

## PROMOTING COMMUNITY OWNERSHIP & WOMEN'S PARTICIPATION IN SCIENCE & TECHNOLOGY EDUCATION

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### Abstract:

How can we who are fortunate enough to have been trained in resource-rich environments find a way to help our children at home, in our respective African countries get trained aided by the resources they need; how can we who are in academic institutions with the resources that help us be better teachers and researchers, help our brothers and sisters at home find ways to provide the kind of environments that foster an appreciation of the process of discovery that in turn, promotes learning? What are some of the steps that we have to take to move into the 21<sup>st</sup> century? We can no longer wait for someone else to do it for us. **Together**, at home and abroad, we need to *initiate* the necessary steps; we have to realistically assess our needs; we have to foster *partnerships*; we have to *actively participate*; we have to be *committed*; we have to carefully and scientifically evaluate the outcomes of our efforts...*our efforts may be short term, but the overall gains are long-term.*

Promoting community ownership involves *creating opportunities* for our people to participate in the *control*, participate in the *decision-making processes*, and participate in the *ownership* of the places where they work and the places where they live.

Promoting women's participation in science & technology education requires first, providing environments that cultivate competence and confidence. On a daily basis, as mentors and as teachers, we have the opportunity to nurture, to support and to encourage young girls to appreciate the process of discovery and the wonders of science.

*By way of briefly providing a glimpse of my experiences in Liberia about a month ago, and by recalling a minor incident that involved a little girl, but one with a potentially major impact, I hope that you will be able to appreciate the many ways each of us can contribute to promoting community ownership and to promoting women's participation in science and technology education.*

### The Road Back Home

Recently, I spent a month from May 18<sup>th</sup> - June 19<sup>th</sup> home, in Liberia after 17 years of being away. Liberia is located on the West Coast of Africa between Sierra Leone on the west, Guinea on the north, the Ivory Coast (Cote d'Ivoire) on the east, and the Atlantic Ocean on the south. The last time I had traveled home was December 1989. I was heartbroken when I actually saw,

heard, and felt the *reality* of what two decades of war and neglect can do to a country and its people. I thought I had a sense of what to expect, I had kept-up with reports through the media, I had seen pictures, but the reality of it all was something else!

Scars of war and neglect are evident in every aspect of life and living in Liberia today. But Liberians are resilient and Liberians are hopeful for a better Liberia.

Although I am speaking about Liberia many other countries in Africa today share a similar story of war, neglect and hope for a better tomorrow. How can we as Africans in the Diaspora make contributions that are assets to that hope? How can we who are fortunate enough to have been trained in resource-rich environments find a way to help our children at home, in our respective African countries get trained aided by the resources they need; how can we who are in academic institutions with the resources that help us be better teachers and researchers, help our brothers and sisters at home find ways to provide the kind of environments that foster an appreciation of the process of discovery that in turn, promotes learning? What are some of the steps that we have to take to move into the 21<sup>st</sup> century? We can no longer wait for someone else to do it for us, we have to do it for ourselves, and, we have a lot of catching up to do! I look at Liberia with about 3 million people, in a country with a land mass of 43,000 square miles and 360 miles of beautiful coastline. I look at the natural resources that such a small country is on record of possessing, not even including the natural resources that have yet to be officially declared! I look at the talented and expertly trained Liberians just in the USA, not even including those in other parts of the world. If Liberians in the Diaspora and Liberians at home really got their act together, Liberia could really rock!

If Africans in the Diaspora and Africans at home really got their act together, Africa could really rock!

I spent 15 years of my life in the United States preparing to be a researcher and science educator, after which I spent an additional 20 years as an educator in the United States. I left Liberia in 1970 after a year at the University of Liberia to complete my undergraduate education at McGill University in Montreal, Canada. I then completed my PhD in Anatomy/Neuroanatomy in 1980 at Howard University School of Medicine, Department of Anatomy, in Washington D.C.. That was followed with 6 years of Postdoctoral work at Emory University School of Medicine Department of Anatomy, culminating in 1986 with a faculty position at Florida International University in the Biological Sciences Department.

During my return visit home it is not surprising then that a large amount of my time was spent talking with educators in and around Monrovia, the capital city and seeing where they worked. I wanted to hear what my sisters and brothers (most of who had stayed at home through it all); I wanted to know what they had to say. I wanted them to show me where they worked, the conditions under which they had to work. I wanted to know what their needs were. I wanted to hear from them how we in the Diaspora could help. All too often "helpers" barge into communities, unilaterally determine what the communities's needs are, and determine how the needs will be met, without conversing, listening and hearing what the *actual* needs are. I spoke with students, educators and administrators (including the University President) at the University of Liberia (LU); spoke with students, instructors and administrators (including the Dean) at the medical school (A.M. Dogliotti School of Medicine); spoke with students and instructors at LU's Fendall Campus, where the agriculture students are and where the main campus will be relocated in the not too distant future; spoke with students, teachers and administrators at the Tubman National Institute of Medical Arts (TNIMA) which houses the School of Environmental Health, School of Physician Assistants and School of Nursing & Midwifery, as well as with students, teachers and administrators, of my high school, the College of West Africa. Believe me; I cannot adequately describe the conditions under which teachers have to teach. But more importantly, the conditions under which students are expected to learn are even more heart wrenching!

Each and every time I asked 'what do you need', the answer was always a resounding "everything"!!

The day that I met with the Dean of the Medical School, during our conversation when he found out that I was a neuroanatomist, he invited me to give lectures to the first year medical students. I was on a personal fact finding mission, I had not planned on giving lectures, but how could I refuse. So I spent a few days preparing, and did just that, give three 2 hour lectures that provided the 1<sup>st</sup> year medical students with a framework and foundation that I hope threw some light on understanding the human nervous system, paving the way for future lectures. On another occasion during a casual, social chat with the Chief Medical Officer, when he found out that I had been teaching a Biology of AIDS course for close to a decade, he invited me to give a talk on HIV/AIDS during grand rounds at the JFK Medical Center. How could I say no (even though I did initially)? Ultimately, I accepted the invitation and gave a talk on HIV/Prevention and Considerations for Developing Effective Prevention Programs.

And so I pose these questions again: How can we who are fortunate enough to have been trained in resource-rich environments find a way to help

our children at home, in our respective African countries get trained aided by the resources they need; how can we who are in academic institutions with the resources that help us be better teachers and researchers, help our brothers and sisters at home find ways to provide the kind of environments that foster an appreciation of the process of discovery that in turn, promotes learning? What are some of the steps that we have to take to move into the 21<sup>st</sup> century? We can no longer wait for someone else to do it for us. **Together**, at home and abroad, we need to *initiate* the necessary steps; we have to realistically assess our needs; we have to *foster partnerships*; we have to *actively participate*; we have to be *committed*; we have to carefully and scientifically evaluate the outcomes of our efforts...*our efforts may be short term, but the overall gains are long-term.*

On the very long flight back to Miami, I had many hours to think the students at the medical school. There was no question in my mind of my obligation to the 36 1<sup>st</sup> year medical students that I had had the pleasure of interacting with, as well as my obligation to future medical students in Liberia. My resolve was to find the necessary means for organizing (I even came up with a name for the organization) an **Alliance of Biomedical Educators for Liberia's Empowerment (ABLE)** who would on a regular basis travel to Liberia to teach the basic sciences courses whenever there was a void in local expertise. The second idea is to directly involve the medical students. My idea is to get medical students in Liberia (starting with the 36 1<sup>st</sup> year medical students) teamed-up with medical students in the US and through email/electronic means, share ideas, thoughts, notes, images, and the like. It would be left up to the students to foster this academic relationship. These relationships could provide the seeds for future collaborative efforts. After all, we do live in a global village today.

When I returned to Miami, and excitedly called friends to bounce-off these ideas, I learned about efforts and activities of the Liberia Medical Association -USA (LMA-USA). This registered non-profit organization of Liberian and non-Liberian Physicians and Health Care Professionals, promotes and supports medical education in Liberia. The organization's activities have included:

- a) Sending stacks of medical textbooks and journals to Liberia
- b) Sending visiting professors (via its Visiting Professorship Program which was started about one year ago) from the U.S. to Liberia to teach at the medical school in disciplines where there are no local expertise
- c) Conducting health-related capacity building training workshops and technical assistance
- d) Providing some computer-related resources.

Members of this association meet bi-annually to review activities of the previous six months and chart activities for the next six months. Bi-annual meetings are usually held on a rotational basis, hosted by a volunteering member.

There is absolutely, no denying the reality that two decades of war and neglect destroyed Liberia's infrastructure. As such, "we need everything" means committing to infrastructure development. We need to

- a) Acquire funds to obtain, install and maintain computers, computer labs and internet services.
- b) Foster and facilitate technology transfer by transferring knowledge & skills to Liberia. Such could be through a well-structured visiting professorship program like that of the LMA-USA and ABLE.
- c) Develop & implement grant-supported capacity building activities like onsite training workshops in Liberia, and short term courses where Liberians will travel abroad to attend.

These are just a few examples of models that should strengthen Liberia's human resource development and help prepare Liberians to meet the challenges of the 21<sup>st</sup> century. As well, in their respective disciplines, Liberians would be better prepared to compete globally.

### **Promoting Women's Participation in Science & Technology Education-What We Can Offer As Teachers and Mentors**

On a daily basis, as mentors and as teachers, we have the opportunity to nurture, to support and to encourage young girls to appreciate the process of discovery and the wonders of science. To do this, we must provide an environment that cultivates competence and confidence in young women. What is the process? From my vantage point, it is not a matter of a litany of do's and don'ts, because each young woman brings with her, her own set of personal experiences, and we cannot use a "one-fit-all" solution. As mentors and teachers, when we pay attention and listen, our instincts usually lead us in the right direction. I hope the following story provides some insights into how a seemingly minor incident could have far-reaching consequences. A good friend, also a University professor relayed this story: She had gone to pick-up her 5 year old niece from an after-school program and watched as the primary school teacher called the kids to gather for a demonstration. In no time, all the little boys with loud "oohs" & "ahs" had pushed their way to the front, displacing all the little girls to the back. When the teacher asked questions, all the kids raised their hands. But the boys were in the front, "ooh-ing" & "ah-ing" the loudest. Not once did the teacher call on a single girl during the entire time, even though the little girls had their hands up just as high. My friend and colleague said she will never forget the look of disappointment on her niece's face....she knew the answers, but was never called. To boot, the teacher was

female. It comes right down to our being better able to understand the needs of young women and to create environments that will support and encourage them. In such environments, opportunities can be provided where **they** can actively discover themselves, their skills and their abilities. We must never forget that as educators, we play a major role in providing the compass and the lenses that help young women navigate their journey to discovery and to empowerment.

THANK YOU.