

ONE LAPTOP PER CHILD - MALAWI STYLE

I have been reading with interest the discussion of the 'hundred-dollar laptop' and the One Laptop per Child initiative as I sit in Malawi, a small landlocked Southern African nation lodged between Mozambique, Zambia, and Tanzania. According to Wikipedia, the OLPC effort has its philosophical base in the idea that children with laptops will be able to do a certain kind of thinking that isn't possible without the computer - exploring certain areas - particularly in math and science where computer access offers a qualitatively superior learning experience. Making such machines available at low prices should allow developing countries to bridge the 'digital divide', and leapfrog learning. Countries that have signed on include Uruguay. India has given a definite no. Either way, the OLPC initiative is an aspect of 'development' even 'IT for Development.' How does the initiative square with the reality of a small African nation?

Malawi - whose 13 million people have an average life expectancy of 37 years, 14% of population with HIV/AIDS, and a GDP of about \$600 per person - usually rates near the bottom on any scale of development. Over 80% of the people are subsistence farmers, growing barely enough maize, what Americans call corn, annually to sustain their families if they are lucky. They often aren't. Any fluctuation in commodity prices, the weather, the availability of inputs such as seed or fertilizer can mean starvation. The economy has followed a downward trend for years. Development gurus shake their heads. Malawi's exports are tea, sugar, tobacco, and corn, all of which must be hauled overland on very bad roads to Mozambican or South African ports. The natural mineral resources that make other African countries attractive to foreign investment are not part of the picture here. The capitalist path of industrial development leading to the pot of gold at the end of the economic rainbow is not one that Malawi will take any time in the near future.

But Malawi has a few pluses. For one, a successful transition from a dictatorship to a multi-party state. [One cynical friend suggested that the lack of resources has been a plus here, as there's little to fight over.] Malawian society is not notably corrupt, which puts Malawi in the class of what George Bernard Shaw once called 'the Deserving Poor.' Foreign donors contribute hugely to the local economy. A large percentage of the 5000 registered vehicles here are shiny SUVs sporting the logos of projects of the UN, the US, the EU.

In fact, I am here in Blantyre, Malawi's second city and the commercial capital, to help set up the video wing of a NGO that produces radio programming. Although television has existed here since 1997, it is not at all widespread. Radios are everywhere, and Story Workshop produces some of the most popular programs in the country, with high quality production on themes such as gender-based violence, food security, and HIV/AIDS awareness. With commercial media penetration so limited, the impact of this social-issue media is quite high. Everywhere I go, people seem to follow *Zimachitika* with a focus on AIDS, *Kamanga Zula*, which deals with youth and gender-based violence, or one of the other weekly

shows. [See www.storyworkshop.org] As the titles of these programs suggest, they are in Chichewa, the national language.

As a media production operation, Story Workshop is advanced as any place in Malawi in terms of communications technology. There are about thirty employees. Laptops are not universal, but about half of the staff are issued one for work. As a perk, they can take the machines home. There is a local area network, several desktop machines, for office and media production use. And of course, there is a connection to the Internet. The bandwidth is so miniscule that the early dial-up modems of dim memory seem lightening-like in retrospect. Although email works fairly well, downloading an image or a pdf file is a project. Nonetheless, a slow link is vastly different from none.

What about other media? Malawi is home to a lively and fairly independent press. While circulation rates are not high, every issue of the 2 national dailies is read (in English) by many people. With no advertiser base, magazines are non-existent. There is one state television station of distinctly mediocre quality. Middle-class people can pick up South African satellite broadcasts using db's dishes. For the rich about US\$80 a month will get you some 100 channels of global content. The media picture follows the post-globalization dictum that every First World city now has a Third World city in it, and every Third World city has in it one of the First World. This is certainly true here, where crowded townships contrast with the vast compounds of the well-to-do strung out across the hilltops the treeline filled in with satellite dishes large and small.

In this rather thinly populated media landscape it is worth noting one area where communications technology is burgeoning. Cell phones are to Malawi what Coca Cola once tried to be in the US: iconic and ubiquitous. The average Malawian has only sporadic access to clean water; electricity and paved roads are a rarity. While some might think infrastructure projects are a higher priority, they depend on a socio-economic base and a level of state intervention that lie in the future. In the meantime, individual Malawians are busy linking themselves up to one of the three competing cell phone networks. While Malawi had about 100,000 landline phones in 2005, there were already some half a million mobile phones according to the CIA Factbook. And this number is growing rapidly as cell coverage is extended around the country.

While the landline telephone system is rather antiquated (the national phone book includes instructions for how many times to turn the crank on your phone to get the operators attention) the mobile phone industry features current technology. In a recent interview on the BBC Africa Service with the head of Celtel Malawi, the director touted his network's effort to grid the country with towers even in roadless areas where the company blazes tracks to build its towers, and then hires villagers to staff them. My experience suggests that the coverage outside the main cities is still unremarkable, but the advertising is extremely widespread.

'Join our World!' 'Let us connect you!' shout the slogans in yellow on bright red backgrounds painted on walls, on the sides of trucks, on umbrellas, tee shirts and billboards.

More intriguing than the hard sell of a large well-supported corporate campaign are the ad hoc local efforts to create support systems for cell phone usage. Typical are the tiny ramshackle wooden shops, ironically similar in size and shape to the telephone booths of another era in Europe and North America. Here small entrepreneurs haul a lead oxide car battery charged at the local garage. For a miniscule fee users can plug their cell phones in at this 'charging station'. These small local efforts to create communications infrastructure speak to the central place the ability to communicate holds for Malwians, even in what looks like a situation where logic might dictate other priorities.

After all, this is a very poor country. Almost no one buys a full tank of gas here, and cell phone cards are 'topped up' at the filling stations by customers who don't even own a bicycle. On the main streets of Blantyre and along the highways women in red vests and parasols come to the car window to sell you minutes, , or or wait patiently sitting in little kiosks like miniature outdoor cafes perched in the otherwise muddy marketplaces.

For Malawians on all economic levels cell phones hold the gloss of the new. I am shown an iPhone, imported at great expense by an IT firm. The employee told me they were waiting for the hack to come any day. People often have two phones, one for each of the major networks, or as another young tech-savvy user showed me, a cell phone from Dubai capable of handling two sim cards. Malawian mobile etiquette seems to dictate that almost any activity, particularly a meeting, can be interrupted to take a call.

All of this interest in cell phones is set against a backdrop of a country where few of the basics can be taken for granted. I visited a pre-school. Although it is inside the city limits, the locale is hardly easy to get to. I engaged a taxi for about US\$30, about a week's pay for a middle class person. [A local might expect to pay half what I do.] This is the rainy season, and the dirt road is just on the edge of what is navigable for a regular passenger car. The building the children use has a leaky tin roof. The outhouse in back has actually collapsed in the rain, as had several shops (built from mud bricks) along the highway nearby in the torrential rains.

The thirty or so children live in the neighborhood. About half-a-dozen of them are AIDS orphans in foster homes. All of the children wear extremely old used clothes. The home-made wooden blocks at the pre-school seem to be some of the only toys they have encountered. The kids are listless compared with children in other parts of the world. USAID statistics suggest that a terrifying 40% of Malawi's children are malnourished, and will grow up stunted both physically and mentally. There is no electricity. Lunch is cooked with charcoal. A piece of furniture is pulled out from in front of one of the few windows where it is blocking the rain, in order to give me light to photograph. The children are served 'nsima', Malawi's mainstay, a kind of corn meal mush, like polenta without the flavor, and a meat stew, a special treat. One

of the women who brings the food laments the fact that the local mothers who are hired to run the place set aside food for themselves before they feed the children.

Anyhow, it is hard to know where the laptop fits in this picture. Children can and do buy paper exercise books and pencils. It is tough to keep them, or any printed matter, in huts where people sit on the floor, where furniture is scarce, and water and dirt are everywhere. As it is, although there are schools, text books are rare. Schools with electricity are also uncommon. Because the classes are so large, well over 100 each in the public schools according to informed sources, school desks are also not practical. And many classes end up under a shade tree as an alternative.

What is appropriate communications technology for an educational situation here? In terms of social context, Story Workshop, in conjunction with organizations such as UNICEF, works with schools and NGOs to develop 'radio listening clubs'. These are groups that meet to discuss the issues raised in broadcasts on the social topics mentioned above. The groups get reading matter related to the shows, tee shirts and in most cases a radio for the group to listen on, as well as on air recognition and interaction. This model is a tried and true one in Southern Africa, going back to before independence, and creating a viable context for the technology and the content, content generated by Story Workshop writers using extensive time in the field talking to villagers.

One component of a critical assessment of the OLPC initiative, or of IT products, involves a critique of a Western technology-based answer to social problems in societies already living with a long legacy of Western solutions. While the version of colonialism practiced here was not extremely vicious by the standards of some other African countries, it was hardly benign. Early settlement was commercial, and the resulting economy, where big estates own 40% of the arable land, is a clear legacy. The anti-colonial struggle's early heroes here include John Chilembwe, a teacher influenced by George Washington Carver who started a doomed armed rebellion with a few hundred followers after spending years trying against odds to set up schools and economic development projects. Independence wasn't ultimately much better. The dictator Hastings Banda provided some real benefits for farmers, but he was one of the only African leaders to ally himself with apartheid South Africa and he retained the colonial economy.

In the forty years since the end of colonialism growth seems limited. Yet new communications technology is penetrating rapidly. The rapid adoption of cell phones is intriguing. Unlike the situation in other countries, I haven't seen big signs of social projects such as the SMS job bank in Nairobi, or the cellphone videos for AIDS awareness in West Africa. Nevertheless, this wholesale adoption of mobile phone technology in a decidedly low tech environment shows that Malawians can and will take on new communications technology, finding workarounds for their lack of resources.

What is clear that, like television before it, with new mobile phone technology, the medium is perceived as the message. The cell phone is the voice of a new world, of a modernity acquirable in a way that

leapfrogs the difficulties of creating the infrastructure and institutions of contemporary industrial society, however interpreted.

These social implications are not perceived as culturally determined, or rather, the advent of 'Western' communications technology is perceived either as a neutral benefit, like the way a paved road is better than a dirt one, or as part of the new world of modernity in the way that drinking a Coca-Cola is 'better' than eating a local mango, for instance, or even drinking a local 'Soba' softdrink. In other words, as far as I can see, the culture critique is not taken seriously on a ground level.

Another African critique of the OLPC initiative follows a line of thinking based on infrastructure priorities.

Marthe Dansohko from Cameroon, speaking at the World Summit on the Information Society in Tunisia in 2005.

"We know our land and wisdom is passed down through the generations. What is needed is clean water and real schools."

Very few trouble-free networks of any kind exist here in Malawi. Water and electricity are available but subject to outages. Transport is expensive and difficult. UNICEF, for instance, distributed a school book by using a South African company for printing and another South African company for distribution to get copies to every school in the country with information about issues such as child labor. In general UNICEF makes it a policy to work as closely as it can with government structures in order to develop capacity, but, I am told, any effort to distribute through the Education Ministry would be doomed to failure.

Where does this type of critique meet the desire of visionaries like Negroponte who are motivated in their efforts to promote the One Laptop per Child initiative by constructionist theories of learning that suggest that children will engage in problem-solving, particularly around math and science issues, in a whole new way given early access to computers? For me, one question to ask emerges from looking at a broader context of pedagogical theory. Negroponte says "It's an education project, not a laptop project."

Right away, it is possible to suggest that inquiry-based learning is independent of a specific technology. In fact, computers and internet access guarantee little in the way of critical thinking. In a new program, children in New York City are taught inquiry-based methods of interacting with IT-based data by school librarian media specialists, who promote critical thinking and an ability to evaluate information as an antidote to the rising tide of a 'cut-and-paste' mentality. In other words, by many measures access to IT has had a stultifying effect on independent thinking. Instead of real research and evaluation most students are happy just to 'google it.'

I had the opportunity to discuss the OLPC initiative with an educational consultant working with the Malawian Ministry of Education. She told that the Ministry of Education is in the middle of rolling out a new curriculum for primary and secondary education that has been five years in development. While the

curriculum is vast and complex, at its heart lies an effort to move away from the time-honored rote learning methods of another era and take a step toward a curriculum that encourages students to evaluate information and think for themselves. One aspect of this curriculum is a new emphasis on pedagogical interactivity rather than verbal repetition. As support for this idea, the curriculum group suggested that the Ministry of Education make a slate, a chalkboard smaller than a normal sheet of writing paper, available to each beginning first grade student. The cost would be about One euro per slate. There are approximately one million first graders each year in Malawi, so the initial cost would be about one million Euros, or about US\$ 1.4 million. The Education Ministry said this kind of money is simply not available. In this context cheap laptops, unless they come free, with extra money for distribution, curriculum development, teacher development, maintenance and repair, are destined to be as ineffectual as any other type of aid that does not integrate properly into the society it is designed to help.

While laptops are not commonly given out as aid in Malawi, as mentioned above several initiatives have been developed with involve giving out radios. Here again, taking into account both the social realities at hand and the relationship between communications technology and pedagogical goals seems key. I mentioned a successful example, the radio listening clubs, above. One less successful initiative is a so-called interactive radio initiative sponsored, I am told, by USAID. Some 80,000 radios, of the South African windup design are being given out, enough to have as many as ten in every school in the country. The idea is that teachers will play a program in class. The trouble lies in the program content, which is the old fashioned type where a voice will be saying '2 time 2 equals.....' and the students are supposed to chime in with 'four!' Here the level of 'interactivity' is so minimal as to be meaningless, and seems to amount to communications technology being employed in the service of a hierarchical and ineffective model of pedagogy. In fact, I find out, the project is based on one in a neighboring country where many children are not in school at all, and was originally thought of as a substitute for school where classroom instruction was not available. In Malawi, most children are actually in a school situation, just not an adequate one.

All this is not to say that a \$100 laptop might not be useful here. Superficially, this is a country that is moving rapidly into the IT universe. The city of Blantyre is crammed with Internet cafes. Flash memory is easily purchased at the supermarket. Signs for IT firms of all sorts cover the city walls. Universities offer degree programs in computer science and media production. A paper assessing the country at the time of a recent national holiday mentioned about 800 or so students a year might expect to enter an institution of higher learning here. Here, one could imagine, an inexpensive laptop might be useful. Agricultural extension workers, whose ranks were decimated as part of a 90's structural adjustment program, do use laptops, and that use, which leverages their small numbers, could be much more widespread. Small businesses as well might benefit from affordable computing power.

While more laptops might mean more Malawian geeks, IT culture is definitely here already. Shafik, who does networking and configuration at an IT firm recalls his boss calling a company in Miami to order a server. The guy in Florida, after getting the delivery address in Africa, said something like, "Do you know

what a server is for?" "Of course," replied the Malawian, "You just hang it in a tree and run wires to it." Another young media company employee told me how he had cracked the security on a South African satellite signal decoder with an ingenious (and more or less legal) hack that forced the company to completely reprogram the device.

I guess my sense is that the high tech end of Malawian society is growing apace. The OLPC Initiative is at least an interesting gedanken experiment, a chance to bounce around ideas about society and communications tech. In a society otherwise based on agriculture, it is hard to know where this could all lead. Could Blantyre become a second Bangalore? A back office for corporate customer service operations attracted by people speaking reasonable English at miniscule salaries.

For me at least, it might be said that from a grass roots point of view, the OLPC initiatives has some of the flavor of a typical totalizing solution. While there is little doubt in my mind that Malawians will benefit from low cost IT tech and pedagogical support, these can only be a factor in a complex social-technological equation, not a panacea.

The future of media tech in Malawi has several defining components. One is the advent of a consumer culture where desire is embedded in high-tech objects. This is symbolized by the recent arrival of the first shopping mall in Blantyre, with its huge supermarket, and its 'Game Shop' full of electronics, appliances, hardware toys and clothes. Here we see laptops and cellphones as an aspect of consumerism, as style in a society whos industrial base is pretty much restricted to processing agricultural products.

The next is the notion of ordinary users, 'the multitude' pulling tech in the direction that they want. In the West, ordinary users have redeployed many devices such as videocameras, or computers, and pulled development in directions not necessarily considered by corporate or academic planners. Although mobile communications technology is brought to Malawi with the help of investors eager for profit, the people here 'vote' for cell phones; they find a way to learn the technology and help to make it viable in a variety of ways.

A third component is the capitalist logic of IT, which dictates businesses will have computers, LANs, printers, wifi etc. Although presented deterministically, the classic notion of commodity fetichism suggests that real social struggle is a hidden component of a package presented as the neutral sum of human knowledge. Nonetheless, Malawians in business and government are confronted with building and learning a typical modern IT environment.

A fourth factor is the progressive wing of the NGOs, with their social agendas, their funding priorities, and their efforts to promote social communications.

Finally, the Malawian government has some control and some defining influence on behalf of the nation of Malawi in terms of the nature of media and communications in the country and its role in defining citizenship, sense of self, etc. This is understood quite critically. For instance, government use of the national radio to attack an opposition party was criticized with specific reference to Radio Mille Colines in

Ruanda.

All these groups and forces influence the development of a communications and IT ecology in this marginal but very fertile landscape, suggesting the difficulty of defining a problem, and any possible solutions, when talking about the specific implementation of any IT-based project.

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