NEWTON TAB
on TOWNONLINE.com

Hi-tech can help Africa

By Gil Woolley; Special to the TAB
Wednesday February 6, 2008

Africans, living in the poorest continent, have often not had the opportunity, or have had little reason, to utilize western technology. In colonial times, the overwhelming superiority of European weapons made resistance to European domination hopeless. But colonization did not bring benefits to the people of the colonies. Even textiles made in the colonies could not compete with lower cost goods made by British textile mills. And while Western medicines offer enormous benefits to people in Africa, their cost has typically been too high to make them accessible to most people there. Since gaining independence from colonial powers, African countries have received financial aid from foreign governments and international aid agencies, but little has filtered down to local populations. Low tech, high labor content, technology, like textile manufacture, has provided some low paying jobs, but has had little effect on the lives of most people. Only in South Africa is the economy sufficiently developed to support more sophisticated manufacturing - like automobiles.

But now useful products are being exported to Africa that many people can afford without a subsidy, like mobile phones. In 1999, an African-born entrepreneur launched a mobile telephone network in the Congo with 3000 subscribers; the company now has three million subscribers. This is profitable for the owners, of course, but the company also pays a substantial license fee to the government. Low cost photovoltaic electricity generated by solar installations is sufficient to power radios, calculators, video games and small refrigerators needed to store medications.

Although exposure to telephones, games and other small electronic devices does not in itself produce wealth, these devices are helping Africans to make the transition to the developed world. They put merchants and farmers in touch with global markets and help them make better decisions about what crops to plant and the best time to sell them to get the best price. Also, e-mail allows uncensored political information to be circulated. And, since the assembling of electronic devices does not require heavy and expensive machinery, there is the potential for some of these products to be assembled locally.

What may prove to be the most cost effective aid, is that some universities in the US and other developed countries are working on technology that developing countries need, but which has little potential for profit. A local example is the "One Laptop per Child" project at MIT. The original price goal was $100, but the XO model which, is now in production, costs $200, still only a fraction of the cost of a laptop in the US. The XO is designed to withstand the unfriendly environments it will often meet. Its batteries can be charged from a regular outlet or from an optional solar panel. The software is very basic, without the "bells and whistles" believed to be necessary to appeal to sophisticated users, but it can bring millions of Africans into the world of technology. (You may wonder if they might not have been better off to stay with the technology

that has supported them for thousands of years, but in fact these countries have already become "globalized".)

By far the greatest need in much of Africa, and in other developing parts of the world, is clean drinking water. Population growth has significantly increased the need for water, while mining, primitive (if any) sewage treatment and the use of pesticides and herbicides have polluted the available supply. Affordable technology is urgently needed to make the available water safe to drink. The water treatment technology and piped distribution used in developed countries is simply not affordable, and the priority must be to allow every family access to sufficient safe water for drinking and cooking from available local supplies from streams and wells. Scientists and engineers in non-profits are working on several promising approaches to this problem.

There is another factor essential for success in raising the standard of living and of health. Most communities have already reached or exceeded the ability of the available land to feed the existing population and when there is a drought food has to be imported to prevent starvation. Without population control the number of mouths to be fed will always increase beyond the locally grown food supply. Agencies like Oxfam often bring in emergency supplies, but it is dangerous to be dependent on international charity for non-emergency supplies.

Limited cultivatable land fuels ethnic conflict in Dafur and competition for available land and resources is an important factor in the tribal conflicts that are making Kenya ungovernable. If there is not enough for everyone, people and groups will fight over what there is.

Gilbert Woolley is a retired engineer. A writer for MA Sierran, he has been an active member of the Sierra Club since 1971.