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Review of North-South and South-South Cooperation and Conditions Necessary to Sustain Research Capability in Developing Countries

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ABSTRACT

The paper extracted pertinent aspects of 21 years (1981-2001) of scientific cooperation among Zimbabwe's Blair Research Laboratory (BRL), the Biomedical Research and Training Institute (BRTI), and the Danish Bilharziasis Laboratory (DBL). DBL supported the building of research capacity at BRL through PhD-level training and short courses on research training organized by BRTI. The BRL-BRTI-DBL cooperation involved institutional support, scientific training, joint research programmes, and technology transfer, and forms a basis for the discussion of North-South and South-South collaboration in this paper. As the collaboration matured, DBL researchers began cooperating with their counterparts at BRL in internationally funded research programmes and partnerships based on mutual interests and responsibilities. Several research projects were formulated under co-principal investigators from the two institutions and later extended to other European and US institutions. An impressive outturn (18 PhDs) of postgraduate students undertaking field-based PhD work was accomplished from 1990 to 2001. As the socioeconomic situation in Zimbabwe deteriorated from 1999, significant attrition of senior scientists began to affect some of BRL's core functions in support of the Ministry of Health's programmes. In solidarity with BRL, DBL and BRTI jointly implemented a management-strengthening project to reduce deterioration of research productivity by retaining mid-level research managers. BRTI, able to respond rapidly to research needs in the Southern Africa Development Community (SADC), is not in competition with national research institutions and universities. An advisory committee of SADC stakeholders sets its priorities. The framework for South-South cooperation is research training to facilitate national scientists to attract resources from local and international funding agencies. It has established a National Institutes of Health-accredited ethical review board that provides ethical assurance for BRTI and non-BRTI-administered projects. Over the last eight years, BRTI has established regional and international legitimacy, and many funding agencies accept the role of the organization in 'Third Country Training for South-South Cooperation'. The article concludes by identifying essential conditions for sustaining research capability at BRL and similar institutions in developing countries. In rolling out a new ethos for research, great expectation is placed on the success of the New Partnership for Africa Development.

Key words: Inequalities; Research; International cooperation; Developing countries

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INTRODUCTION

In recent years, there has been a renewed interest in strengthening the research capability of institutions in developing countries, particularly those of Africa. This trend took steam in the mid-1990s with the establishment of the Council on Health Research for Development (COHRED) and the Global Forum for Health Research

(GFHR). The starting point is to acknowledge that, due to severe resource constraints, Africa has continued to lag behind in scientific research to contribute meaningfully to social and economic development (1-3). The launching of the New Partnership for Africa Development (NEPAD) provides a challenge to African scientists to increase their productivity and relevance to needs of local health systems (4). The imperatives on the ground are to build North-South partnerships often with colleagues working at G8 research institutions that have scientific and financial resources. Models for such cooperation are sporadic and not always well-detailed for those wanting to engage in such North-South collaboration (5). Besides, such collaboration is largely driven by the northern partner in arrangements described as semi-colonial where substantive decisions are made by the developed-country partner, while implementation of prescribed protocols is done by the southern partner (6).

After more than 10 years of the landmark Karolinska Nobel Conference on Health Research for Development and the annual conferences of GFHR, there are few tangible examples to show a reduction in the so-called 90/10 gap in distribution of research resources (7). The International Conference on Health Research for Development, co-sponsored by the World Health Organization (WHO), the COHRED, the World Bank, and the GFHR in Bangkok, Thailand, in 2000, provided the international scientific community a platform to chart a common strategy for health research. However, three years down the road progress remains elusive in most situations. Particularly, North-South and South-South cooperation continue to suffer from failure to agree on values to base a more equitable framework for improved international cooperation.

Until recent problems associated with political differences between Zimbabwe and its European partners over land reforms, the Blair Research Laboratory (BRL) in Harare maintained excellent collaborative links with the Danish Bilharziasis Laboratory (DBL) from 1981 to 2001 (Political disagreements between the Zimbabwe and Danish governments led to closure of the Danish embassy in Harare in 2001 and subsequent termination of formal scientific cooperation between BRL and DBL). Initially, the collaboration was aimed at strengthening research capability at BRL to improve its capacity to conduct scientific research to solve health problems confronting the people of Zimbabwe. Later, the cooperation was extended to a regional non-governmental research organization—Biomedical Research and Training Institute (BRTI) founded in 1995 to coordinate strengthening of research capability in southern Africa using a South-South cooperation model.

In the next paragraphs, we have reviewed and discussed pertinent lessons in North-South and South-South cooperation based on the interactions of BRL and BRTI and with DBL and with other research institutions in southern Africa and internationally.

SUSTAINING NATIONAL COOPERATION IN HEALTH RESEARCH

In line with national health-research strategy, BRL (Box 1) encourages researchers working in health programmes, local universities, and other institutions to conduct priority research of national importance. To support national cooperation in health research, BRL manages funds specifically allocated by Parliament to support essential national health research (ENHR). (The ENHR funds were first established in 1999 with dedicated line items for ENHR and AIDS research, and these are worth US$ 300,000 per annum). In addition, it ran regular workshops on research methodology and data analysis

Box 1. Blair Research Laboratory

The Blair Research Laboratory (www.blair.co.zw), commonly referred to as an institute of the Ministry of Health, was established to conduct and coordinate public-health research in Zimbabwe. It incorporates Blair Research Laboratory (1939) in Harare, De Beers Research Laboratory (1965) in Chiredzi, and a Health Systems Research Unit (1981). The institute evolved from a laboratory with a narrow focus on disease to one with a broad multidisciplinary orientation. Its core functions are to build capacity for national research, to do priority research, and to transfer technology. BRL researchers have focused on transmission control and vector biology of human diseases (particularly malaria and schistosomiasis), parasite immunology (with a focus on HIV and tuberculosis), and public health (technology, health systems, and policy). To support this research, the institute maintains well-equipped modern laboratories capable of performing advanced biomedical techniques in molecular biosciences. Modern insectaries, snail and animal rooms provide material for investigating parasites and other biological aspects. Transport and computer facilities are adequate to meet research needs for 30 projects with laboratory and field operations. An Internet system with a local area network keeps the laboratories abreast of international trends.

for multidisciplinary teams of researchers at district level to provide them with the skills for conducting health systems research. Research findings are disseminated to peers, policy-makers, and members of the public through an annual open day and a national scientific conference in conjunction with local universities and research organizations. Members of the public are invited to tour BRL and discuss research questions and findings. Furthermore, BRL serves as the secretariat of the Medical Research Council of Zimbabwe—a statutory organization responsible for coordinating national health research, including maintaining a database of ongoing, planned and completed health research. This web-based database supports an informal network, called ZIMSHARED, of major institutions and research leaders working on health research (8) (By 2002, over 1,200 research projects had been entered into the Scientists for Health Research and Development (SHARED) database (www.Shared-global.org)). The database reduces duplication of research by knowing who is doing what and where. It also promotes team spirit and organizational arrangements for a sustainable mechanism for cooperation among national institutions.

Until recent difficulties, the institute maintained a well-respected multidisciplinary research team that was developed through a home-grown strategy to build research capacity in the biosciences (Box 2). Support was obtained from DANIDA and other donor agencies to enable scientists to undertake postgraduate education at reputable local and international universities. Using the strategy, 18 scientists earned doctorate degrees in important fields of health research, and 40 technicians earned masters degrees and technical qualifications. Projects were often undertaken with international counterparts who also benefited by basing their postgraduate research projects at BRL.

Box 2. Strategy to train and retain scientists at the Blair Research Laboratory

1. Promising first degree holders (biologists, medical doctors, economists, social scientists, etc.) are given pre-doctoral research skills through short courses in research methodology and data analysis to introduce them to field or laboratory studies. Annual enrollment at each course is about 25 persons. (The Research Methodology Training Course has been conducted by BRTI since 1996 and is also attended by participants from other research organizations in southern Africa. DBL and BRTI ran similar joint courses in data analysis using Epi Info and SPSS computer packages from 1996 until 2000. The training is for about two weeks).
2. Those with research aptitude are supported to participate in international research programmes and earn masters degrees [(1-2 year(s)] or undertake doctorate studies (3-4 years) under the guidance of DBL scientists collaborating with local counterparts.
3. The framework of research training is project-based, and trainees may be registered at local or overseas tertiary institutions. Field studies are undertaken in Zimbabwe, and if specimens need to be analyzed abroad, this is done jointly with a local scientist.
4. BRTI provides a flexible environment for project implementation for visiting international scientists and those on sabbaticals. Their presence provides an intellectually stimulating environment for local scientists to work with more experienced overseas colleagues. We encourage mentorship to incorporate training in grant writing to improve competitiveness for international funding. Some collaboration has led to the awarding of postdoctoral fellowships built within research and training projects. In recent years, this support has been important in reducing the 'brain-drain' to other countries.
5. To retain critical senior scientists, BRTI obtained a management-strengthening grant from DANIDA/ DBL to introduce research fellowships for mid-level research managers at BRL working on joint projects with their peers at DBL. The fellowships allowed 'topping-up' of salaries to enable the scientists to lead a respectable lifestyle. These scientists were monitored to ensure that they devoted their full energies on productive research without the burden of seeking a second or third part-time job in unrelated areas. The fellowships are immensely effective. We urge other donors to adopt a policy of providing salary line items for local scientists in research projects.

Impact of public-health research

Essential information from research projects at BRL has enabled national programmes to develop evidence-based interventions in important areas, e.g. malaria, tuberculosis, HIV/AIDS, health-sector reforms—identified as priority in the country health strategy (9).

***Malaria*:** Zimbabwe is one of a few countries to have run a research-led National Malaria Control Programme since 1953. In the 1950s, the programme was based on spraying homes with insecticides to eradicate endemic malaria. Entomological research on the Anopheles

gambiae complex by Green and Mahon in the 1960s led to a major breakthrough in malaria control by identifying the species of mosquitoes responsible for most transmission (39). Large tracts of virgin land in the south-eastern lowveld previously inhabitable because of malaria were opened up for large-scale irrigated sugar cultivation. Control of malaria vectors reduced drug pressure on antimalarials, such as chloroquine, making it effective in most parts of the country when there was widespread resistance elsewhere (10,11). Maps have been produced on the national distribution of malaria parasites and the Anopheles mosquito. This has allowed disease-control managers to focus on the most affected areas (12).

***HIV/AIDS and tuberculosis*:** AIDS and drug-resistant tuberculosis are serious health problems that are on the increase. It is estimated that HIV has infected 1.8 million of 13 million people (13). Research has focused on social, behavioural and epidemiological investigations on HIV/AIDS to support appropriate interventions based on condom use and health education to reduce risk behaviours and transmission from mother to infant (14-19. Scientists have been collaborating with colleagues at BRTI to type tuberculosis. They are also studying personal and institutional factors that influence access to tuberculosis services. An 18-month project on the complementary role of phytotherapy (traditional herbs) to manage symptoms in AIDS patients was concluded in 1998 (20,21,40). The findings have been made available to the public, the National AIDS Council, and other scientists. The information has also been disseminated to people living with HIV and AIDS and NGOs involved in home-based care.

***Public health*:** Research has emphasized studies that address health challenges arising from the effects of macroeconomic policies and to support reforms in the health sector. Important areas of research include studies on access to, and use of, health services (22,23), coping strategies of health workers through use of pharmaceuticals (23) and the role of private healthcare providers (24). A capacity-building unit was formed to develop the competence of health workers in health systems research. Between 1988 and 2001, over 500 health workers were trained in health systems research to improve their ability to solve problems of delivering health services (25). Health systems research is interactive and allows local managers to record the situation and the decisions taken and assesses effectiveness of programmes (26).

In addition, research has focused on basic facilities, such as toilets and protected water, as these are essential for healthy and productive lives. Before Independence in 1980, most urban households had access to these facilities while prohibitive costs, government negligence, and lack of appropriate technologies limited them in rural areas (23). The low-cost Blair-ventilated pit latrine developed in the early 1970s by Peter Morgan promoted a massive rural sanitation and health-education programme in the 1980s (27). By 2002, over a million such latrines had been built throughout the country. There have been further technological developments to promote low-cost technologies (28). Newer technologies include rainwater harvesting from rock outcrops that provides high-quality water to peasants in arid areas. Success of these health technologies emphasizes the need to carry out research and development in the country if the end-product is to be of maximum benefit.

Some of the research has given rural communities the skills to participate in planning and decision-making on health issues that concern them. In bilharzia control, for example, BRL researchers involved rural people in the cultivation, processing, and application of a molluscicide extracted from gopo, a local plant (*Phytolacca dodecandra*) (29). Researchers have also experimented with the use of Khaki Campbell ducks and a fish, *Sargochromis codringtoni*, that eats snails (30).

CREATING AN AFRICAN INSTITUTION FOR SOUTH-SOUTH COOPERATION

BRTI is an African initiative that aims to provide a centre of excellence in training and research that is both self-sustaining and independent. [The key national research institutions that collaborate with BRTI are the Blair Research Institute (Zimbabwe), Medical Research Council of South Africa, the Tropical Diseases Research Centre (Zambia), the Mozambique National Institute for Health (Mozambique), the Community Health Sciences Unit (Malawi), and the National Institute for Medical Research (Tanzania)]. It arose out of the realization that research efforts at national institutions in the SADC region were uncoordinated and weak due to poor networking, public-sector bureaucracy leading to ineffective pooling of resources. Thus, the institute is a vehicle to stimulate South-South cooperation in biomedical and health research in southern Africa (Box 3). The founders of the institute have tried to avoid the pitfalls that plague South-South cooperation, such as perennial resource constraints among collaborating

Box 3. Biomedical Research and Training Institute

BRTI (www.brti.co.zw) is a non-profit organization registered in Zimbabwe in 1995 with the Registrar of Companies. It was founded as an independent coordinating centre for excellence in biomedical and health research in Zimbabwe and other SADC countries. An advisory committee of SADC stakeholders sets its priorities. The institute undertakes internationally funded large-scale projects in the broad field of biology of disease and sociology of health that facilitate postgraduate training. Among its 11 objectives, article (a) (iv) states "... To create a critical mass of research capacity in the various fields of expertise and provide a network of competent researchers capable of providing the skill resources and support to health reform programmes and other health issues…." The BRTI framework for South-South cooperation is to facilitate national scientists to attract resources from local and international funding agencies. The main sources of income for the institute are fees from short courses and consultancies, management fees on projects administered, and income from specialized laboratory services. It has established a National Institutes of Health-accredited ethical review board that provides ethical assurance for BRTI and non-BRTI-administered projects. It has a small core staff and assists in preventing brain-drain from collaborating institutions by hiring local scientists at competitive remuneration.

institutions, competing interests, and lack of appropriate institutional arrangements to foster cooperation. Particularly, its founding philosophy, governing structure, and programmes emphasize that it is not in competition with national research institutions and universities. Local scientists are encouraged to work through their host institutions so that their expertise and experience is not lost to the country.

Over the last eight years, BRTI has established a regional and international reputation for research training courses to build capacity in the SADC region and elsewhere. Over 450 persons have participated in such research training. It has raised international funding for multi-country research projects, creation of an African database on experts and ongoing research. It also hosts scientific meetings to disseminate research findings. Many funding agencies accept its role in 'Third Country Training for South-South Cooperation.' This includes charging fees for participation in its short courses, contract fees for using its well-equipped and specialized laboratories, and overheads on project administration. This provides enough resources for the institute to be self-financing, develop its own policy and agenda, respond rapidly to emergent health issues, and support a forum for regional cooperation in health.

NORTH-SOUTH COOPERATION

One of stated aims of DBL in the 1990s was strengthening research capability in developing countries (Box 4).

Box 4. Danish Bilharziasis Laboratory

Until 2002, a central objective of DBL was to strengthen and sustain, through collaborative research and training, the capability of disease-endemic countries to carry out research required to develop and improve tools for disease control. It is this context that DBL, with the support of DANIDA, cooperated with both BRL and BRTI. Emphasis was on research capacity-building at BRL and other African institutions through PhD-level training and joint research projects. A substantial number of doctorate-level scientists were trained through DBL support and that of other collaborating institutions. DBL also encouraged linkages with WHO and other European institutions and dialogue between research and disease-control authorities (32,33). Since 2002, a new DBL is evolving with the aim of becoming a 'leading-edge centre' for practical, development-oriented research in tropical health in a limited number of countries—so-called DANIDA priority countries. These countries exclude Zimbabwe and a number of SADC countries. The new focus of DBL is not only on research but also on operational issues. This includes understanding diseases and what to do to prevent and control them. Capacity-building will be more narrowly defined.

Twenty years of collaboration between BRL and DBL has shown that effective cooperation between northern and southern researchers requires mutual respect and shared responsibilities. Initially, our linkages were limited to exchange of personnel and attachment of BRL staff at DBL to participate in short-term training.

Later, institutional strengthening should become more targeted to meet the needs of the southern partner. In the next paragraphs, we examine North-South cooperation in general and highlight how the BRL-DBL cooperation model tried to overcome some limitations.

Training and technology transfer

At the onset, we were aware that many North-South partnerships had informal and unstructured training

programmes. Some had no overt focus on the strengthening of research. According to the results of a 1992 review of the Science and Technology Programme for Development of the European Commission EC-DGXII (now known as the INCO-DC programme), northern-based institutions tended to pay lip service to training and technology transfer (31). Some were mainly interested in satisfying the requirements of bilateral funding agencies and viewed grants from the perspective of benefiting their institutions. Others followed the demands of their institutional administrators by including high overheads and salary components in project budgets at the expense of overseas trainees or cooperating partners. Often this left insufficient funds to support research strengthening at cooperating developing institutions leading to token institutional investment (i.e. limited provision of equipment, materials, and technology transfer).

BRL-DBL experiences in training and technology transfer

***Joint planning of research projects*:** Projects incorporated a formal training component and a line item for technology transfer through in-house training at DBL or other appropriate institutions. Joint planning involved researchers from BRL spending varying periods at DBL, or cooperating European institutions to participate in the development of protocols, attend professional conferences, or to learn new techniques.

***Well-structured PhD training programmes*:** DBL and BRL integrated PhD training within research projects supported by DANIDA. About 50% of BRL researchers trained at PhD level were supported by DBL. The PhD training was field-based and carried out in Zimbabwe under joint supervision with a local counterpart. Some academic training was in Denmark, and DBL provided some equipment and material for effective implementation of field and laboratory work.

***Reciprocal training*:** Later, the collaboration included joint supervision and training of Danish MSc and PhD students in tropical medicine using facilities at BRL. Other European and American students have benefited from similar field-based training.

***Scientific contacts*:** To maintain open communication, DBL supported regular short-term visits by local supervisors and students to DBL, other Danish and European centres with expertise in relevant areas. This increased scientific productivity and raised morale of BRL researchers by enabling them to participate in diverse professional interactions.

Institution building as part of research strengthening

Most institutions in developing countries, particularly those in Africa, are too weak to participate effectively in joint research programmes with institutions in industrialized countries. In the 1990s, the situation worsened following the adoption of structural adjustment programmes, which severely affected scientific productivity and retention of their best scientists. As a result, many national research institutions, including BRL, have been struggling to survive and maintain meaningful scientific activity. To ameliorate the position, it is imperative that institution building should be an integral element of strengthening research capability (34).

Ideally, institutional strengthening should be integrated into the same time scales as national health strategic plans and be long-term (5-10 years). The aim of institution strengthening should be to transform the developing world's institutions and support their scientists to reach a stage when they can generate research proposals internally, that can compete effectively for international funding. In this context, the international system of research cooperation should allow mechanisms for scientists in the South to compete for global funds on a transparent and equitable basis to include allowance of line items for salary and institutional support.

BRL-DBL experiences with institution building as part of research strengthening

***Holistic approach*:** BRL-DBL collaboration recognized early that, for effective international cooperation, there is a need for a holistic approach to institutional strengthening to include administrative and technical support. Institutional support to BRL included core office and laboratory equipment and training in computerized accounting for project and related technical infrastructure.

***Maturation of southern partner*:** DBL focused on maturing BRL from an organization needing continual investment to a sister African institution that DBL and other northern researchers could have real collaborative research with. By strengthening BRL, DBL expected it to contribute to the development of other African institutions.

***Joint initiatives and support for South-South cooperation*:** DBL supported the research-training programme of BRTI, an SADC NGO founded to coordinate and promote South-South cooperation in health research. Besides, BRL and DBL researchers went on joint consultancy

and advisory missions to support other African institutions. BRL researchers have provided a developing-country perspective in the re-development and restructuring of DBL, including the formulation of its new strategic plan.

***Flexibility and autonomy*:** DBL supported BRL researchers in the procurement of chemicals and major equipment that could not be obtained locally due to the shortage of foreign exchange. In the mid-1990s, DBL supported BRL in obtaining a significant grant from DANIDA for the refurbishment of laboratories, training facilities, and equipment. The success of this support was incorporation of flexibility and autonomy to local counterparts in determining their needs and priorities. DBL supported a management-strengthening project to reduce attrition of researchers at BRL in the early 2000 as the socioeconomic situation deteriorated.

In 2002, following the election of a conservative government in Denmark, diplomatic relationships with Zimbabwe broke down. Formal links among DBL, BRL, and BRTI came to an end. It is unlikely that any meaningful collaboration will take place among BRL, BRTI, and the new DBL under the current environment. Its strategic plan expects that, by 2007, the new DBL will be working with a 'second generation' of partner institutions. The first-generation institutions that included BRL and BRTI are expected to have 'graduated' from receiving direct subsidies from DBL to a more sustainable position based on various funding sources. This may be the case with BRTI that has been able to operate as a viable and independent organization for eight years. On the other hand, BRL, as a government organization, has been affected by the unfavourable socioeconomic conditions prevailing in the country. By the end of 2002, most bilateral funding, especially from European sources, was unavailable to BRL scientists. This situation has been ameliorated to some extent by the government coming up with dedicated annual research grants to fill the gap.

NECESSARY CONDITIONS FOR SUSTAINED RESEARCH CAPACITY

Sustaining research capacity

The unfavourable economic conditions in Zimbabwe make it difficult to sustain research capacity at BRL. Most of the gains obtained in the 1990s have been critically eroded due to a high rate of attrition among PhD-level scientists. This is because local conditions of employment have become unsubstantial as shown by exit interviews indicating that low salaries, inadequate career structures, high inflation, and deteriorating socioeconomic conditions were major reasons for resignations. Besides, researchers are frustrated when dealing with disillusioned personnel who occupy key positions in the public sector and are overburdened with programmes that lack resources, and few can participate meaningfully in the use of research findings.

For some time to come, BRL will be unable to continue its erstwhile impressive research output. When the socioeconomic environment stabilizes, there will be a need to re-develop the institution and re-establish linkages with the international scientific community. Senior scientists who have left BRL have formed a web-based Blair alumni network that continues to mobilize international grants to support research training and mentor a new crop of young scientists. Training of PhD-level scientists has shifted to BRTI that provides a cooperation model to involve BRL alumni and other international scientists in carrying out research projects in Zimbabwe. This arrangement has somewhat stabilized the situation at BRL in two ways. First, BRL researchers are able to continue carrying out research under mentorship of experienced colleagues. Second, internationally funded projects administered through BRTI allow an element for supplementing salaries that has assisted in retaining BRL researchers.

Finances

Before the current crisis, BRL researchers used to raise over 50% of resources for research from international sources. Currently, all research is now supported from a research sub-vote from the Ministry of Health, called ENHR Fund. The amount allocated for 2000 when the fund was set up was Z$ 15 million (then equivalent to US$ 300,000). This amount has been maintained in real terms and reflects a new and creative approach by the authorities to support research projects that directly address problems affecting the public-health sector (9). The Fund also encourages greater cooperation between BRL researchers and their colleagues at provincial and district levels by enhancing a research-led culture in delivering health services.

Research leadership

The location of BRL within the Ministry of Health allows it to play a prominent role in developing a national strategy to strengthen research capability at all levels. However, in the current resource-poor environment, teamwork is essential to manage and organize research

in an efficient manner and minimize unnecessary bottlenecks. The remaining senior scientists should not be encumbered with administrative chores. Their mandate should be to increase scientific productivity through effective implementation of research and training activities. The relationship established with BRTI should be maintained to build upon respectable scientific productivity. There is a need to encourage and expand the number of BRL alumni who have shown interest in mobilising international funding to support new research projects and training of young scientists at the PhD level.

From research to policy

Despite the current constraints, every effort should be made to preserve BRL as a national resource. Local researchers understand the local environment and problems of concern to the community. They are in a better position to link research to policy and action to provide greater support to the health system. Besides, they can ensure sustainability by participating in implementation of research recommendations.

There is a need to ensure that the government maintains funding for research and even increases the annual allocation. Demonstrating maximum benefit of public-health research to the population can facilitate this. It is important that the research leadership keeps open communication with the authorities and community leaders and agrees on priority areas of research.

CHALLENGES FOR INTERNATIONAL COOPERATION IN HEALTH RESEARCH

International funding agencies are becoming increasingly interested in understanding the factors responsible for low research capacity in developing countries and how the situation can be improved (35). The organization of health research in Africa should be seen from a global perspective, and there is a need to present a clear case for investments in research to reduce inequities in opportunities and resources (36). In reviewing challenges for international cooperation in health research, important lessons can be obtained from the erstwhile successful BRL-DBL cooperation that extended over two decades. There were two important elements for the success of this North-South cooperation. Cooperation was not only long-term but holistic to include various aspects of institutional support, scientific training, joint research programmes, and technology transfer. Parallel to this support, BRL established essential conditions for strengthening research capability to improve the quality of its research and attract additional resources from local and international funding agencies. Authorities can facilitate this process by ensuring a congenial research environment, free from unnecessary bureaucracy, and provide a career structure that promotes the development of critical numbers (3).

Despite the challenges of South-South cooperation, the BRTI model suggests that operational constraints can be overcome through developing research entities with a self-reliance philosophy and programmes based on cooperation with national institutions. This would remove perennial resource constraints that lead to unproductive competing interests that hinder South-South cooperation. Local scientists should continue to influence programmes of regional institutions, such as BRTI, to ensure that they serve African agenda and priorities. BRTI should prevent itself from becoming an 'annexed' international research site as has happened elsewhere (5). African research continues to be fragmented despite the growth of continent-wide networks, such as the Africa Health Research Forum (37) and the SHARED Africa network. These networks are largely donor-funded, but the funding is inadequate to build critical capacities, develop organizational mechanisms, and respond to African priorities.

There is a need to build on the platform of the New Partnership of Africa Development to stimulate African research institutions to share expertise and facilities through South-South collaboration. North-South collaboration should be encouraged to increase resource flow into the continent. Resource flow needed for research in Africa is of the order of US$ 100 million per annum (a conservative estimate), but less than a fraction of this amount is currently available. Such resources should be directed to develop and sustain research and technical expertise for effective health interventions relevant to the local situation and are economically feasible. Africa has scientists with skills to forge local and international partnerships, but the continent's capacity to exploit this rich resource depends on its ability to reverse brain drain (38) and to create the necessary conditions for retaining those remaining at national research institutions.

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AUTHOR'S CORRECTION

Prevalence of Selected Reproductive Tract Infections among Pregnant Women Attending an Urban Maternal and Childcare Unit in Dhaka, Bangladesh

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