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Nurturing a Prosperous Africa in the 21st Century

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Nurturing a Prosperous Africa in the 21st Century

George Hara

George Hara is was born in Osaka, Japan in 1952. He graduated from the Keio University Faculty of Law and after a period doing archeological research in Central America, he moved to the United States. In 1980, Hara became a United Nations fellow, and the following year he obtained a master's degree in engineering from Stanford University. Hara went on to create a successful fiber optics display manufacturer company in the Silicon Valley, later selling that business and developed a holding company in 1984 called DEFTA Partners. For the past 22 years, Hara has been involved in the creation and/or management of many successful high-technology companies based mainly in the Silicon Valley, serving as a president or outside director. He currently has operations in the United States, Europe, and Japan and is known internationally as a visionary architect in the field of post-computer technology or Pervasive Ubiquitous Communications (PUC).

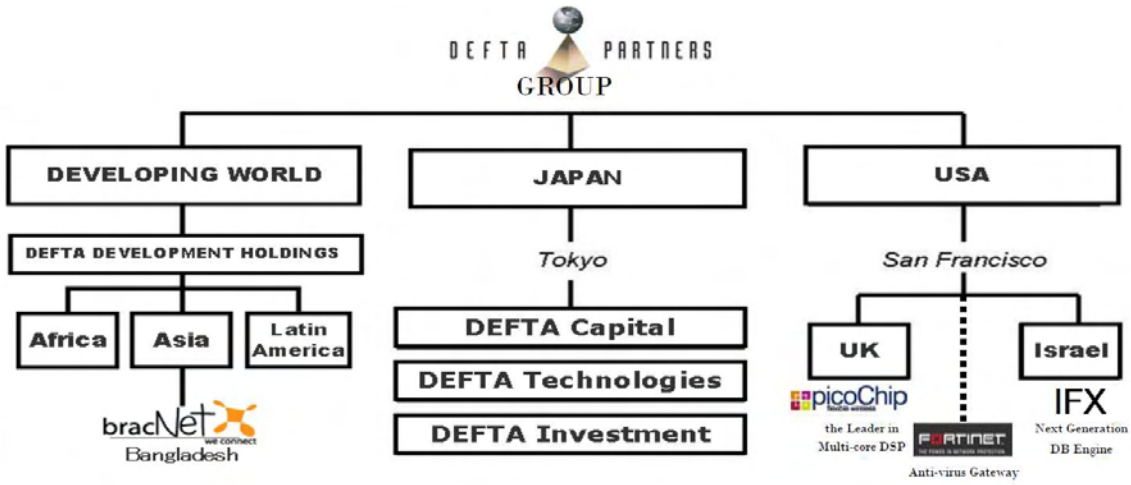
In the public sector, Hara also serves as an Ambassador Extraordinary and Plenipotentiary of IIMSAM, a Permanent Observer Mission to the United Nations Economic and Social Council, and as a Representative Ambassador of WAFUNIF. In Japan, he has been appointed as a Counselor to the Ministry of Finance, a Special Commissioner on the Prime Minister's Government Tax Panel and as a member of the Industrial Structure Council.

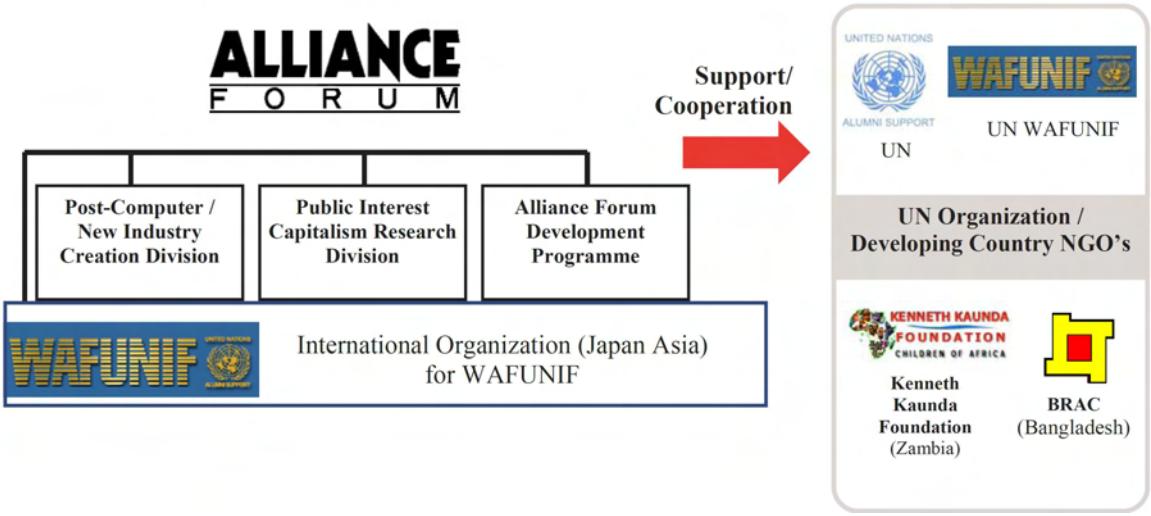
Objectives

In general, there are three ways to assist developing countries. The first being the provision of official development assistance (ODA) by industrialized developed countries like the U.S., Europe, and Japan, as well as, international/multi-lateral organizations such as UNDP and the World Bank. The second way is the provision of donations from international donors or philanthropic organizations such as the Bill & Melinda Gates Foundation, and religious organizations such as churches. The third way is to establish a for-profit company, to make this company successful, and allocate a percentage of the profits for social contributions. In the following paper, I will describe an actual example of this third way, the DEFTA-bracNet model in Bangladesh, and explain my current challenge to replicate this model in Africa. Finally, I will introduce a three pronged strategy that incorporates this model to promote sustainable development by reducing malnutrition, bolstering education/healthcare using next-generation technologies, and spawning innovation and entrepreneurship.

Introduction

In the mid-1980's I established DEFTA Partners as an operating holding company and venture capital firm to discover, invest in, and nurture early stage information technology companies in Silicon Valley. As a venture capitalist, I have engaged in the development and management of a wide variety of high technology companies, many of which have become large global enterprises. To leverage these emerging technologies for the benefit of society, I also founded the non-profit Alliance Forum Foundation in 1985. The Alliance forum Foundation is composed of three divisions: the Alliance Forum Development Program (AFDP), the Public Interest Capitalism Research Division, and the Post-Computer/New Industry Creation Division. Below, I focus on the AFDP, which seeks to help solve poverty-related problems in developing world through a number of initiatives that employ leading edge technology and harness the power of the private sector. Once DEFTA Partners proves a sustainable business model by use of technology in developing countries, the AFDP works together with governments and/or NGOs in developing countries to find most suitable model in that particular country.



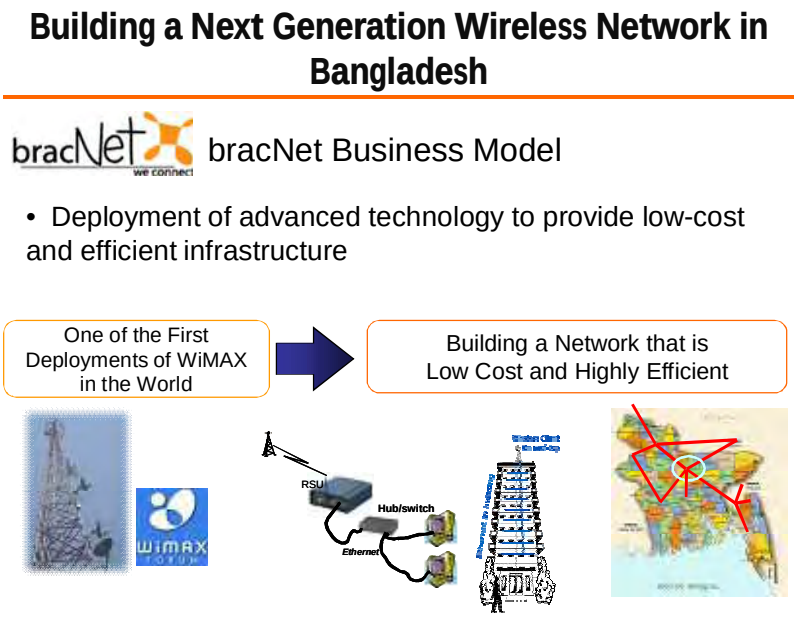


Since the late 1990's, my focus shifted to investing and nurturing venture firms involved with the development of cutting-edge, post-computer technologies. Through my work in this field, I began to realize the inherent power of next-generation technology to improve the standard of living in developing countries, assist these countries with leapfrogging the traditional industrial cycle, and make sustainable development feasible. Moreover, I began to consider how to leverage new technologies developed by the affiliated firms of my core business, DEFTA Partners, to bring cost effective information infrastructure technologies to least developed countries in Asia, Africa, and Latin America and at the same time, help solve poverty problems in these countries. In this process, I hit on an idea for a new project and approach that is a profit-making enterprise, not a charity organization, but throughout the course of its operations would use a portion of generated profits to support education and medical programs for society.

In 2005, based on this vision, I launched “bracNet” in Bangladesh. In just a few years, bracNet has become a successful internet service provider, and at the same time, it is poised to act as a catalyst to significantly improve education and healthcare in rural areas in Bangladesh through its self-sustainable and unique corporate structure and its cost-effective strategy deploying state of the art technology.

Establishing the DEFTA-bracNet Model in Bangladesh

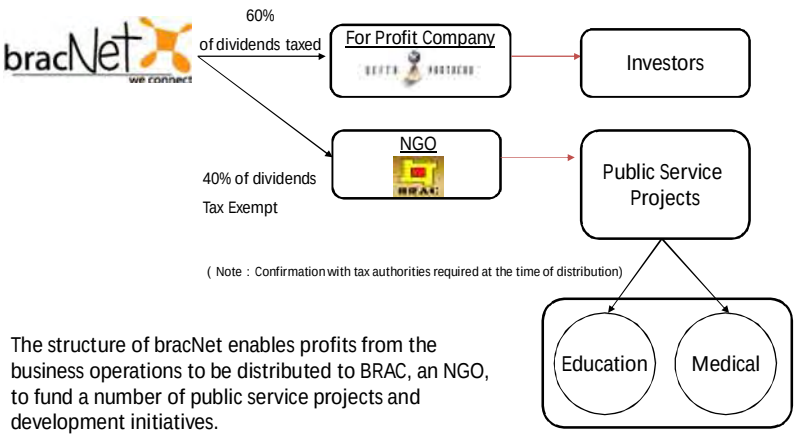
bracNet is an internet service provider (ISP) in Bangladesh that was established in the fall of 2005 by DEFTA Partners and a consortium of investors. bracNet is unique for a number of reasons. First, the company has been extremely successful in deploying high speed wireless broadband technology called WiMAX to provide low-cost internet communications for a wide-range of customers in Bangladesh. This technology enables coverage of the entire country with access points at a capital cost in the range of $10 million, versus the 25-50X or higher cost of rolling out a cellular or fixed line network. Before bracNet, ISP’s in developing countries using cellular or fixed line networks mainly focused on developing infrastructure for business users only due to cost issues involved with building infrastructure that would enable use by the general public in these countries. In the case of bracNet though, we have doubled our paid subscribers every year since inception and made the strategic decision to go into rural areas based on our long-term perspective.



The Unique bracNet Partnership and Corporate Structure

Another unique feature of the DEFTA-bracNet business model is its corporate structure and allocation of a portion of profits to public interest initiatives. bracNet has a unique hybrid corporate model, which at its heart provides the driving forces for private-sector support to developing nations, allowing these countries to free themselves from heavily depending on foreign aid. bracNet was set up as a joint venture between DEFTA Partners, a for-profit company, and BRAC, the world's largest NGO. "BRAC" (Bangladesh Rural Advancement Committee) was established by Fazle Hasan Abed in 1972 and aims to mitigate poverty and support self-reliance for the poor. BRAC operates a variety of projects and businesses in different industries including dairy, handicraft production, seeds/seedlings, refrigerated warehouses, and poultry farming projects. It also provides health/education support programs, such as elementary education, university, job training services and tuberculosis healthcare programs. Throughout it various operations, BRAC employs more than 100,000 staff members and generates job opportunities for 7 million workers.

An Illustration of the Circulation of Funds between the For-profit Business and Public Service Projects



The structure of bracNet enables profits from the business operations to be distributed to BRAC, an NGO, to fund a number of public service projects and development initiatives.

bracNet's collaboration with BRAC in this unique joint venture will enable a larger portion of profits to be used for the public interest. If bracNet was just a corporation with solely corporate investors, half of its profits would go toward corporate tax commitments and 80% of the remaining half would be paid out as dividends to

investors, leaving only around 10%. Since the maximum allocation for CSR activities is around 25% of retained earnings after tax and dividends, when all said and done, the portion of profits available for community projects and public interest-related initiatives would amount to only 2.0%. However, in the case of bracNet, only 60% of the profits are taxed (DEFTA investors own 60%) and the remaining 40% can be distributed directly to BRAC (BRAC is a tax-exempt organization with no shareholders), enabling use of these profits for social contribution initiatives. As bracNet grows, there may be opportunities to take on further investors or raise additional capital from a large multi-national to further grow the business. Although the infusion of additional capital may dilute BRAC's ownership stake, increased profits from larger scale operations can actually serve to increase the amount available amount of profit for allocation to social contributions.

By partnering with a local organization like BRAC, bracNet gained access to local resources and contacts, long-term experience with Bangladeshi education and healthcare, a strong brand and an understanding of the domestic market and challenges. Moreover, DEFTA and BRAC both share a common vision that a sustainable business can be built by providing connectivity services to the underserved in Bangladesh. BRAC's support of this vision is based on their experience in banking, micro-credit and a number of other services in Bangladesh that have shown this to be the case. Approximately 70% of BRAC's USD 500 million in annual expenditures are generated internally and the remaining 30% donor related. Both parties are firmly committed to serving the rural areas of the country from both a business standpoint and social welfare perspective. BRAC's vision is to alleviate the disparity in the quality of education through internet based distance training and learning. DEFTA is offering full support of this initiative as a key part of the project objective. This shared vision and alignment of interests of bracNet's partners has enabled bracNet to be effectively run on a joint venture basis.

Closing the Digital Divide and Improving Healthcare and Education with Technology

Despite bracNet's success, the company's work has really only just begun. In addition to expanding its wireless broadband infrastructure network to rural areas, bracNet has also developed a network of digital business kiosk franchises called *e-huts* that cater to the local communities, enabling individuals and small businesses to access the internet for an affordable price. Many e-huts also offer computer training certification programs and have digital tools that are often taken for granted in economically developed countries but scarce in Bangladesh, including copiers, scanners, and printers. The e-huts will also serve as re-sellers of bracNet, serving as the bridge for connecting the rural and semi-rural areas. More importantly, however, is the role that these e-huts

are set to play in rolling out telemedicine and distance learning services for those in rural areas.

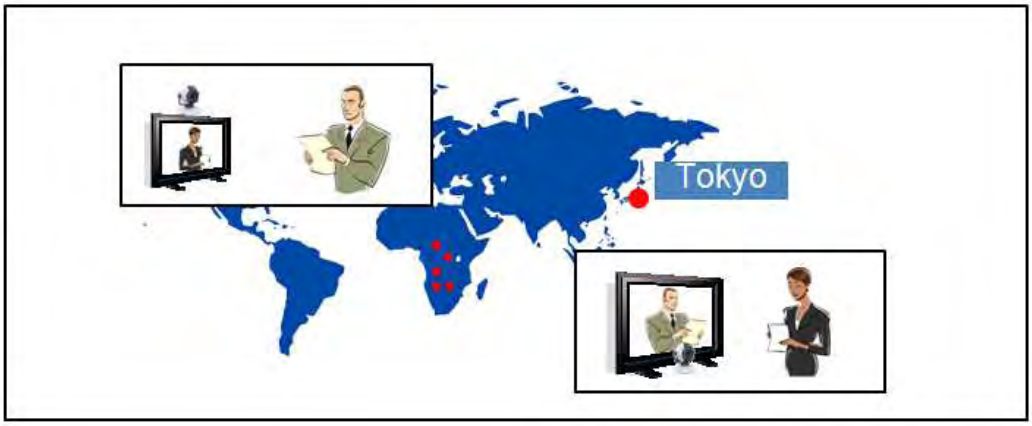
In rural locations in developing countries like Bangladesh, population density is in many cases not very high and assigning doctors evenly is a difficult undertaking. Telemedicine using interactive video communication and the latest technologies will make it possible to link these rural regions with doctors in metropolitan areas. In telemedicine applications, especially, it is essential for medical staff to use technology which will allow them to assess the exact condition of affected areas and to come up with an accurate diagnosis. High definition video in which even the complexion of patients can be clearly seen offers such as solution. bracNet will use its e-hut locations, as well as, its continually expanding broadband infrastructure to support telemedicine initiatives in rural areas by deploying state-of-the-art video compression technology called XVD. Using this technology, it is possible to provide High Definition-quality teleconference solutions over the Internet and instantly connect two distant locations with High Definition images. In July 2008, bracNet successfully conducted a pilot test connecting a hospital in the capital city of Dhaka with a rural e-hut internet café and BRAC University. This pilot test has shown that XVD technology can provide stable images even within a poor communication infrastructure environment. Going forward, as bracNet continues to expand its wireless broadband communication infrastructure on a nationwide scale, an XVD layer will be rolled out on this infrastructure to support remote medical services and remote education programs.

As with healthcare and medical services, the same holds true for education. Bangladesh, like many developing countries, faces a shortage of quality teachers in a number of disciplines and assigning teachers evenly to areas with low population density has shown to be a challenge. BRAC, which operates or provides support to thousand of schools in Bangladesh, is painfully aware of this problem and sees distance learning using the bracNet infrastructure as solution with enormous potential. By creating a system that connects these areas with cities using high-definition video, teachers will be able to hold class in real-time while also taking questions and interacting with rural students.

Replicating the DEFTA-bracNet in Africa

DEFTA Partners is performing a number of feasibility studies to investigate the possibility of replicating the DEFTA-bracNet model in Africa and has started a number of pilot projects in the region that will use XVD technology to connect educational institutions and government offices via high-definition real time video. The Tokyo International Conference on International Development (TICAD) in May of 2008 was a turning point for DEFTA Partners as the company began to screen potential countries in Africa to launch the DEFTA-bracNet model. More than 20 nations were selected as viable locations to conduct feasibility studies, and the first countries that were visited included Botswana, Mozambique, and Zambia. Delegations have been subsequently sent to these regions four times to gather information.

The early findings for DEFTA's feasibility studies have shown that there are very few NGO's capable of fulfilling the same role as BRAC in many African nations. To remedy this, DEFTA Partners is proposing the establishment of a special purpose company (SPC) set up in cooperation with the government to perform the function of BRAC in the joint venture. The SPC will be granted an allocation of the spectrum by the government for a stake in the ownership of the company and DEFTA Partners will provide the technologies and management. The majority of capital for investment in the company shall be raised by global investors and international finance organizations such as the IFC. Bandwidth is very limited in most African nations. Monthly usage costs for 1.0MB in most nations can range from $6,000-$10,000, in comparison to Japan in which 100MB costs less than fifty dollars per month. Bandwidth is clearly an extremely valuable asset and it is important for governments of these nations to consider this when deciding how to allocate spectrum. For-profit enterprises that allocate a significant portion of profits to social initiatives, like the DEFTA-bracNet model, offer a good solution for governments that seek private-sectors solutions that can help close the digital divide and also contribute to improving education and healthcare.



Above: of DVD-quality video communication systems to provide face to face collaboration research between scholars and researchers who are located in Africa and Japan

In conjunction with exploring the potential implementation of the DEFTA-bracNet model in Africa, DEFTA is currently in the final stages of dialogue with a number of African governments to establish four unique pilot projects to illustrate how advanced technologies such as XVD can be utilized in education and health care. The first of these pilot projects is an HD-based real-time distance learning network to allow universities to collaborate domestically. Many countries in Africa suffer from a shortage of experienced scholars. This pilot program will enable large-scale video lectures for students on distant campuses who would ordinarily not have access to certain subjects due to the geographic distance. The second pilot project involves the use of DVD-

quality video communication systems to provide face to face collaboration research between scholars and researchers who are located in Africa and Japan. The first project will begin by connecting veterinarian programs in Africa with researchers in Japan. The same application can also be used to connect the Ministry of Foreign Affairs in African nations and their embassies abroad as an e-government. The third pilot project involves use of the XVD newshound, a lightweight backpack that can compress high-quality video images and transmit them via satellite in real-time. The ability of the technology and the portability of the system allow for use in a number of potential applications such as newsgathering or telemedicine applications in rural villages, as well as, usage by government for border protection, surveillance, and monitoring of petroleum and mining resources.

Above: the "Newshound" is a lightweight backpack that can compress high-quality video images and transmit them via satellite in real-time. It can be deployed for a number of applications including newsgathering, telemedicine, etc.

The fourth project involves connecting regions in which access to fixed line or cellular phones is completely not existent and only FM/AM radio waves are available. This project will deploy XVD technology to send educational contents that have been recorded in CD-ROM format and then encoded to be transmitted via AM/FM radio waves to remote villages. These contents are then received, decoded, and stored for playback on TV monitors locally.

Above: XVD Pilot Project: Educational Contents broadcast through the radio

Supporting Sustainable Development and Self Reliance in Africa

Although increased internet access, telemedicine, and distance learning can helping improve the quality of life in many African nations, many of the least developing countries in Africa are suffering from a far more urgent problem than the digital divide or information gap. Finding a solution for starvation, malnutrition, and related diseases is an even higher priority from both a humanitarian and long-term development perspective. There is no hope for development and improvement in peoples' livelihoods if people starve to death before they can be educated or provided healthcare. As Chairman of the Board of the Alliance Forum Foundation, I am working to implement a number of initiatives to support sustainable development through the foundation's developing country support arm, the Alliance Forum Foundation Development Programme (AFDP). One of these initiatives is the AFDP Spirulina Project which seeks to combat and eradicate malnutrition and related diseases in Africa by using the protein-rich microalgae called "spirulina."

Various organizations around the world including the WFP (World Food Program), FAO (Food and Agriculture Organization) and UNICEF are providing food aid to African nations. Often this aid is largely composed of wheat, rice, and corn to help tackle the problem of starvation. Although such foods do provide an adequate intake of carbohydrates, often times they are not rich in other nutrients. In many cases, the problem of malnutrition cannot be solved with this type of food aid alone. As a result, many nations still face malnutrition problems resulting from a shortage of protein and a deficiency of micronutrients that allow the human body to ensure growth and maintain its vital functions.

Spirulina, a unique micro-algae, offers significant potential to help solve protein deficiency related malnutrition problems in Africa. Spirulina has unusually high protein content, containing between 65% and 70% protein by dry weight, and it is rich in a number of vitamins and minerals. Due to these characteristics, spirulina is now widely used as both a dietary supplement across the world. Moreover, spirulina is highly digestible, making it especially important for malnourished people whose intestines can no longer absorb nutrients effectively. For this reason, the United Nations World Health Organization (WHO) has recognized spirulina's strategic potential citing its high iron and protein content and the fact that it can be administered to children without any risk.

In addition to its high nutritional value, a number of spirulina's growth and cultivation characteristics make it suitable as a tool for combating malnutrition in developing countries. Among these are rapid growth and relatively high yield, modest cultivation requirements, and adaptability to different environments. Spirulina is

cultivated in ponds and hence does not require fertile land for cultivation, thereby conserving fertile land and soil. Spirulina's natural habitat is mostly Africa and Latin America, in both the tropics and subtropics. In the Republic of Chad in Africa, for example, spirulina has traditionally been used as a valuable regular source of protein by local populations in areas where weather conditions are very severe. Spirulina has been shown to use less water per kilo of protein than other foods, and the water used to cultivate it can be recycled back into the ponds for further harvesting.

For many African nations, the ability to produce large amounts of protein with a small plot of land and little water make spirulina an important tool of practical significance to assist with combating malnutrition. In cooperation with a number of private sector partners, the Alliance Forum Foundation is currently implementing the first phase of its Spirulina Project in Zambia, and at the same time, continuing dialogue with other nations in Africa to launch the project in other regions. Beginning next year, we will begin full-scale distribution of spirulina through clinics and school feeing programs. We intend for our work in Zambia will serve as a model for other nations, and the Alliance Forum Foundation welcomes inquiries from any nation in Africa whose government is interested in implementing the Spirulina Project as a means of combating malnutrition in their country. As with Zambia, a strong commitment from the government and the approval of spirulina as a strategic food by the Ministry of Health, will allow us to launch the program and supply spirulina to populations suffering from malnutrition for the first year.

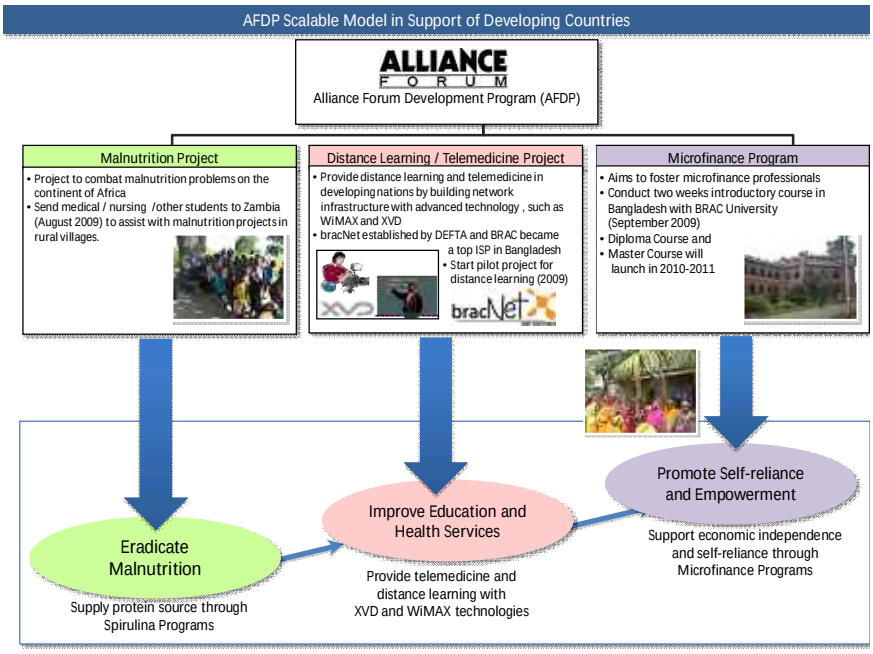
Ultimately, receiving Spirulina indefinitely as many countries do with food aid, is not productive or nor is it sustainable. For this reason, the Alliance Forum Foundation will work with officials in the ministries of trade and agriculture, as well as, local farmers and entrepreneurs in recipient countries to help them achieve self-sufficient production within three years of the project launch. By the fourth year, the country should be able to produce an excess amount of Spirulina for export.

A Three-pronged Strategy to Promote Self-Reliance

Eradicating malnutrition, and improving education and healthcare in Africa are urgent issues that require innovative solutions such as the ones that I have just described. These solutions, though, should be part of comprehensive strategy to enable least developing countries in Africa to stand on their own two feet under their own power. This can only be done by encouraging innovation and entrepreneurship locally. While valuable, ODA, donations, and other philanthropic efforts are not conducive to promoting self-reliance.

The Alliance Forum Foundation has formulated a three-prong strategy to improve the quality of life and

promote self-reliance in developing countries. The first two prongs are the aforementioned Spirulina Project to eradicate malnutrition and the DEFTA-bracNet model to help nations close the digital divide and improve education and healthcare through telemedicine and distance learning funded by profits from the private sector. The third prong of this strategy involves fostering entrepreneurship and innovation through Microfinance to help nations develop self-reliance.



This year, the Alliance Forum Foundation established the AFDP Microfinance Institute to help nurture microfinance professionals. The institute is cooperating with BRAC University to develop a curriculum, and in September, the institute launched a two-week pilot Microfinance Professional Certificate Course. By 2010, a Diploma Course will be developed and a Master's Program for microfinance professionals in planned for 2011. As part of the curriculum, participants will receive in-depth training in the use of innovative technology to help drive innovation and the development of new self-sufficient industries that can help to build a strong middle-class in developing countries. It is my hope that those trained in these courses will go onto to assist African residents with starting and growing local, scalable businesses.

What I have described here is what we can do for Africa. Each initiative is not a mere concept but very realistic, scalable, and sustainable. It goes without saying that ODA and donation based programs in the least developing countries in Africa are important and have made some headway in promoting development.

However, innovative private-sector initiatives that allocate a portion of profits to local development like the DEFTA-bracNet model are more sustainable and offer far more long-term potential. Moreover, non-profit development support programs that empower local communities to become self-reliant are essential. I strongly believe that the innovative initiatives that I have presented can make enormous contributions to nurturing a prosperous Africa in the 21st century. In this way, developing countries can eliminate their reliance on ODA and rich country donors, making them truly independent.