedical problems; to develop R & D in collaboration with industry, and create modules for the effective use of its research findings for the benefit of the community. The report refers to other bodies conducting health research, such as the Central Health Laboratory of the Ministry of Health, the Department of Medical and Health Sciences of the University of Mauritius and the Mauritius Family Planning.

Special mention is made of the Mauritius Research Council (MRC), which was established in 1992 as a top-level body to coordinate national research and development in all spheres. It has designed a number of research grant schemes and, in the last four years, has received a total of 145 proposals for research projects, of which only 57 could be funded. Figures quoted show that medical projects received relatively better funding than others. At present the MRC is engaged in elaborating a National Research Strategy.

The health status of the population has enjoyed sustained and significant improvements in recent years. Its has witnessed an epidemiological transition, as the main causes of morbidity and mortality have shifted from infections to chronic and degenerative diseases. The report provides a table of the main health indicators for the years 1990 and 1998 for comparison purposes. Today, public health care services are provided free of charge to the population in the country's five health regions, each of which has its regional referral hospital with a network of health centres, providing primary health care service. By 1998 health care services were also available in the private sector.

In the ENHR context the report lists progress achieved in a number of the competencies of health research for development. In promotion and advocacy of research, for example, it notes that research culture has gradually improved among policy makers, health service providers, NGOs and the communities, even though there is still much advocacy to be done. In priority setting it reports on the first meeting on this subject organized in 1993 when no less than 64 topics emerged. The report notes further that, as in many other developing countries, only 40% of research recommendations were implemented, and highlights the need to steer the research agenda towards greater relevance and towards initiatives to translate research results into action. In the area of funding of research there is heavy reliance on external donor agencies, since there is, as yet, no line for research in the national health budget. In terms of capacity building the report gives an account of human resource training and the efforts made to provide a good career path for researchers to thwart the brain drain. Reference is also made to linkages with other institutions involved in health research at local, regional and international levels, with a view to enhancing the framework for health research in the country.

Health research in Nigeria - a summary

Nigeria is one of the countries included in the African Consultative Process. The report gives an account of the consultations held in Abuja, Nigeria in March 2000 as part of that process with the national Consultative Team and the National Advisory Committee on Essential National Health Research. The consultations entailed a discussion of critical issues relating to health research in Nigeria and the formulation of recommendations.

Nigeria is a vast West African country of 923,678 square kilometres, with a multi-ethnic, multi-cultural population estimated at 103 million in 1997. The population growth rate of 3.5 percent per annum is one of the highest in Africa, with 48 percent of the population under 15 years of age. Seventy percent of the people live in rural areas. Per capita GNP was US$280 in 1997, a drop from $340 in 1995, despite the country's oil production (petrol constitutes 97% of exports). External debt was 75.6% of GNP and it was estimated that 29% of the population fell below the poverty line. Health status indicators are also a cause for concern: life expectancy at birth is 50 years; maternal mortality ratio is 100 per 100,000 live births; infant mortality rate is 112 per 1000.

Medical research began to develop in Nigeria in 1920 when the Rockefeller Foundation established the Yellow Fever Commission. By 1925, the Virus Research Institute was established to service the Commission. In 1954 the various medical

research units in different parts of anglophone West Africa were brought together under the West African Council for Medical Research. Nigeria gained its independence in 1961. The report recounts the evolution of mechanisms in the country, from that date until the present, that were responsible for the management of science in general and health research in particular. The bodies mentioned include the Nigerian Council for Science and Technology (NCST, 1970), the National Science and Technology Development Agency (NSTDA, 1977) and The Nigerian Institute for Medical Research (NIMR, 1977).

By the time the Commission on Health Research for Development published its landmark report on "Health Research - Essential Link to Equity in Development" in 1990, a mechanism, namely the National Health Research Advisory Committee, was already in place in Nigeria for the adoption of the concept of essential national health research (ENHR). An International Conference on Health Research Priorities for Nigeria in the 1990s and Strategies for their Achievement was convened. A National Health Systems Research Programme was drawn up, but it was not until 1995 that a lasting mechanism was put in place for ENHR. In 1998 a consultative meeting established the ways and means of securing Federal and State Government support for the ENHR programme. A national seminar on ENHR followed in May 1999 and the National Advisory Committee on ENHR was inaugurated in March 2000.

Turning from past achievements to the present consultations, the report indicates that the objectives of the current exercise were to review the structure of health research in Nigeria, to identify its strengths and weaknesses, and to recommend action needed at the country level, as well as at the African regional and global levels. The methods used to achieve these goals began with data collection. Questionnaires were completed by senior Nigerian scientists and leaders of research institutes and university departments. The data were reviewed by the National Consultative Team and areas of apparent consensus and divergence of views were noted. A summary of the assessments was presented to a broader participatory meeting under the following general headings: enabling environment; research capacity; priority setting; resources for research; conduct and coordination of research; dissemination and utilization of research results; the evaluation of the impact of research.

A Consensus Meeting considered these issues. Participants in the consultation were the members of the newly formed National Advisory Committee on ENHR. Concern was expressed about the multiplicity of agencies involved in international health research and their roles. Questions were raised about the different conditions demanded by donors. There was a felt need to have easy access to information about who does what and under what conditions.

It was agreed that an enabling environment for health research in Nigeria should include a national science and technology policy; public support for research; government recognition of health research as a tool for development; national ethical guidelines for research; and strong professional bodies. The consensus was that the present environment was not conducive to research, since government support was poor, as shown by the lack of funding and inadequate advocacy for research. This had demoralised the research community.

Institutional research capacity of the country was seen to be strong. The level of trained personnel also appeared to be adequate. But constraints on retaining researchers were enormous as a result of poor remuneration, equipment and funding for research projects. This had resulted in the brain drain becoming a major problem. There are government plans to tackle the problem, but results have yet to be seen.

Reference was made to the established process for setting priorities through consultation with stakeholders. But the priorities set are not always adhered to, as budget allocations do not always follow the priorities. Moreover external funding sometimes distorts the priorities. Although the total amount allocated annually for health research has increased in the last ten years, Government funding has declined in real terms due to devaluation and was said to be poor. Its plans to increase funding have yet to materialize. Nevertheless, national funding for health research is still much greater than external sources.

Attention was drawn to the critical lack of coordination of the efforts of the many stakeholders in the country. The poor dissemination of information on research and its findings was also cited as a major problem. In considering ways of improving dissemination reference was made to the many papers that had been published, in local and international journals and presentations at international conferences. But acceptance for publication remains a problem, highlighting the need for training in scientific writing.

Use of research findings by policy makers and communities was described as very limited. Lack of communication between researchers and policy makers was seen as the explanation. But the lack of involvement by policy makers and the community in determining the research to be done may be another reason. On the whole there was a strong feeling that research results were not being used and that scientists should do a number of things to correct this, including advocacy to enhance the awareness of policy makers and the preparation of briefs that are easy to understand for leaders.

The Consensus Meeting made a number of recommendations to remedy these constraints on health research in the country. It recommended that a body be established to coordinate research activities. It should secure and process funding for all health research, ensure that external funding is consistent with national priorities and promote the practical use of research results. It was further recommended that the National Advisory Committee, which had just been inaugurated, should assume this role.

By way of conclusions, three critical issues emerged from the consultations. Firstly, constraints to health research are not limited to any single aspect of research. Secondly, difficulties in accessing scientific literature and publishing research findings are emphasized as a national and regional problem. Thirdly, there is inadequate knowledge about the activities and interests of international research agencies. Two possible mechanisms may be considered to solve these problems. At the national level the responsibility for monitoring each aspect of research could be given to one organization. A similar arrangement could be made at the international level.

Health research for development in Senegal - a summary

Senegal is located in West Africa, south of the Sahara, on the Atlantic Coast. It covers a territory of 197,161 km2, with a population of 9 million people. The population growth rate is 2.7%, with 56% under 20 years of age and 47% under 15. 40% of the population lives in an urban environment. The country is divided into 10 regions and each region into 3 departments.

The health system is a pyramid, characterized by a gradual strengthening of health management capacity from bottom to top. The population is represented by health committees and by the local community. In 1961 medical regions, equivalent to the administrative regions, were created. In 1991 the Ministry of Health (MOH) reinforced its policy of decentralization by dividing the country into 55 districts. The district is now recognized as the operational unit. Each district has a population of some 250,000 people and is built around 15-20 health centres or regional hospitals.

Before independence health research was entrusted to the French military authorities. It was only in 1966 that the Government set up, with the help of UNESCO, an Inter-ministerial Council for Scientific Research and an Office for Scientific and Technical Affairs. The Council was responsible for all research in the country, but was short-lived. It was replaced by the Ministry for Scientific and Technical Research, which assumed responsibilities for the coordination of scientific and technical activities and the promotion of technological development. Its strategy consisted of reinforcing existing research centres and institutes and creating new research structures. It also made use of new technologies.

In 1979 The Directorate for Research, Planning and Training was set up within the MOH. Its functions were the coordination of research, encouraging research, mobilization of resources for research and the management of research projects. There were three offices in the Research Department: the Office for Medical Research; the Office for Pharmaceutical Research; and the Office for Nursing Care.

When the Directorate was abolished, the Research Department continued to operate as a research office, but with new functions as follows:

- Identify priority axes for research;
- Develop a national programme for research;
- Define the mechanisms for coordinating research;
- Set up an ethical and legal framework;
- Define a research training programme;
- Ensure the dissemination of research;
- Seek funding for research.

In 1998 the reshuffle of the MOH resulted in the creation of a new Department for Studies, Research and Training. Its main functions were to provide technical support for government departments, national services, medical regions and the districts in carrying out research, and to coordinate research activities in general.

Senegal has recently adopted the ENHR strategy, which provides strong support for its National Health Research Programme. The 1990s were a decisive turning point in the history of health in the country. In the field of policy and planning, the period witnessed reforms, reflected in a number of legal instruments, such as the Declaration of National Health Policy (1990), the Human Resources Development Plan (1992), the Regional and Departmental Plans for Health Development (1992-1995), the National Hygiene Development Plan for the Decade (1995) and the National Health Research Plan 2000. All these reforms were undertaken on the basis of research that was financed from external sources.

In the field of biomedical and pharmaceutical research, important research was linked to a vaccine for AIDS with the support of foreign partners. The themes most frequently chosen were malaria, AIDS and therapeutic trials.

There was a notable growth of research training activities for the health system and operational research. The period witnessed improvements in financing and in assuming responsibility for the implementation and coordination of research projects. National studies were carried out in financing, decentralization and evaluation of health services, and in hospital reforms.

In 1998-1999 a series of training courses were initiated for the heads of medical districts, for primary care supervisors, and supervisors of health care for mother and child. But supply fell far short of demand, for lack of finances and logistics. From 1998 onwards the MOH allocated important budgetary resources to staff training in operational research methodology. 200 staff a year benefited form the programme, which consisted of national and regional workshops of 10-15 days. Staff of the

MOH have also benefited from training in the framework of cooperation with COHRED.

Research activities were poorly coordinated by the Office for Research Training up to 1998. As of 1999 a new dimension in coordination was introduced with the establishment of the Directorate for Studies Research and Training. This was reflected in a ministerial decision to set up a Committee of Ethics and an Advisory Committee, to strengthen the Directorate with new resources, and to introduce operational plans for the medical regions and district. But coordination remained unsound because of the delay in signing the agreements to create the Committees, the lack of material and human resources and the absence of a framework for national cooperation.

The need for a national agenda for research priorities was recognized. Background studies were commissioned and regional workshops were held to identify national needs and priorities. The results of the studies were endorsed in April 2000 and the strategies which emerged from the exercise currently guide the National Health Research Programme.

In the area of financing research in general and health research in particular, it was noted that of the total funds for medical research in the year 2000 the State contribution represents no more than 4%. 63% comes from the World Bank, 8% form WHO and 4% from UNFPA.

These figures do not include funds provided for projects on biomedical subjects and AIDS

Nonetheless, the MOH enjoys a continual growth in its budget, thanks to the partners in the Plan for Integrated Health Development (PDIS), who are determined to support the development of health and operational research in the country.

Health research for development has a number of assets. There is a flourishing environment of national and international institutions in the country. There is strong political will in support of health research and support from development partners. The PDIS approach has made it possible to attract funds for research, and national and regional seed money to promote research by creating a culture of research at the district level.

There are also a number of shortcomings which must be addressed in the coming years. They relate to the lack of coordination, the absence of an agenda for research priorities, the

Lack of importance attributed to research, poor dissemination of research findings, the lack of financing, the absence of a status for researchers, the low level of interest among the people in research and the absence of a national agency to evaluate the results of research.

Essential National Health Research (ENHR) in South Africa – a status report

The report highlights progress and challenges in the implementation of ENHR in South Africa since 1997, when the first monograph on the subject was published. It does not, therefore, recount the history and context of health research in the country before that date. Coverage dates form 1994, the year in which the Science Councils of South Africa decided to formally collaborate in promoting ENHR as a framework for health and health-related research, and when the new Department of Health took over the fragmented health system of the previous government.

The report is divided in two parts. The first catalogues the processes and developments in ENHR, with the focus on the main national institute responsible, namely the National Department of Health (NDH). A less detailed account of the work of other national institutes engaged in ENHR is also given. The second part reports on the results of a survey of health research institutions that was conducted in March 2000, as part of the African Consultative Process in preparation for the Bangkok Conference, to assess the state of ENHR in the country.

Chapter 1 gives a brief account of the background to ENHR in the country. It defines the ENHR concept and strategy and the decisions taken to adopt it in 1994, including the terms of reference assigned to the Special Committee set up to provide impetus for the implementation of ENHR. The chapter also indicates the scope, aims and structure of the report.

Chapter 2 describes the tasks facing the new department of health in 1994 and the status of health research, as indicated by the audit conducted in 1997 in all departments of the NDH by the Health Systems Research (HSR) Coordination and Epidemiology Directorate. Findings showed the preponderance of HSR and epidemiology. The survey also shed light on the funding of health research and activities relating to the seven ENHR elements, namely promotion and advocacy, national mechanism, priority setting, capacity building, networking, financing and evaluation.

Chapter 3 provides an account of work under way in other national research institutions, grouped into tertiary institutions, statutory research councils, research NGOs and private sector research.

In the second part of the report Chapter 4 incorporates primary data from two related surveys, which followed the guidelines provided by COHRED. For this purpose two detailed questionnaires were administered to a representative sample of key national health institutions in health research. Of the ten institutions contacted four, considered pivotal to health research in the country, completed the questionnaire.

On the basis of data received the report considers a number of emerging issues that correspond to the key elements and competencies of ENHR. These relate to policy framework for research, priority setting, public support, equity in health, ethical guidelines, coordination mechanisms, health research capacity , research funding, linking research to action, networking and the dissemination of findings, The report also considers options for the future architecture for health research in Africa.

The report concludes in Chapter 5 with a review of perspective challenges and opportunities for ENHR in South Africa.

Consultative Visit to Sudan - a summary

A country visit was made to Sudan on 5-7 March 2000 as part of the consultative process in Africa. The visit included meetings with the National Team, the National Consultative Group, as well as a Khartoum State Priority Setting Meeting. There were also visits with key informants and a total of six questionnaires were filled as part of the Institutional Profiles. The National Team also prepared a country overview.

Sudan is a huge country with a surface area of about 1 million square miles. The population in 1998 was projected to be 29,718,589. It is divided into 26 states with diverse cultural and geographical background. The harsh economic and geographical conditions have resulted in a variety of health problems.

Medical research in Sudan began in 1903 and centred mostly on environmental sanitation and public health. The systematic study of tropical diseases, especially research on schistosomiasis, was undertaken during the period 1913 - 1920. Great expansion and decentralization of research work took place during the period 1920 - 1934 and significant contributions were made to the evolution of tropical medicine and to the development of health services in Sudan. In 1936 medical research became an official function of Sudan Medical Research unit (SMR) of the Ministry of Health. The reshaping of research administration marked the beginning of a centrally directed research programme. Besides routine investigations, some specialised research was carried out, particularly dealing with malaria, kala-azar, cerebrospinal meningitis, yellow fever, diphtheria and also onchocerciasis.

With independence the SMR became the National Health Laboratory (NHL) and expanded to accommodate other laboratories. In 1968 the National Council for Scientific and Technological Research was established by act of parliament. This was shortly followed by the National Centre for Research (NCR), which focussed on biomedical research, and was affiliated to the Ministry of Higher Education and Research. It had five sub-committees to advise government on priorities for research in agriculture, animal resources, economic and social sectors, the industrial and medical research fields. It also set up a Medical Research Council (MRC) on which all stakeholders were represented. The NCR enumerated four problems facing scientific research in the country:

- scientific research was lagging behind national aspirations;
- specialized research bodies in various ministries were creating duplication;
- international scientific cooperation needed to be developed;
- the lack of standardized reward systems for researchers had contributed to the brain drain.

In the period 1983-1996 more than 60% of health research was conducted either by expatriates or in collaboration with them. Most was in areas which were not of immediate need to the country and only 1.1% addressed national priorities. To meet these challenges a policy decision was made in 1990 to establish within the Federal Ministry of Health a Research Directorate as the central coordinating mechanism for operational health research in the country. It was set the task of elaborating the national strategy for health research. Research itself was conducted by a number of institutions, guided by three coordinating offices: National Council for Scientific and Technological Research, The National Centre for Research and the Directorate for Health Research. Throughout the country there were 61 medical and health colleges, some of which conducted health research.

A number of major points emerged from the discussions with the National Team and the National Consultative Group. Satisfaction was expressed that a national priority setting process was under way in Sudan. In future resources should be allocated to priority health problems. The capacity to create centres of excellence in the country should be distributed evenly to ensure equity. There was strong support for the view that African ministers should take a common stand in negotiating cooperative agreements with donors. African countries should discontinue their “beggar attitude” and realize that it is their right to demand equity in health research. Similarly, hope was expressed that ENHR in Africa would be an active item on the agenda for governments, which should be urged to adhere to the Lome Convention that envisages that 1.5% of national resources would be spent on research. The health sector, participants argued, should fight for its share of resources in order to allow health research to take its rightful place in development.

Subsequent discussion focussed on the ENHR strategy as it applies to Sudan, to Africa in general and to the world at large. Within Sudan these discussions concentrated on the promotion of local health research, ways to involve the private sector, leadership development in health and health research, policies to support health care providers, ways to attract donors and funding agencies, the brain drain, and a strategic national research plan.

The National Priority Setting Meeting also highlighted a number of key issues, such as the need for effective health research coordination and management, policy formulation, the lack of donors in Sudan to facilitate health research and the scarcity of international partners because of international sanctions. Equity issues were discussed at length, as were the severe economic constraints, including the global imbalance of resources for health research between North and South. Participants advocated a larger representation of developing regions in the decision making process and resource allocations at the global level. The meeting urged the formation of an effective national networking mechanism and an effective African regional network.

The consultative visits ended with a series of conclusions. It was noted that Sudan has a critical mass of trained manpower despite a lack of expertise in certain key areas, including public health policy research and research capacity for critical analysis of issues. It also suffers a high attrition rate among its experts leaving for other countries, on account of the severe economic restrictions resulting from international sanctions. Nonetheless Sudan achieved some success despite the severe lack of resources. Comments made related to the feeling of being victims of circumstances. Participants argued that international resources and collaboration in science and humanitarian rather than political should govern research. They looked forward to see effective networking and communication with the rest of Africa so that they could learn from the experience of others and offer their own experience, particularly in the area of community participation.

Strong support was expressed for the new Directorate for Health Research, which was expected to play a key role in operational health research development and coordination. However, closer liaison between its three key institutions was recommended.

National survey of health research for development in Tanzania - a summary

The report reviews the research policy framework of Tanzania, its capacity for health research and the modalities employed to achieve these objectives, including the adoption and implementation of ENHR.

The research policy of Tanzania is coordinated by the Commission for Science and Technology (COSTECH). In February 1999, all the research institutions in the country agreed to form the National Health Research Forum, which serves as an advisory body for policy makers on all aspects of health research. The Forum's functions are based on the Essential National Health Research (ENHR) strategy.

The Government gives high priority to research, which it considers an important tool for development. It provides resources for research and makes practical use of research findings. Major stakeholders are actively involved in the promotion and advocacy of health research and the public in general is supportive, although its awareness of research objectives and results is not high. Ways and means have been explored to inculcate a culture of health research in the country through the inclusion of research methodology in the university curriculum and a closer involvement of the communities in research

Health Research Co-ordination Mechanisms have been established at institutional and national levels. Each research institution has its coordination mechanism. At the national level, it is the National Institute for Medical Research (NIMR) and the recently established National Health Research Forum. However existing mechanisms could be improved by better participation of their members, adequate funding, and more generous secretarial and donor support.

The country's institutional capacity for health research is described as fair. Most institutes have limited infrastructure, with less than adequate human and financial resources. The human capacity for health research is considered reasonable. Most research institutions are functioning, producing results, and have human development plans. There are critical shortages in the area of epidemiology and bio-statistics, but there are plans to strengthen such areas of weakness. National Advisory Committees help to build up the capacity of institutions and communities. A start has also been made in developing leadership for research through management training designed to foster a clear vision of research in the country and to prioritise research in line with available resources. Research capacity has been undermined by low salaries and poor conditions of service that have compounded the serious problem of the brain drain. It is hoped that by improving these deficiencies, the attrition rate will be reduced. Although the capacity for health research within the country is supplemented by the presence of foreign researchers, these visiting researchers contribute little to national capacity building.

Considerable effort went into the organization of the recent priority setting exercise for national health research. A questionnaire was sent to 113 districts, which were asked to indicate the top ten health problems and five socio-cultural problems. The responses were discussed at a workshop held on 15-21 February 1999, and led to the identification of a set of national priorities, using criteria developed by COHRED to rank and group them into three categories: diseases, health systems and socio-economic problems. The top ten health problems are: malaria, URTI, diarrhoeal diseases, pneumonia, intestinal worms, eye infections, skin infections, S T I, anaemia and trauma/accidents. The health systems said to be at risk included shortcomings in trained personnel, equipment/drugs, transport, funds , rehabilitation building, water supply and sanitation. The socio-cultural issues listed ranged from food taboos in pregnancy, to polygamy and witchcraft. Equity in health is also an important goal for Tanzania, as is illustrated by its national policies and current priorities. The MoH, the Research Institutions, NGOs and Health Training Institutions have formed an alliance to advocate equity in health.

Government financing for health research is said to be poor. The allocation of public funds do not yet match the national priorities and the priority setting process is not yet used as a basis for allocating funds for research. Donor financing is ranked as average. Private sector financing is considered poor. The ratio of external to local funding is about 5:1. Current fund allocations do not provide incentives for researchers.

In general, the cooperative projects with external research agencies fall within national priorities. Some include capacity building and publications abroad. N-S collaboration has brought spin-offs, such as human resource development, technology transfer and equipment left behind after the project. The benefits of S-S collaboration are capacity building, workshops and an exchange of information. Networking has also proved to be a valuable tool for cooperation. The establishment of the National Health Research Forum was the result of such networking. In setting up and maintaining a network, however, a number of challenges have to be addressed, such as a feeling of ownership of the mechanism by researchers and institutions, financing the mechanism and maintaining participation and communication.

Translating research findings in the country into practical use by policy makers and communities is described as fair, but barriers between those who generate research and those who use their findings remain. There is inadequate communication between them and a lack of satisfactory mechanisms to disseminate research findings. A case was made for launching a research bulletin and an information centre to ensure interaction between research institutions and policy makers and communities. Some research institutions are linked to modern information systems, such as Internet, but inadequate access to such systems is generally the result of poor funding and poor telecommunications in the country.

The concept of ENHR was introduced to Tanzania in 1991 and ENHR activities were endorsed a year later. These activities consisted of advocacy, efforts to coordinate activities, research priority setting and the mobilization of resources. In 1999 the National Health Research Forum became a more inclusive mechanism for the promotion of ENHR and brings together all the stakeholders of health research. It has elaborated a national plan of action for the period 1999 – 2001 that focuses on priority areas and involves policy makers and communities. ENHR activities are financed by the Government of Tanzania, the Trust Fund established by MoH and NIMR, and by donors. There has been a recent increase in Government funding, and there is promise of a further increase in the future. However, there has been no significant increase in external funding. The ENHR concept has changed the way research is organized in the last two years.

Summary of the report of the Zambia Consultative Process for the International Conference on Health Research for Development

The report, prepared by the National Team for the Zambian Consultative Process, provides background information on the action taken in Zambia in the health sector prior to the consultative process for the Bangkok International Conference. The report begins by highlighting the health reforms introduced in 1993 in response to the challenge of achieving Health for All by the Year 2000. The reforms aimed at improving government capacity to pursue national health policies, a more rational use of public expenditure, and public services that responded better to the country's health needs. The report also focused on clarifying the role of research as a tool for addressing the health problems of the country, and sought solutions to the lack of a policy framework for research that reflected an inadequate political commitment.

In 1993 the Zambian government introduced health reforms. The goal of the reforms was to improve the health status of the people of Zambia. Health research has an important role to play in the reforms. In 1998 the Workshop on National Health Research was held to identify past and current research trends in the country. The workshop stressed the importance of collaboration among research institutions in order to avoid duplication and to ensure the optimum use of scarce resources. A National Health Research Advisory Committee (NHRAC) was set up and comprises researchers from various research and service institutions in the country. One of the immediate tasks of the NHRAC was to define and formulate, in collaboration with the Ministry of Health/Central Board of Health (MoH/CBoH) and other stakeholders, Zambia's National Health Research Agenda (NHRA). Within the NHRA, seven national health research priorities were identified. These are: malaria, child health, nutrition, diarrhoeal diseases, reproductive health, STD/HIV/AIDS/TB/Leprosy, and water and sanitation.

Zambia's participation in the Africa Consultative Process began in December 1999 and intensive consultations, involving discussions with major stakeholders in health research, notably development partners, NGOs and policy makers, were held in the period March-April 2000 under the leadership of the National Focal Point. Data collection was by questionnaire and personal interview, and focussed on identifying ways to strengthen national research for development.

The findings of the consultations were presented to a National Consensus Building Meeting on 18 April 2000. The meeting was attended by 18 representatives of national institutions. The meeting discussed in depth the capacity for health research of national institutions and NGOs operating inside the country. It was noted that research had little impact on the local communities. Most of the research agendas were often developed outside the country, and even that were developed within the country, did not adequately benefit the local communities. It was also noted that the dissemination of research findings was often limited in coverage, negating the very essence of carrying out research.

The meeting reiterated the negative effects of brain drain on hum<n resource capacity and it was felt that the government should take steps to halt the retrogressive phenomenon. The meeting emphasized the need for research priority setting and the advocacy of the fundamental principle of equity in national research. Sources of funding, largely external, were

reviewed and ways considered to overcome the North/South dichotomy in research and the allocation of funds were highlighted. While it is arguable that the human resource capacity for research in the country is adequate, it was agreed that measures to reward and retain national staff were important, including training components to be built into research projects funded by external donors. Wide dissemination of available information on various research conducted in the country was judged to be of paramount importance. The absence of a health policy framework and national mechanisms for the coordination and management of the national research agenda were cited as major challenges to research development.

The report concludes with a number of recommendations concerning key areas of health research. To overcome the lack of political commitment to, and fragmentation of, research, it recommends that a policy framework for health research be formulated. To coordinate research and ensure the maximum dissemination of findings, it recommends setting up a National Health Research Council. It also recommends further steps to remove the North / South dichotomy in the commissioning of research and the allocation of funds. Measures are proposed to ensure the sustainability of the National Research Agenda. They include mechanisms that would reinforce collaboration between research partners, cooperation within the region, and would result in greater government commitment, incentives for African scientists and improving the machinery to foster more effective priority setting and equitable funding flows at both national and international levels.

Universal Declaration of Human Rights

"Whereas recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world...

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. Motherhood and childhood are entitled to special care and assistance. All children, whether born in or out of wedlock, shall enjoy the same social protection"

Article 25