

## **Youth for Technology Foundation (YTF)**

YTF is an independent, non-governmental, non-profit organization. Founded in 2000, YTF is registered as a charitable organization in Nigeria and in the United States.

YTF's mission is to transform rural communities into enriched learning environments in which technology used appropriately enhances and expands opportunities for marginalized people, specifically youth and women. YTF sees technology not as an end in itself, but as a *means*, focusing on its use in researching, documenting and disseminating information about a concrete social issue such as health, economic sustainability, employment, human rights and civic responsibilities. All YTF programs start with identifying an issue and then using appropriate technology tools to bring that issue to the forefront of the minds of decision makers. YTF provides youth the tools to help them convert their ideas into action.

YTF pioneered the digital village 'movement' in West Africa, with the establishment of the Owerri Digital Village (ODV), a Microsoft Corporation funded project, a decade ago. Digital villages are rural community technology and learning centers that serve as hubs for villagers to converge, learn and share. To date, YTF has worked with like-minded grassroots organizations to establish additional digital villages in Nigeria and Uganda with additional centers planned in Cameroon and Ethiopia in 2009 and 2010 respectively. YTF's core programs are TechKids, TechTeens and TechCommunities. In addition, YTF partners with other agencies to design and implement other programs, such as Program Offering Women are Empowerment Resources (POWER) and the Young Nigerians Health Tele-Academy.

YTF recognizes that to fulfill our mission, it is imperative that our beneficiaries believe in a democratic society, free from violence and abuse and where their human rights are legally recognized. Since YTF's founding, more than 30,000 young people have participated in YTF's innovative technology and entrepreneurship programs and more than 240,000 community members have been positively affected by this work.

## **Renewable Real Estate Development Solutions, Inc. (RREDS)**

Founded by Nnema Byrd, Renewable Real Estate Development Solutions, Inc. (RREDS) is a woman-owned, social entrepreneurship, start-up venture that focuses on developing and providing consultancy in the construction of quality, integrated, and holistic solutions to environmentally-sustainable buildings in communities across Nigeria. RREDS aims to develop buildings that self-generate the bulk of their electricity supply (using solar panel technology) for lighting, cooling and appliance use, utilizing less energy through passive design and energy efficient appliances, collecting rainwater for use by the inhabitants, and recycling grey water. The opportunity is significant given the country's fast growing population, deteriorated building stock, erratic power supply, limited clean water supply, and need to reduce environmental pollution. RREDS leverages a team of experienced partners both in the U.S. and Nigeria, access to cutting edge research, and support from sustainable development experts.

RREDS projects will use locally-available and produced, recycled construction materials for many of the building elements and local labor for construction, thereby, providing job opportunities and training within the communities it serves.

### **YTF and RREDS Partnership**

The collaboration between RREDS and Youth for Technology Foundation to build the **New Owerri Digital Village (NODV)** as a sustainable, ecologically-conscious development will address three major service deficits faced by users of buildings in Nigeria: Lack of steady electricity supply and lack of proper, clean water, and at the same time create employment opportunities for hundreds of people

- 1) **Lack of stable electric power:** The Nigerian power sector operates well below its estimated capacity, with power outages being a frequent occurrence as a result of poor technology, transmission losses, illegal tapping of lines, and underinvestment in technology. Only 36% of the country's total population, and 10% of the rural population, is connected to the national power grid system, and these users are short of power supply over 60% of the time. There is insufficient power generated to support the entire population. Although the Nigerian power generation capacity is at 6,000 MW as of 2006, less than 4,000 MW is actually produced, and demand from off-grid generators exceeds 10,000 MW. The electricity crisis is the most important infrastructure bottleneck, crippling industry growth and significantly increasing cost of housing, goods and services. Approximately 85% of commercial firms in Nigerian use diesel-powered generators as an alternative source of power generation, and in many cases, the cost of fueling and maintaining these generators is prohibitive to business success.

NODV will provide its users – students, staff and community – with uninterrupted electricity supply using renewable solar energy to supplement the incessant power supply from the national grid, and ensure reduced operating costs. Solar panel technology will be used to collect, store and dispense solar energy used to power energy-efficient appliances and lighting in the center. In addition, the NODV students will have access to a curriculum that provides them training on the green science and technology behind harnessing renewable sources of energy. They can then use this knowledge and experience to start businesses in the sustainability sector if they choose.

- 2) **Lack of reliable, potable water and sanitation:** In Nigeria, only 65% of urban dwellers and 30% of rural dwellers have access to improved source of drinking water, Nigeria is not on track to reach the MDG target of 75% coverage for safe drinking water and 63% coverage for basic sanitation by the year 2015. A lack of clean water and sanitation contributes to epidemic acute and chronic diseases in the region such as diarrhea, cholera, and typhoid. In addition, improved sanitation in schools in Africa has been shown to decrease absenteeism and increase

enrollment of female students.

The NODV will provide sanitary conditions and clean water supply to its users, in addition to conserving water by recycling water and harvesting rainwater for building and tenant use.

- 3) Community members will be trained daily as part of the construction process. Unemployed and unskilled workers will learn marketable skills about constructing buildings using sustainable technology, materials and techniques, creating a "hand up" for local citizens.

The goal of the NODV is to promote YTF's mission to transform rural communities into enriched learning environments in which technology used appropriately enhances and expands opportunities for marginalized people, specifically youth and women. The NODV will embrace this mission by providing for its staff, students and community, a facility that is energy- and water-efficient, uses low-cost, sustainable building materials and techniques, and through its construction and use, contributes to socio-economic needs such as job creation, employment and entrepreneurship capacity building. By the students learning in an energy-efficient building, and taking classes that educate them on sustainable technology, they will increase their awareness that a more comfortable learning and sharing environment can be an integral part of a community's commitment to the environment, economy and social structure.