



THE BENJAMIN BANNEKER
Institute for Science and Technology

BENJAMIN BANNEKER INSTITUTE FOR SCIENCE & TECHNOLOGY

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WHITE PAPER

INTRODUCTION

We may laugh at the absurdity of the technology and way of life projected in such TV cartoons as the Jetsons and Futurama; however, these occurrences may not be as ridiculous as one might think. In our society today, technology is developing so rapidly that within this lifetime it is possible that scientists could devise flying cars, genetically modified humans, and my personal favorite, “Beam me up, Scotty” technology. Many scientists agree that if we leverage our existing resources, we do have the necessary intellect and infrastructure to solve major crises such as energy depletion, pandemics, and global warming. Quite simply, technology runs the world today. And within the rapidly changing and innovative fields of math and science lies the future prosperity of our country and today’s youth.

We have seen the writing on the wall and have been working to prepare African Americans to participate in this future scenario. The objective here is not to run through the litany of dire statistics that plague our community. We’ve heard all that before. Just in case you want to be reminded, see Appendix A. Our purpose here is rather to identify the power of the Black community to change its own circumstances and to define an organized and focused action principle that will enable us to do so in the area of science and technology. Success in THIS arena will provide a foundation upon which to move into other areas. It is about harnessing the substantial human and material resources of our community, looking beyond ourselves, and stepping into racial maturity in the .21st Century. Our nation is currently struggling with issues of national competitiveness, and the reality is that in about ten years, a majority of American students will be of color. Thus the current condition and possible futures of African Americans substantially shape the nation options in addressing this issue. It would behoove us to position ourselves as major players in this conversation.

To lay the groundwork for the discussion of strategy, it might be useful to look at the story of Sputnik. Sputnik was a great galvanizing influence, to say the least. Arguably, our reaction to Sputnik is responsible for establishing America as the great technological leader that it is. It engendered in us a fear that we would lose technological leadership and control over space to the Russians. That was the problem we faced: loss of technological leadership. President Kennedy's reaction was not to exhort the nation to solve this problem. It was to posit for the nation a common goal that we had to solve this problem to attain, and then to provide the leadership and the resources necessary to pursue and achieve that goal. He said we would go to the moon in ten years and that's exactly what we did. What percentages of the population were aware of the technological infrastructure, including human and capital resources that were put in place to accomplish that? Not a large percentage, I'll wager. But everyone knew that we went to the moon and everyone was thrilled by it and felt that they owned a piece of it. So that's a rule of problem solving that I want to recommend we adopt: posit shared goals that the community will have to solve the problems they face to attain, and then mobilize the leadership and resources necessary to achieve that goal toward a shared sense of accomplishment and success.

BACKGROUND

The Benjamin Banneker Institute for Science and Technology was launched in 2004 to serve as a catalyst in pursuit increased African Americans involvement in STEM fields. The Banneker Institute has engaged participation from across the United States and across the entire range of scientific pursuits. Their work is chronicled on their website at www.thebannekerinstitute.org.

The activities of the Banneker Institute have coalesced and galvanized a community of interest characterized by a strong collaborative spirit. To nurture, support, and facilitate that spirit of collaboration, we have proposed to this community that we form an explicit collaborative in which African American science membership organizations can amass and share resources in pursuit of the goal of increasing the number of African Americans involved in STEM fields. This proposed collaborative has been dubbed "The Network of Networks".

In 2007 The Banneker Institute initiated the Decade of Blacks in Science, a ten-year campaign to promote mission-related action at the local level. The Network of Networks is a key element of this campaign. Its purpose is to facilitate collaboration between Black science membership organizations and educators to increase the quality of science and math education available in educationally disadvantaged K-12 classrooms. In addition, the Network of Networks will mobilize Black scientists to add their voices, their unique perspectives and their creativity to the national conversation surrounding important science policy issues like national competitiveness, alternative energy, and global warming. Envisioned is providing expert testimony at Congressional hearings, TV and radio talk show appearances, BLOGS, and production of articles, white papers, and issue briefs, and other high profile, policy-oriented activities. Our belief is that these activities will enhance the stature of Black scientist while at the same time provide encouraging examples to young African Americans considering careers in science.

THE CHARGE

We all know the statistics about the low math and reading scores, inappropriate classroom size, inadequate technology, and unprepared teachers that plague the schools that serve most of our children. These observations often turn into conversations about whether or not our children can learn. Not factored into the equation are statistics about wildly differential levels of investment, usually measured by per pupil expenditure, that drive these outcomes. It is not uncommon within one metropolitan area for per pupil expenditures in one area to be three or four times what they are in another. Differences as much as ten times are not unheard of. But in the words of our esteemed poetess Maya Angelou, **AND STILL WE RISE!!** In spite of meager resources, teachers, children, parents in Black communities across the nation cooperate to produce children eyes wide open, thirsting for knowledge, taking in everything that comes their way, determined, against all odds, like many of you in your day, to succeed.

I submit to you that it is not enough for our children to have to struggle to succeed against all odds!! It's not enough for us, it's not enough for our children, and it's not enough for the nation. There is so much pure genius in children at this stage. The differences that lead to star performance are in the level expectations, resources and adult engagement in their lives. The problem is not the children. All children can learn. The problem is US. We have not provided adequately for them. This is not a problem we can wait for the government to solve while our children continue to adjust to diminishing assumptions about their abilities and to succumb to low expectations. The \$630 billion dollar GDP of African Americans positions us as the 16th wealthiest country in the world. We can solve this problem ourselves. Let us purpose here and now to be true to the legacy of Benjamin Banneker and stand on our OWN traditions of communal responsibility.

STEM performance is a national competitiveness issue. This is an issue with implications far beyond its impact on the Black community. The nation is in trouble in this arena generally. If we continue to lose ground in the realm of global competitiveness, it will affect the quality of life of all Americans. What would happen if African Americans were to assume responsibility for pulling the nation out of its competitiveness doldrums. If we, as African Americans were to do what is necessary, it would enliven the entire nation, it would elevate the stature of our community, and it would inspire our children to the height to which they are demonstrably capable. There is a lot about positing for ourselves a BIG goal that is in itself empowering and energizing. The Network of Networks is a challenge to engage with each other in a journey toward a leadership position for African Americans in pursuit of National Competitiveness.

THE POWER OF NETWORKS

Obviously there are African Americans who are intimately familiar with the dominant American culture and walk with a deep understanding of its nuances. It is important to recognize, however, both the difference between the conditions of knowing and being, and that the density of such persons is not high... It is imperative to the success of the African American community that the power, knowledge, access, resources, spirit of confidence, and competencies of these individuals be magnified, multiplied and made available throughout the community, not for the purpose of

turning us into members of the dominant society, but for the purpose of magnifying our voices and making the positive fruits of our vision and ways of thinking and being available to the larger community for the benefit of all.

It is the purpose of this discussion document is to present the establishment of The Network of Networks as an immediately available and effective methodology for accomplishing this objective. Important to the design of such network is an understanding of the power of building on what already exists. That is not to say that we propose to start a new, comprehensive, umbrella organization. The network we propose to create would operate through technology-driven linkages among existing organizations and individuals to facilitate the flow of information, resources to places where they are needed. Such a network would be free to create new linkages and develop new nodes in a self-perpetuating manner that serves the needs of the community in which it is embedded. Given that that community is itself embedded in the dominant culture, the network would become a dense node within that culture and would facilitate the flow of information, resources, power and influence, in, around and through itself.

Evolutionary biology has demonstrated that cooperation is the single most effective species survival strategy. We have seen it work for any number of immigrant groups in America. Through conscious networking, African American scientists have the opportunity to strengthen the cooperative infrastructure of the Black community in a manner that leaves existing organizations in place, make them more effective, and provides an internally controlled and directed support system through which to deliver benefits to all levels of the Black community.

THE PROPOSAL

If we agree that:

Competence in science and Math are keys to future success;

Current education delivery system leaves most Black children unprepared to pursue STEM careers;

Adequate public investment to cure this deficiency is not forthcoming in a timely fashion;

Individuals with excellent STEM competence exist within the Black community;

This resource is sparse relatively dispersed nationally;

A significant number of such individuals would be willing to spend an hour or so per month with a teacher, either alone or in the classroom, to enhance the quality of STEM education available in educationally disadvantaged settings;

Schools would be receptive to this form of properly structured assistance;

This is but the tip of the iceberg of 21st Century Sputnik challenge of national compositeness, global warming, and energy independence;

National progress in this arena is slow because, as stated by the Chair of the Intel Corporation, “The nation is asleep at the wheel.” and does not yet recognize or accept the severity of the problem.

Then the opportunity facing the African American STEM community is to:

Exercise leadership responsibility for waking our sleeping nation up to the depth of the global challenge to our national competitiveness through a persistent campaign of

BLOGS

Articles

Speaking engagements

Panel participations

Expert testimony

Radio and TV talk show appearances

Collaborate with K-12 educators to improve the delivery system for STEM education.

To facilitate the community’s response to these opportunities, The Banneker Institute proposes to construct an internet-based collaborative space through which it will be possible to:

Negotiate with and register local school districts for participation;

Provide pre-screening and training (in school-system decorum) for volunteers where necessary and/or required;

Enable willing scientists to provide all necessary information to connect them with local schools needing their help, including schedules of availability and areas of competence;

Enable educators to post details of open co-teaching slots where the help of a local STEM professional would be welcomed to help add depth, relevance, clarity, and precision to some aspect of the STEM curricula;

Connect educators with local, classroom-ready STEM professionals and give them prior knowledge of their fields and availability.

Catalogue STEM professionals by discipline and geographic area enabling members of the community to be in touch with each other, fostering collaboration in other areas.

Respond to requests for expert witnesses from Congress, commissions, and other public agencies;

Initiate, participate in, and comment on policy and program proposals; and ongoing policy discussions;

Launch communication strategies designed to help shape public opinion, including OPED's, articles, and BLOGS;

The beauty of the network configuration is that all of this can be accomplished simply by linking existing STEM organizations. The organizations do not need to change their operations or their focus in any way. Participating STEM professionals can volunteer to spend as little or as much time as works for their individual schedules. Administration, maintenance, and staff support for this activity would be provided by The Banneker Institute. Linked in this manner, organizations effortlessly provide opportunities to their members to add significant value to the life of the community, and network dynamics will greatly enhance the reach, power, and influence of all participants. Those of you who are familiar with the process by which scale free networks are created understand the potential of this for enriching the social, political, and economic infrastructure of the African American community. That this process should be initiated and led by Black scientists is singularly appropriate to the 21st century tool it represents.