

Statistical training in Africa: a case of teaching demographic statistics

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Abstract: Statistical training in Africa started in early 1960s and was followed by demographic training in Africa following attainment of political independence to various countries in the region. The demographic training, initially funded by UNFPA, has consisted of undergraduate degrees, post graduate diplomas, masters, doctorates and post doctorates at regional and national institutions as well as centres found outside the continent. Achievements of the training programme over several decades have included many demographic statisticians trained and helping in implementing the population related projects in the region and building capacity of several African demographic training centres. Challenges have consisted of inadequate financial support from development partners and regional and national governments, lack of scholarships for students, scarce research grants for staff and students, development partners' related issues, problems related to national and regional governments, lack of interest in supporting training of technical demographers, limitation of infrastructure for training, shortage of qualified trainers and unemployment of trained demographic statisticians. It is recommended that national governments and regional agencies provide core financing of African demographic training centres and only mobilize donor funding as supplementary. More focus should be directed to advanced research training to ensure that qualified demographic statisticians lost to brain drain and other factors are continuously replaced. African training institutions need to be more innovative and create new opportunities of sustainability when the support being received is stopped.

Introduction: Demographic issues in Africa have been important for a long time and became more important after the Second World War. For instance, population censuses in form of headcounts and assemblies were started in some countries about a century ago and modern censuses and demographic surveys were also held since late 1940s. Initially, these censuses and surveys were planned and conducted by the colonial governments using their own people. However, after African countries acquired independence in 1950s and 1960s, it was found necessary by the African governments to start training national human resources to manage population issues. The purpose of this paper is to review the training efforts of demographic statisticians in the past and present and make suggestions for the future.

In the aftermath of political independence in Africa, it was realized that African governments needed to train indigenous people in managing demographic issues of the countries, which were population censuses and demographic surveys and to replace expatriates. Hence, there was an emphasis on training technical demographers to conduct these inquiries. Because in 1950s and 1960s, there were no demographic training centres in Africa, the training was done outside the continent in Europe, North America and Australia at centres. These centres trained the Africans in technical demography including demographic data collection and analysis.

Training in demography: It was not until 1970s that African demographic training centres were set up by the United Nations to train demographers. These African centres started as regional demographic centres to train Africans from specific language groups. Regional Institute for Population Studies (RIPS) based at the University of Ghana was to train demographers for Anglophone Africa, Institut de Formation et de Recherche démographiques (IFORD) in Yaounde, in Cameroon was established to cater for Francophone Africa and Cairo Demographic Centre (CDC) in Egypt for the Middle East including the Arab Africa. The only language group not catered for was the Lusophone (Portuguese Speaking Africa) perhaps because the concerned countries got politically independence from Portugal later in mid 1970s, almost two decades after countries of other groups were independent. The idea of these regional training centres was to increase the number of demographers trained at postgraduate diploma and masters levels to meet the needs of African governments for demographers. The centres in Europe, North America and Australia also continued

training demographers for Africa at masters as well as doctorate levels. Alongside these regional centres, limited support was given to various national universities to teach courses in demography and population geography to undergraduates of sociology, geography and statistics. Universities of Addis Ababa, Ghana, Lagos, Dar-es-Salam, Nairobi and Makerere did this.

With time, the needs for demographers and population specialists expanded beyond managing population censuses and demographic surveys became multidisciplinary to include family planning, reproductive health and population related development issues. In 1980s, UNFPA decided to set up national offices with expanded programmes. These programmes were further expanded in the aftermath of the International Conference on Population and Development (ICPD) in 1994, which required UNFPA, other development partners and individual countries of the world including those in Africa to scale up their reproductive health programmes. This meant that the number of population specialists required to manage these issues increased a lot and hence, the few demographic training centres in Africa were inadequate and needed increasing. UNFPA and other development partners, such as the Rockefeller Foundation and the Population Council decided to support national universities to train demographic statisticians and other population specialists. The Population Council of New York assisted the establishment of the Population Studies and Research Institute at the University of Nairobi in 1977, UNFPA helped the set up of a department of population studies at Makerere University, and the demographic units of the Universities of Dar-es-Salam and Addis Ababa in late 1980s.

Also set up in Nigeria were population training units at Lagos, Ibadan and Ondo State universities to conduct postgraduate training. In addition, regional centres in Dakar (Senegal), Rabat (Morocco) and Gaborone (Botswana) were established by UNFPA specifically for training Africans in population and development issues at masters level in 1990s, but closed shop towards the end of 1990s. Recently, some South African universities including the Universities of Cape Town and Durban and North Western and Witwatersrand universities have been running masters' degree programmes in demography/population studies.

It should be noted that unlike training of other branches of statisticians, initial demographic training focused on training at postgraduate level. This was done by training graduates of other subjects, such as mainstream statisticians, sociologists, geographers and educationalists.

However, in late 1980s, other demographic training centres were set up in the Southern African countries of Malawi, Botswana, Swaziland and Lesotho with the assistance of UNFPA to train demographers at undergraduate level. In the last decade Makerere University also joined the Southern African universities in running an undergraduate training degree in population studies in addition to postgraduate degrees. In West Africa, a demographic training centre was set up at Awolowo Obafemu University in Nigeria, which conducted similar training at undergraduate level in addition to postgraduate training in demography.

As demographic training centres in Africa increased and the subject of demography expanded beyond demographic statistics, there was need to change topics of training. Although technical demography of data collection and analysis remained important in the training, the scope of training expanded to population studies including substantial demography and emerging issues (eg. HIV/AIDS, environment and reproductive health).

Another difference between demographic training and main stream statistics training is that the former did not have certificate and undergraduate diploma level of training that existed with mainstream statistical training. This was because national statistics offices in Africa required certificate and diploma holders in statistics to participate in regular statistics data collection and other regular activities, which are not found in demographic fields. Where low level demographic activities occurred, the certificate and diploma holders would do the work. Hence, some courses in demography, especially on data collection were taught to the diploma and certificate trainees.

While the immediate needs for population specialists to implement various population programmes in Africa have largely been met by graduates of the training institutions at undergraduate, postgraduate diploma and masters' levels, the needs for research and academia have not been satisfied. Due to constant brain drain of highly trained population specialists and demographers, it has been necessary for African institutions to keep training Africans up to PhD level in order to satisfy new demands from expanded population programmes and to keep replacing the demographers and population specialists leaving their countries and even the continent. Ad hoc PhD training has taken place at various national and regional institutions on the continent. The CDC, RIPS, universities of Dar-es-Salam, Lagos, Awolowo Abafemu, Ibadan, Lagos, Ondo State, Makerere and Nairobi and others in the region have used their meagre resources to train demographers at PhD level, but the impact has been minimal due to a few PhDs they produce.

More recently, The William and Flora Hewlett Foundation has supported PhD training at Universities of Cape Town, Ghana and Witwatersrand and the impact of the initiative on meeting the needs of Africa for PhD graduates is awaited to be seen. In addition for several years now the William and Flora Hewlett Foundation has run fellowships for PhD students who have completed their coursework and are starting research and dissertation stage. In theory, these fellowships can be competed for by those PhD students in African institutions. However, the fellowships assume that the students are following the American model of PhD of doing coursework and dissertation which is not the case in African institutions where PhD is mostly done by research and thesis alone taking between 3 and 4 or even more years depending on the challenges of research, most of which have involved field work. Although these fellowships have been advertised widely through IUSSP and UAPS websites, very few if any students in African institutions have been beneficiaries. Although, the fellowship scheme pays for 2 years of tuition when the beneficiary is being supported, it is assumed that the student had funds to sponsor him/herself during the pre-dissertation period, which is difficult for the majority of students at the African institutions.

Perhaps a more promising scholarship scheme is that started by a Consortium for Advanced Research Training in Africa (CARTA). These are recent fellowships available to the consortium of 9 African universities and four African research institutes in collaboration with 8 universities and institutions from the developed regions. One of the aims of CARTA fellowship programmes is supporting promising African scholars who teach at affiliated universities to obtain high-quality doctoral training in public and population health-related fields. This aim is in response to the great challenges faced by Africa's institutions of higher education in addressing the training and retention of the next generation of academics in the region. The programme offers a substantial number of PhD fellowships; for instance 25 are currently being advertised for academic year of 2011/2012. These fellowships are tenable at the 9 participating African institutions and give to the PhD candidate a monthly stipend, grant for research, laptop and relevant software and funds for conference attendance and advanced seminars organized annually by the program to strengthen the background of candidates in conducting research. Each fellowship runs up to four years, which is adequate for PhD programmes run by African institutions. On the surface, this fellowship programme seems to have addressed the current shortage of fellowships for African population institutions which need to further train their academic staff in order to enhance the capacity of the institutions.

However, this programme is not exclusively for the field of population studies/demography, but other fields. This implies that out of 25 fellowships for 2011/12, the field of population studies may end up with a few fellowships per year, which is a drop in the ocean of the demands for training from population training institutions in the region. Secondly, the fellowships are given to candidates doing research in health related topics, which excludes those researching in other areas of population studies and demography, such as migration, demographic modelling that cannot relate their topics to health. Thirdly, it is not clear who is to pay tuition fees of the beneficiary.

Other scholarship schemes that have been set up to help in the training of PhD candidates in demography/population studies include THRiVE (Training Health Researchers into Vocational Excellence in East Africa) supported by the Wellcome Trust of England, IRD (French Research Institute for

Development) fellowships and the Commonwealth scholarships. THRiVE scholarship programme which started in 2011 involves support of 4 years to PhD candidates that have been registered in the home partner institutions in East Africa. The candidates are mentored and supervised by academic staff from the East African institutions jointly with academic staff of Cambridge University and the London School of Hygiene and Tropical Medicine. Post-Doctoral candidates are also supported by THRiVE. The scheme enables beneficiaries to visit Cambridge University and London School of Hygiene and Tropical Medicine to access specialized training courses, lectures and seminars. However, the scholarships are for health researchers not for demographers/population specialists who may benefit because of their research project being related to health and are exclusively for seven East African institutions, including only 3 universities out of which demography/population studies is taught in only one. As a matter of fact out of 13 PhD candidates and four post-doctoral fellows supported in 2011, there is only one demographer/population specialist.

The IRD fellowships are from a French based Research Institution for Development. These fellowships are also for partner institutions in the developing world where IRD researchers are based. PhD candidates who are working in a country team with IRD researchers are eligible to apply. The fellowship scheme is not for demographers and population specialists alone, but for many disciplines, including agriculture, climate change, energy, environment and natural resources. This makes the fellowships very competitive for demographers/population specialists and hard to get.

The Commonwealth scholarship schemes have been in existence for a long time and have helped some institutions in the Commonwealth to train population specialists up to PhD level. However, these scholarships are few and highly competitive between Commonwealth countries, institutions and within the institutions and a demographers/population specialists winning one of the scholarships will be rare.

In 1970s, and 1980s, UNFPA used to have PhD scholarships attached to their training institutions, like RIPS, IFORD and Makerere for training staff, but were discontinued in the last two decades without explanation to the beneficiary institutions.

Another approach of training population specialists is use of short term courses. This is a popular approach to development partners who argue that the approach is a less expensive way of converting non-population specialists into population specialists. Hence, sociologists, economists, doctors, geographers, social workers and others have been recruited by many international and national agencies to manage population issues. The assumption is that after undergoing short term courses these professionals related to demography will improve their skills and perform the same tasks as those trained to be demographers. While this approach has worked for professionals working in population policy and programme areas, the professionals have found it difficult to do the job of technical demographers, such as planning population censuses and surveys, collection, processing, analysis of their data and preparing reports.

Achievements: Over several decades of training African demographers and population specialists, the continent has registered several notable successes. Hundreds of demographers and population specialists have been trained in Africa and overseas. The national and regional training institutions have produced many population specialists that have been instrumental in the implementation of various population related programmes. This has ensured successful implementation of International Conference on Population (ICP), MDGs, HIV/AIDS and other population related programmes in the region. Also implemented are population censuses and surveys conducted in all African countries.

Secondly, as these training programmes were being carried out, it was necessary to set up and build capacity of the training institutions. All over Africa, especially in the Anglophone countries, many national population training institutions were set up to supplement and compliment the regional institutions to equip many Africans with skills to plan and manage population related programmes in the region. While the initial capacity of the regional training institutions were heavily funded by development partners, many of the national institutions were greatly assisted by the national budgets to start and conduct the programmes. For instance most of the instructors at these centres are being paid by funds from the national sources. In some

cases, like Makerere university, Uganda, the financing of the training programmes, such as payment of tuition fees, research expenses, accommodation and other student maintenance expenses were mostly funded by national governments and parents. This has ensured sustainability of these training programmes. From the tuition fees, the training institutions topped up salaries and wages of their employees and bought computer equipment for training the students.

Challenges in population training of Africans: The first challenge has been financial. All the regional training institutions were started with initiative and funding from UNFPA, with little input from the African governments in the subregion served by the institutions. UNFPA used to pay for scholarships for supporting subregional students at the centres and for expatriate staff. When later UNFPA stopped funding these institutions, the support from subregional governments was not forthcoming and for sometime the institutions were limping financially until the host governments took over the responsibility of financing them as in case of Regional Institute for Population Studies (RIPS) in Ghana and Cairo Demographic Centre (CDC). However, in the process, some of the institutions lost the capacity to attract regional students without scholarships to support the students and to employ expensive international and regional academic staff. Other institutions like the ones in Botswana and Rabat conducting population and development programmes were closed and their programmes restructured and integrated into the national institutional teaching programmes, which had different goals.

Even with the national training institutions, when they lost the substantial support from the development partners, they started limping. The training centres in Dar-es-Salam, Nairobi and Makerere were greatly affected by the phasing out of funding by UNFPA and other development partners. Their capacity in terms of equipment is inadequate and does not fully support the number of students at the centres. The institutions also have space limitation and cannot expand enough to serve their national needs. Some of the masters programmes have been attracting few students because of lack of scholarships for students.

The lack of research grants to academic staff has discouraged staff from doing research where several students can benefit by using data for their dissertations. This problem has also created low morale among academic staff who cannot publish and hence cannot be promoted and develop their careers, leading to the staff spending much of their time doing consultancies often leading to abandoning the academic career for outside opportunities to fulfil their goals and ambitions. Furthermore, shortage of scholarships to students has resulted into students spending a lot of time doing jobs as they study to ensure survival of themselves and family. Others have dropped off from their studies midway due to lack of money to continue, especially at the stage of dissertation. This problem has affected many of the students that originally registered and completed their coursework in East African institutions.

Another challenge is about problems related to development partners. Some development partners are now interested in institutions with enough capacity to match the resources of donors. They need human resources and space capacity on the ground, which are not adequate in most of African centres. As a result, the development partners have decided to support South African institutions with financial muscle to provide space, equipment and human resources to match the support from donors. In the process, the poor African centres have lost out on the support and hence found it difficult to train anymore.

Insistence that the research priorities of donors be adhered to is a further challenge to the training of African population related specialists. Often donors decide that their research money is given to investigate particular topics. Institutions and individuals who need money to carry out research that may lead to PhD may have a priority that is different, which disqualifies them from benefiting from the support. In Makerere university there were several scholarships to support PhD and masters research in topics like food, nutrition and value addition, which are remotely related to the population studies/demography fields. Unfortunately, some donors do not sit down with institutions to agree on the priority areas of research.

Donor fatigue is another challenge to the training of population specialists for Africa. In the 1970s and 1980s, population issues were very popular for funding and there was a lot of support to funding Africans

who wanted to study population studies. In early 1990s, Rockefeller Foundation gave a demographic training grant to Makerere where anyone admitted to MA(demography) programme was funded to completion of studies. Using this grant, Makerere trained many demographers and population specialists for Uganda, which has ensured availability of demographers and population specialists that have sustained the current needs of the country. UNFPA had similar arrangement for the university of Dar-es-Salaam that met the needs of Tanzania at the time. However, in the last one and half decades, it has been a big challenge to raise money from the same development partners to support training demographers because the donors are tired of supporting this area and have moved on to other fields, such as agriculture and medicine.

Problems related to African governments have also been challenges to training demographers. Many African governments are not investing enough in training population scientists. This is because university education is not a high priority of many African governments. The government funding of its universities is limited and very little if at all is allocated to postgraduate and research degree studies, the level at which demographers are mostly trained. Secondly, some government leaders are not convinced of the need to solve current population problems like high fertility and high population growth rates and hence they are reluctant to support studies and research that would contribute to the solution of population problems.

Recently donors have avoided funding demographic statisticians. Any recent funding of training population specialists in Africa has focused on areas related to reproductive health and very little has been devoted to demographic statisticians or technical demographers. As a result, very few students who are training are encouraged to specialize in demographic statistics. This has meant that population census programmes usually planned and conducted by demographic statisticians have shortage of national expertise to advise and manage the data collection, processing and analysis. It is not surprising that many African statistical offices continue to rely on foreign experts to do the censuses and surveys.

Space and inadequate qualified academic staff have been challenges to several African population training institutions. All population training institutions are being funded by their national governments with limited budgets which cannot afford putting up infrastructure. Because of limited infrastructure in terms of offices, lecture rooms, laboratory rooms and libraries, the institutions have found it difficult to admit large numbers of students into their undergraduate and postgraduate programmes. To make the situation worse, the instructors are inadequate and would not be enough to supervise large numbers of students. This is because the institutions lack the capacity to train more academic staff up to PhD level and sustain them.

Unemployment for graduates in Africa has discouraged suitable students to register for admission to population training programmes. Many Africans after successfully completing their undergraduate work in demography are unemployed, in spite of the many needs by various employers for their services. The reason is the lack of coordination and policies by many governments on whom they need. Sometimes, due to lack of proper planning and often due to corruption, many positions of demographers are vacant when those who are supposed to fill them are on the streets looking for jobs.

Way Forward: The past has witnessed many achievements which need to be sustained and improved on. To do this African governments should realize that they need to support these training institutions and own the programmes that would produce specialists to be used to solve African population problems. Secondly, development partners funding should be considered by African institutions as supplemental, rather than core funding of training facilities. Also, the development partners need to be more flexible and fund countries' priorities more than their own agendas. Thirdly, after several decades of not training demographers at PhD level, it is necessary for UNFPA as the leading player in the field of population, to think seriously reviving their advanced population programme with the aim of replacing the aging researchers trained in 1970s and 1980s. Such programme should now be implemented by the African institutions as in-house training, as a way of reducing brain drain. In addition to being supported by their governments and development partners, the African institutions would need to be more innovative and create new opportunities of sustainability when the support will be stopped.