

# Eritrea's Science is Alive and Kicking

Nature Magazine has published a defamatory article on Eritrea (Nature News/Feature, 31 October, 2012) entitled "Eritrea's shattered Science". For reasons that defy explanation, the author, Ms. Shanta Barley, went on a rampage to confuse facts with fiction, truth with false, and science with politics to infer, in a rather shoddy manner, that "Eritrea was making promising strides in medicine...before the government clamped down on its foreign partnerships".

Ms. Barley had earlier informed the Orotta School of Medicine about her intentions of writing an article on the subject in order to, in her own words: "let the world know that science is far more advanced in Eritrea than most people realize, [and] the reality is that the past decade has seen some really big jumps forward via the Orotta School of Medicine". However, contrary to her private pronouncements to the Orotta School of Medicine and without visiting the country to conduct meaningful research on the ground, she turned to murky sources to denigrate Eritrea's institutions of higher learning and to use the prestigious Nature Magazine as a medium for promoting, in cahoots with other external detractors of the country, sinister political agendas rather than science or medicine. Indeed, her principal sources and reference points were none other than a couple of quislings and disgruntled Eritrean professionals in the Diaspora, or those who have little or no knowledge about Eritrea's past or present realities, as well as some expatriates who simply anoint themselves as experts on the country on account of one or two short field visits.

## **The Facts on the Ground**

In reality, what is "shattered" is not "Eritrea's science" as Ms. Barley wrongly contends, but truth itself, which was the principal casualty of her sloppy journalism. Otherwise, in as far as the prevailing status and what has been put in place at the Orotta Schools of Medicine and Dental Medicine are concerned, facts on the ground speak for themselves. And the good news is that science in Eritrea is alive and kicking.

Eritrea has succeeded in establishing a medical school in 2004 and a dental school in 2007, and both are up and running. A graduate school of biomedical sciences is also on target to be launched in the near future. In the same vein, the Orotta Postgraduate Medical Education program, which was established with the help of the George Washington University School of Medicine in 2008, is in the process of solidification and expansion under the auspices of the Orotta School of Medicine.

Within nine years of its existence, the Orotta School of Medicine has succeeded in training 176 doctors while the Orotta School of Dental Medicine shall graduate 24 dentists in 2014. At present, there are 311 medical and 80 dental students pursuing their education. The Post Graduate Medical Education program, on its part, has been able to train 15 pediatricians, 5 gynecologists, and 5 surgeons during the past five years. Four residents in each of the three disciplines are now under training.

Some of the hallmarks of the Orotta Schools of Medicine and Dental Medicine are the dedication of faculty members, who consist of both Eritrean nationals and expatriates, and the active engagements of faculty members and medical and dental students in scientific research. Naturally, these research materials are routinely published in local and international journals.

Furthermore, medical students at the Orotta School of Medicine have to sit for external examinations given by faculty members from the Gezira University Faculty of Medicine, Wad Medani, the Republic of the Sudan, itself a member of the WHO/World Federation of Medical Education (WFME), after completion of their seventh year of schooling. In this rather standard academic exercise, the external examiners are bestowed with an 80% power to fail or pass any student of Medicine before entering into a one year Internship training phase and then graduate with a degree of Doctor of Medicine. The Orotta School of Medicine is undergoing through a process of recognition regionally and for accreditation internationally by WHO/WFME. In 2010, the School was commended for its performance by the WHO/WFME following a rigorous review conducted by the WHO/WFME evaluation team during a one-month long site visit. According to the WHO/WFME summary report, the Orotta School of Medicine has achieved in six relatively short years, a task that would have normally taken thirty years. Contrary to the public assertions of Ms. Barley and her cohorts, Eritrea is thus still, borrowing her own words from her private communications to the School, "making promising strides in medicine".

The Orotta School of Medicine has solid partnerships with Institutions in Africa, Europe, Asia, and of course, the Americas. Levels of partnership may vary from institution to institution and country to country, but the spirit of cooperation is still there. In Asia, there is solid cooperation with the University of Hokkaido, Japan and several Universities in the People's Republic of China. In Europe, there are exchange and overall cooperation programmes with universities in Sweden, Norway, Italy, Switzerland, and Germany. Similar arrangements exist with universities in South Africa and the Sudan in Africa and with universities in Cuba and the United States in North America. In the United States in particular, the Orotta School of Medicine has long-standing relationships with Boston University, Tufts University, Yale University, Harvard University, and Washington University at St. Louis. The School of Medicine continues to cultivate more cooperation with other institutions of tertiary education while working to consolidate existing ties.

Eritrea's recognition of the significance of international partnership is not a recent phenomenon. Even in the thicket of war and destruction of thirty years, Eritrea sought partnership with institutions of higher learning as well as with humanitarian and political organizations of varying persuasions, including in countries where the governments of the day pursued policies of hostility against Eritrea's fundamental rights for national freedom and dignity. Notable among these were scholars from prestigious universities, including Nobel Prize winners, political figures, and humanitarian personalities from the United States, who stood their ground and fought against injustices directed at the Eritrean People. In peace time, individuals like Prof. Jack Ladenson and Prof. David Windus and his group of Washington University and professors from both Yale University School of Medicine and Harvard Medical School have provided the Orotta School of Medicine with valuable assistance. While Prof. Ladenson personally assisted the Orotta School of Medicine with all the books it needed, Prof. Windus and his group were able to teach Internal Medicine on modular basis to the medical students of the School for several years. The list goes on.

### **Confusing facts with Fiction**

Ms. Barley has either deliberately distorted these facts or her sources have fed her with fiction. We will cite the following for purposes of illustration:

1. Her assertion that "...after US universities helped to establish postgraduate training and research programmes in Paediatrics, Surgery, and Obstetrics and Gynaecology at the institution, Eritrean medical scientists published their first papers in international peer-reviewed journals" is not correct. Eritrean medical scientists started publishing article in 2005 following the establishment of the Orotta School of Medicine, way before "US universities helped to establish postgraduate training and research programmes" in 2008. One of the prides of the Orotta School of Medicine is the intensity and rigor of the research component that was embedded in its curriculum from the outset. Indeed, all medical and dental students are trained for five and half years in the arts and sciences of journal reviews and scientific presentations on a weekly basis. They subsequently write research proposals on their own and, once approved by the Schools' Department of Research and Development, they submit them to the National Board of Medical Research for review and final approval. Students undertake investigations, write theses, and publish them in both local and peer-reviewed international journals.

Faculty members and students of the Orotta Schools of Medicine and Dental Medicine have published over 25 peer-reviewed articles in both national and international journals as well as four books from 2005 until 2011. Ten more articles are ready for submission for publications, while additional 22 articles are under preparations. The notion that "...

progress in Eritrean science has now gone into reverse” is thus grossly unfounded and at variance with the existing evidence. Ms. Barley was indeed provided with evidence to that effect. But, for reasons better known to her, she chose to ignore them and to omit the research strategies of the Orotta Schools of Medicine and Dental Medicine and the attempts made thereof on the subject in her diatribe.

2. Ms. Barley further claims that “the killing of the only university [University of Asmara] was simply to prevent the students from all being in one place, where they had the power to rise up”. This is not only factually wrong but also outright silly. For one thing, the Asmara University campus is at present occupied by the Orotta Schools of Medicine and Dental Medicine, the Postgraduate Medical Education Program, as well as the Law School. The Asmara College of Health Sciences is also located in the same area. With the expansion of access to tertiary education on which the Government invested heavily in the past ten years, the student population in these three institutions of higher learning alone has always been and is much bigger than what Asmara University hosted when it was the sole university in the country.

The Government’s decision to allocate relatively high investment funds to tertiary education and open seven new institutes and colleges in 2003 was rightly prompted by the desire to substantially increase access to tertiary education. The decision was also based on the Eritrean Government’s white paper that reviewed the overall education program, with a primary focus on access and quality of education, curriculum review to ensure international standards as well as the right mix of academic/tertiary and vocational and technical education in terms of their optimal alignment with the country’s development agenda. For very obvious reasons, all these new institutions were not situated and clustered in Asmara alone. The Government’s policy is anchored on equitable development, in as much as this is economically feasible, in all the administrative regions and districts in the country. In addition, there were other practical considerations that influenced the location of a given institute of higher learning. The new Hamelmalo Agricultural College is, for instance, situated northeast of the town of Keren in Anseba Region, primarily because of geographical features that allow students to be trained in dry land agriculture, which is relevant to Eritrea’s ecological reality. The College of Marine Science and Technology is situated in Massawa as marine life and resources are concentrated in the Red Sea Regions. The College of Arts and Social Sciences is situated in Adi Keih, Dehub Region, because of the richness of our history, culture, archeology, and the arts in that part of the country. The Eritrea Institute of Technology, which focuses on engineering, computer science, the natural sciences and education, is located at Mai Nefhi in the outskirt of Asmara for reasons of space and future expansion. The Halhale Business College is situated around 25 miles South of

Asmara in the Debub Region, again for reasons of rational spatial distribution. The Hamamos post secondary school certificate and diploma schools and programmes, with emphasis on skills development, are located in Sawa, Gash Barka Region, and they are being expanded. It must also be pointed out that these colleges and institutes have their own expansion programmes that would enable them to open branches in other areas of the country. That Government plans envisage the establishment of other new institutes and colleges in several other new areas or added to existing locations is too palpable to merit explanation. Only a crooked mind can be oblivious to these realities.

In terms of student population, the Eritrea Institute of Technology alone has over 6,000 students enrolled at this time as compared to about 1,500 students, who used to attend each year at the former University of Asmara. The total enrollment of students in the seven Institutes of Higher Education is more than 12,000 in the academic year of 2011/2012. So much for the student number game and “the power to rise up” against the Eritrean Government saga! And so much for the lies and distortions of facts! University education in Eritrea has expanded by more than six fold in the past eight years.

3. It is true that the Eritrean National Health Laboratory in Asmara has cut ties with Washington University School of Medicine in St. Louis, Missouri, but this should not be out of the ordinary. Indeed, it should only be seen in the normative context that partnerships may end one day by either party in earnest as they were set to begin in the first place. The assistance given by Washington University, spearheaded by Prof. Jack Ladenson, was immense and is highly appreciated. However, to say that because of the discontinuation of such partnership “potentially [sets] back many gains that the country [Eritrea] has made in public health” is a bit over stretched to say the least. To the contrary, the National Health Laboratory is about to be expanded in terms of infrastructure, laboratory equipment, supplies, external quality control scheme, laboratory procedures that shall include viral loads for hepatitis B and C and HIV, early infant diagnosis for HIV, new TB culture center, diagnosis and drug sensitivity tests center, common tumor antigen detections, staff development, and the list goes on. The Eritrean Ministry of Health, in collaboration with Global Fund and UN agencies, is set to focus on prevention, diagnoses, and treatment of TB, HIV, and malaria at a larger scale.
4. Ms. Barley’s incisive assault on Eritrea’s higher education system and defamation of the government is curiously sprinkled by a positive portrayal of the liberation struggle. Ms. Barley thus rightly acknowledges the “remarkable credentials” of the EPLF and describes in some detail the early foundations for the advancement of science that the Front set up during the trying times of the liberation war. What Ms. Barley has evidently missed is the fact that it is the same organization and the same people that fought for

freedom who are now working for justice, peace, progress, and prosperity. Furthermore, in those times as it is also true today, the EPLF's practices and track record were unjustifiably sullied by various press outlets in the United States for sinister political purposes that had nothing to do with truth or reality.

### **Politics or Science**

Ms. Barley's article goes beyond the realm of academia to venture into the minefield of politics in a pathetically amateurish way. What we find more baffling is the editorial laxity of Nature Magazine and their apparent desire to accommodate her substandard and overly unprofessional approach. To highlight some of her excesses:

1. Ms. Barley blandly tells us that "President Isaias Afewerki is severing partnership with all US universities". She then speculates that "the severing of ties may be a backlash against the United States and the United Nations over their criticism of Afewerki's human-rights record". Had she cared to examine the Charters of these colleges, she would have realized that these institutions have overall academic autonomy and operate independently without undue interference and micro-management from any Government authority. Her assertion is also factually wrong. For instance, the Orotta School of Medicine had a strong working relationship with Yale University School of Medicine for years whereby the latter sent its final year Internal Medicine residents to Eritrea, mingled with Eritrean doctors, residents, and medical students and trained themselves aptly in Asmara as well as in remote Eritrean hospitals. However, the program was terminated on Yale University's own priorities and accord. Still, the relationship on the exchange of faculty members and curriculum review and development between the Orotta School of Medicine and Yale University is still continuing to this day.
2. The author further claims that "[President] Afewerki ordered all scientists from George Washington University - including Dr. Mezghebe - to leave the country". First of all, Dr. Mezghebe is an Eritrean citizen and he cannot be asked to leave the country. What is true is that he has taken a leave of absence in accordance to standard academic practices and regulations. Incidentally, he was in Asmara few months back for the wedding of his daughter. Secondly, "scientists" from George Washington University were not ordered to leave. But, the partnership arrangement was not continued, essentially because some of the fundamental conditions of the initial agreement particularly that refers to raising the requisite funds by George Washington University and Physicians for Peace, could not be met.
3. Ms. Barley also tells us that "[President Isaias Afewerki] thinks that the American doctors who come to save Eritrean lives are actually CIA agents. How she has ascertained this

preposterous accusation is of course not explained. For her serious readers, such cheap slander vividly shows the extent of her irresponsibility and sloppy journalism.

4. Ms. Barley also doubles as a mouth-piece of Ethiopia when she claimed that “President Isaias Afwerki invaded Ethiopia in 1998”. To the contrary, it is common knowledge that it was Ethiopia, with fanfare and highly publicized propaganda, which declared the war. Still this is beside the point. Unless Ms. Barley has been enlisted in the campaign of demonization of the country and its leader that has been launched by certain countries for several years now, one wonders the relevance of this issue in an ostensibly “objective and non-political survey” of the status of medical education and scientific research in Eritrea.

To make all sorts of unwarranted and unfounded allegations against the person of a head of a state, government, and people of a country solely on hearsays provided by a couple of disgruntled individuals is not science, but dirty politics. It makes it doubly suspect when the opinions of the main actors, the institutions and individuals Eritrea had (or still have) partnership with, are particularly not included. To take the opinions of few quislings and make inference from it is bad enough, but to have it accepted and posted in Nature is disgraceful.

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