

Ultra Opportunities or Ultra Divides? The Need for Speed in the Developing World

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Bits for Borneo:

Broadband in the Jungle

**E-Bario Telecentre:
Bario, Sarawak (Borneo)**





Reaching global markets:

Selling art on the Internet from Borneo




Diversifying Gross National Happiness:

Call center in Bhutan uses VOIP over fiber to India to provide back office services for overseas clients





User-Generated Content: Got an idea? Upload a video (if you can)

- **The Homebrew Computer Club goes global...**
 - “Sharing an idea the right way is just as important as doing the work itself. If you create something but nobody knows, it’s as if it never happened.”
 - Johnny Chung Lee, who showed how a Wiimote could transform a video screen into a virtual reality display
(*International Herald Tribune*, Oct 27, 2008)
- **Villagers in northern Canada post training videos in native languages on YouTube**
- **Biology students in the Arctic hone skills with an online virtual frog dissection kit**



Keewaytinook Internet High School





K.I.H.S. Partner Classrooms 2007-2008

Ontario, Canada Classrooms

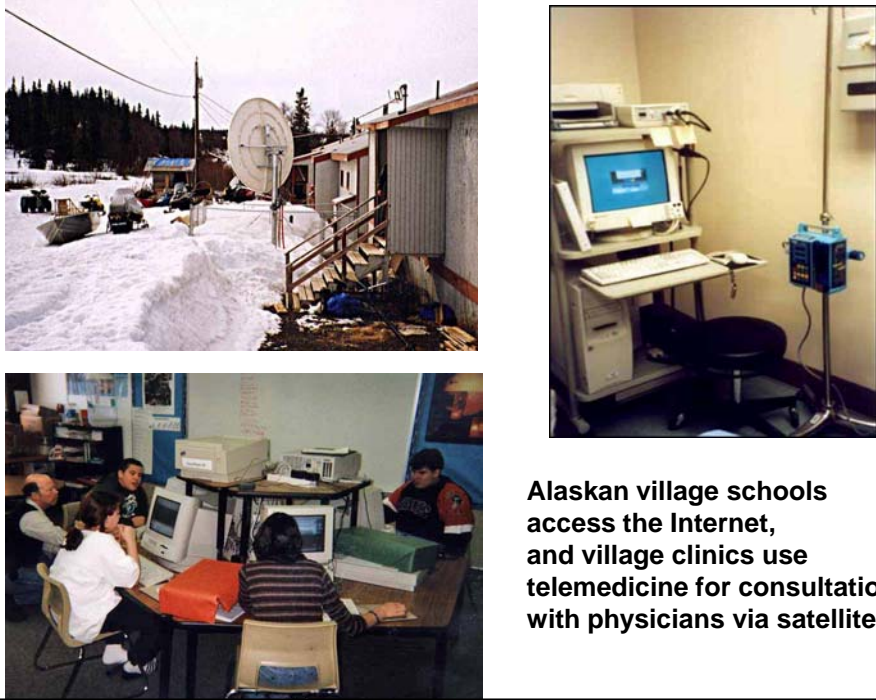
1. Bearskin Lake
2. Deer Lake
3. Fort William
4. Keewaywin
5. North Spirit Lake
6. Poplar Hill
7. Sachigo Lake
8. Saugeen
9. Weagamow

Offices

10. Balmerston Main Office
11. Sioux Lookout K-Net Office

High school completion for students in native communities using Broadband:

Remote Northwestern Ontario



Alaskan village schools access the Internet, and village clinics use telemedicine for consultations with physicians via satellite

Technologies are changing...

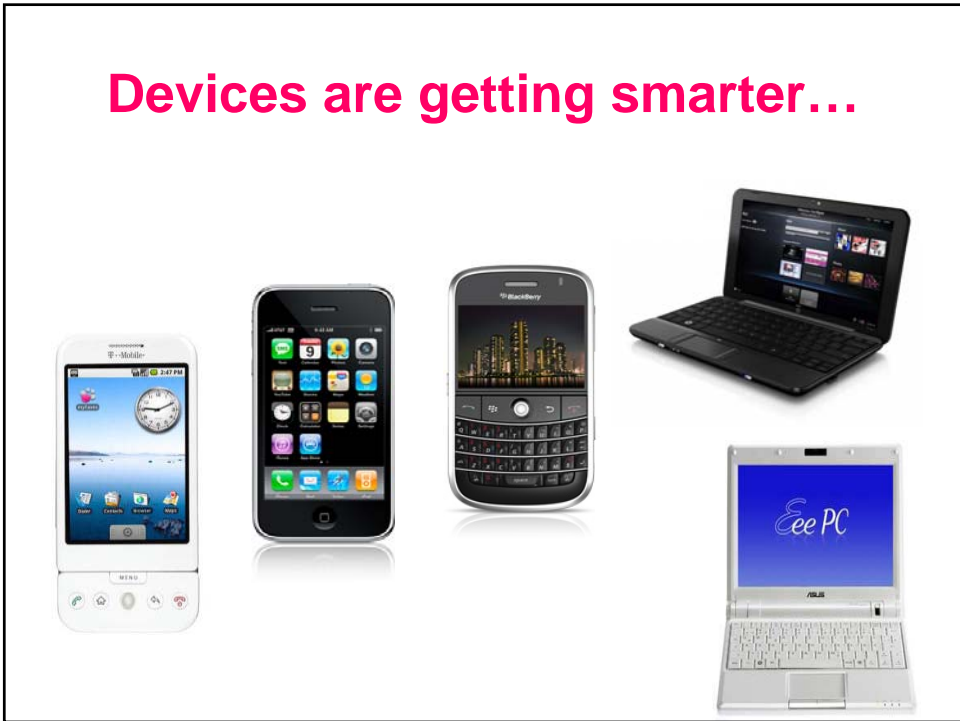
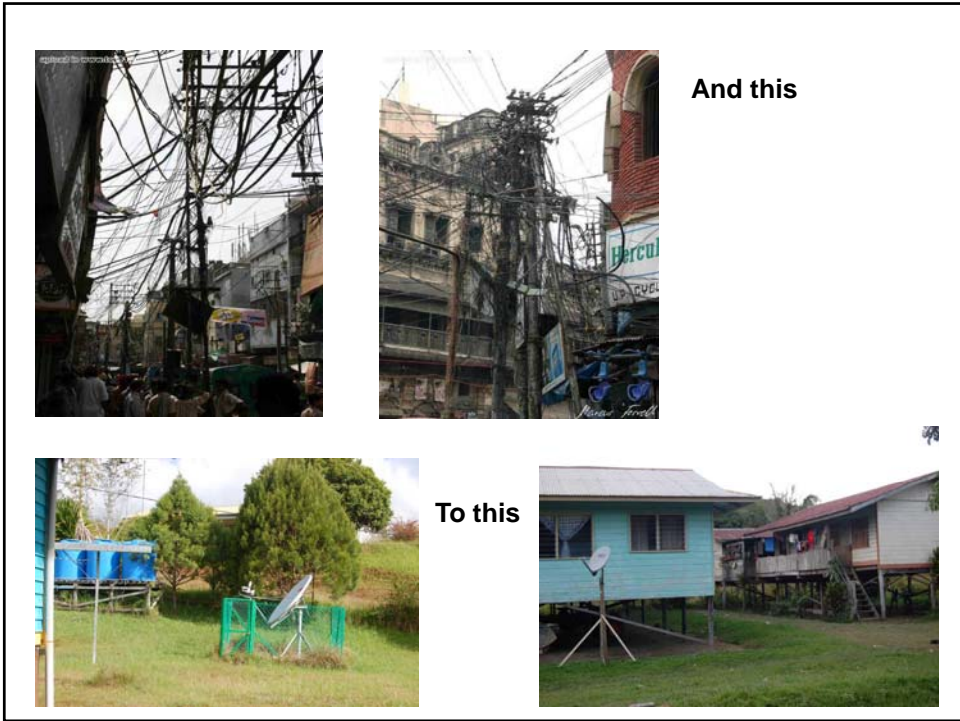


From this



To this





And Storage is getting cheaper:

from <\$4/GB for cards to \$2/GB for sticks to \$0.18/GB for external drives this week to \$? next week? And \$?? next year?



[Sandisk SDSDB-8192-A11 8GB SD Memory Card](#)
 Was \$99.99 You Save \$70.00 (70%)
 New Savings as of 10/27/2008

\$29.99



[Western Digital 500GB External Hard Drive](#)
 List \$159.99
 You Save \$70.00 (44%)

\$89.99

[Kingston DT100/ 8GB DataTraveler 100](#)
 Designed to USB 2.0 / Pocket-sized for easy transportability / Plug & Play



\$19.99

Was \$34.99 You Save \$15.00 (43%)

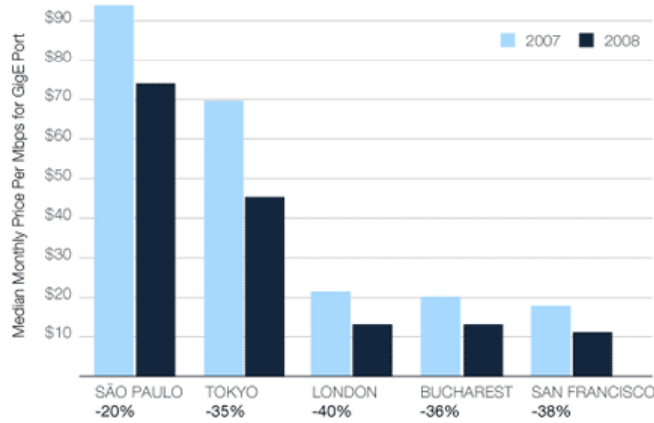
Pent-Up Demand in Africa:

But make them cheaper and more users will come...

	Average willingness and ability to pay for a mobile handset in US\$	Average expected cost of a mobile handset in US\$	New users at 20 US\$ for an handset	New users at 15 US\$ for an handset	New users at 10 US\$ for an handset
Benin	7.46	11.44	124,972	487,176	677,715
Botswana	19.14	27.38	118,014	188,488	228,203
Burkina Faso	9	12.84	428,593	1,243,958	1,453,007
Cameroon	15.94	22.16	868,037	1,732,300	1,869,861
Cote d'Ivoire	29.7	30.06	3,057,420	3,539,351	3,914,283
Ethiopia	6.06	64.19	1,438,828	1,837,888	2,644,673
Ghana	14.02	23.15	1,283,271	1,469,852	1,841,837
Kenya	17.12	28.88	2,882,457	4,165,549	5,683,481
Mozambique	4	23.2	68,457	79,895	287,147
Namibia	24.84	25.12	182,882	182,385	232,584
Nigeria	5.65	12.57	356,907	1,004,573	2,527,684
Rwanda	3.68	9.34	Not available	Not available	Not available
Senegal	19.55	25.43	1,336,891	2,169,548	2,301,775
South Africa	19.25	32.41	2,652,827	3,354,797	4,094,783
Tanzania	10.89	17.3	1,422,827	2,102,510	3,272,085
Uganda	5.74	14.98	-	1,499	1,499

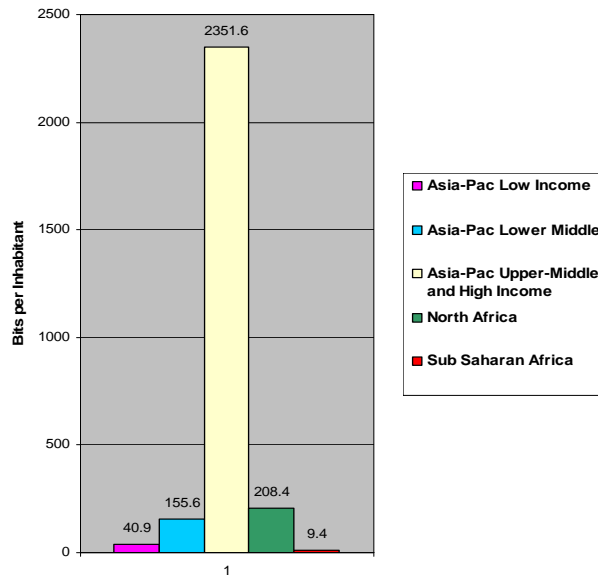
Source: Allison Gillwald, Research ICT Africa, 2008

Wholesale Bandwidth (IP Transit) Prices are Falling

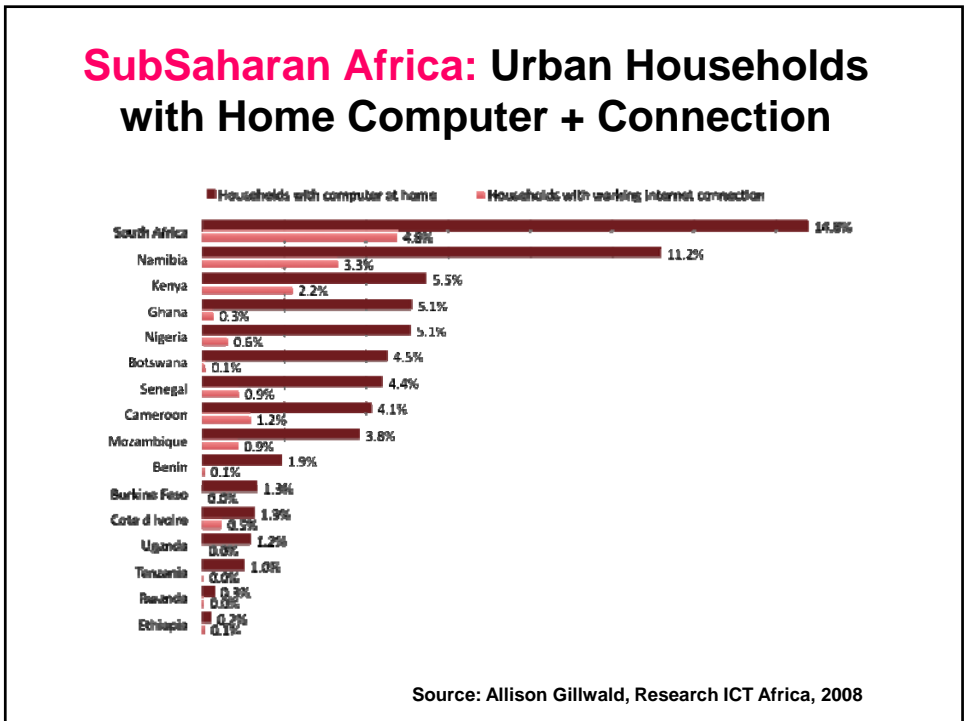
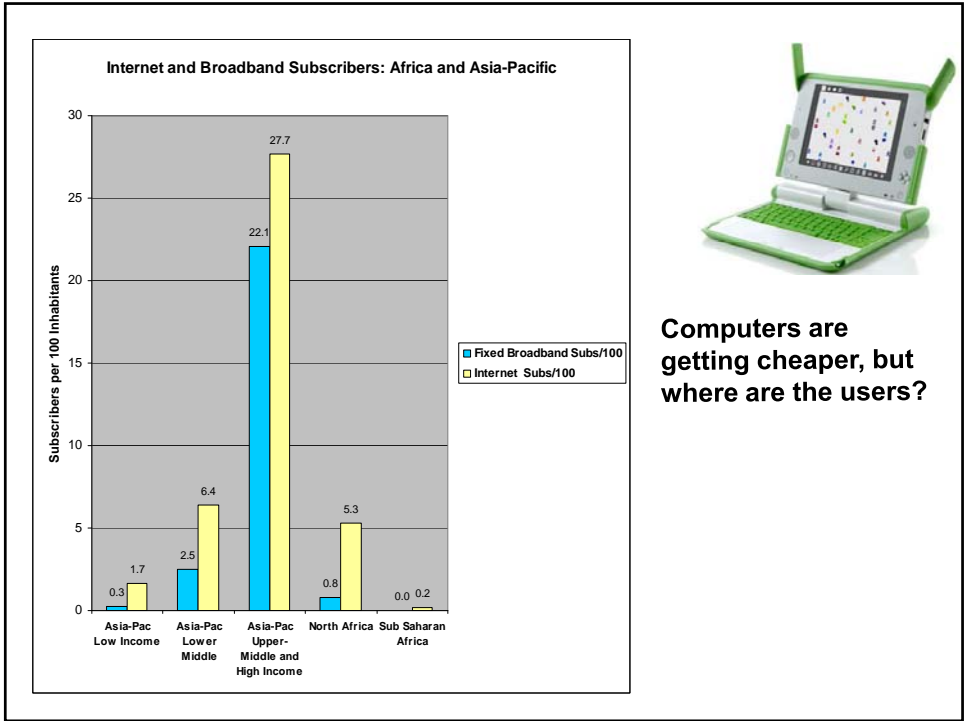


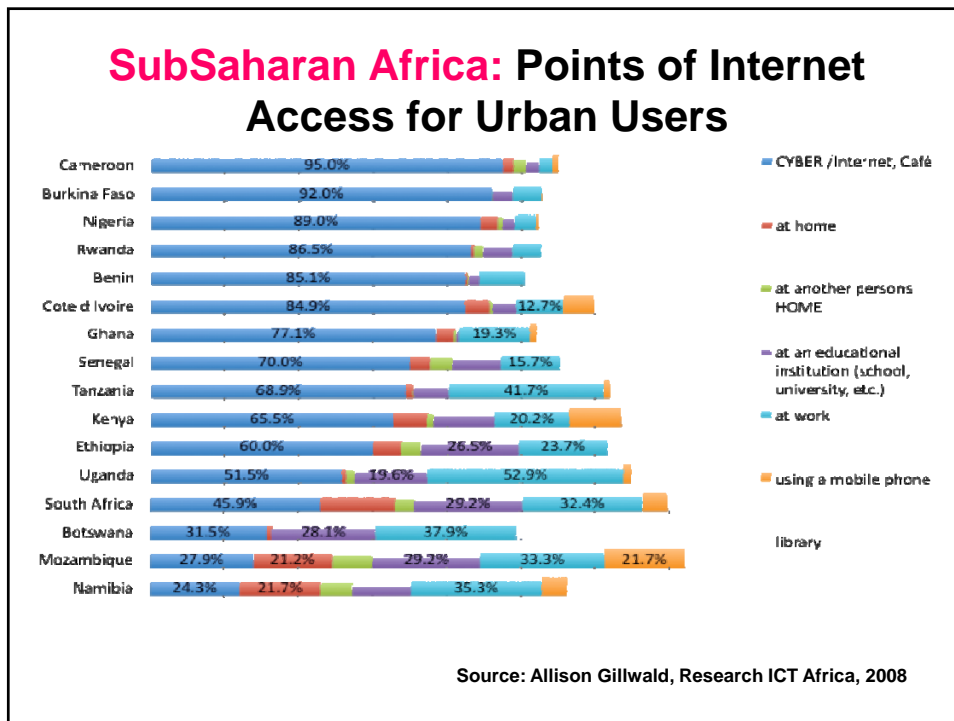
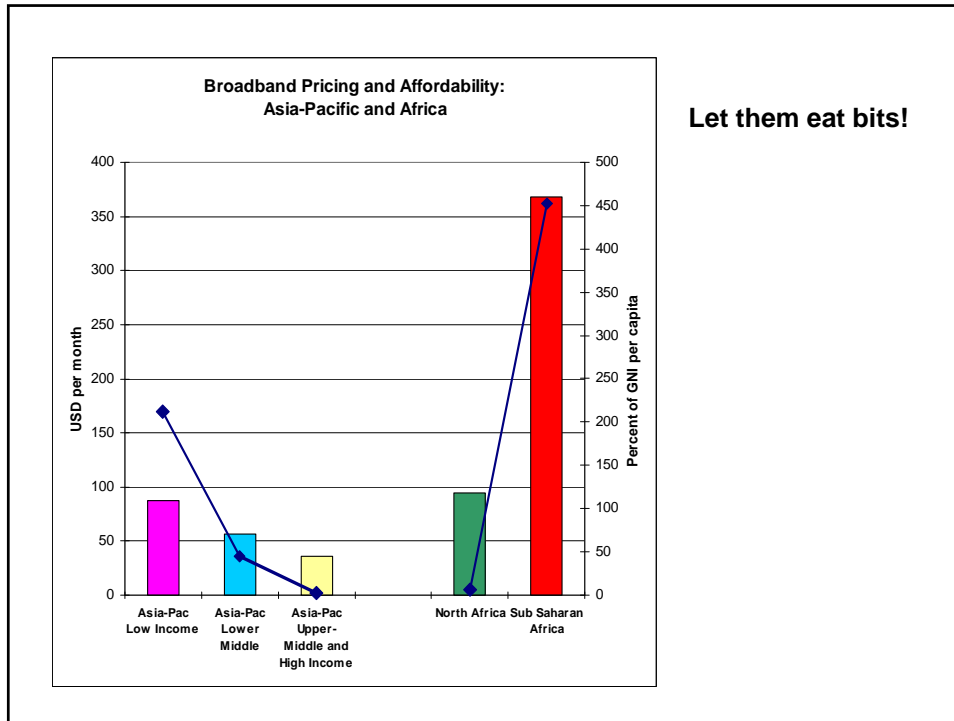
Source: Telegeography, October 2008

International Bandwidth: Asia-Pacific and Africa



But where are the bits?





But sometimes a few bits are enough...

- Text messaging was used to mobilize opposition voters in the Philippines and Malaysia
- Bloggers as the new fifth estate in Asia:
 - “The government doesn’t have a clue how to handle bloggers. If I were a dictator I would be despairing. What do you do against this?”
Newly elected Malaysian blogger Jeff Ooi
- Mahatir discovers blogging...
 - “Where is the press freedom? Broadcast what I have to say! What I have to say is not even accurately published in the press.”
-- Former Malaysian Prime Minister Mahatir Mohamad, 2006
 - “About six million have visited my blog site and tens of thousands have commented and supported me.”
-- Mahitir on his blog, 2008

(International Herald Tribune, Oct 27, 2008)

And gamers don't have to be online all the time...





Thank you



For more information:
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