Access to low cost technology
Photo Patrick Kamoyani
Patrick uses a 12 volt car battery with an inverter which increases the power supply from 12 volts to 240 volts – the
equivalent of mains power. He runs a laptop computer, printer and mobile phone from this. The battery lasts four to five days and he then gets it recharged in a nearby shop. He has a dial-up connection between his mobile phone and laptop and uses Bluetooth wireless technology. This means he can use his mobile phone connection to access the internet on his laptop. He finds this is much cheaper than using internet cafes. Eventually he hopes to be able to afford a solar panel to charge his car battery at home. Patrick provides a great example of how people in a remote area can benefit from technology.

Patrick lives in Western Kenya in a remote village with no electricity or landline telephone. His home, which he also uses as an office, is very simple, but he is able to use up to date technologies. He produces KiSwahili translations of development publications for a website. Footsteps www.tearfunds.org/tilz

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Ken Hargesheimer asked me to write and tell you about connecting your laptop to an auto battery more efficiently. Here is a main adapter for a laptop:

Input: 100 - 240 V.
Output: 16 - 20 V.

Here is an adapter made for using a laptop in an automobile cigarette lighter (which is 12 volts from battery):

This adapter converts straight from your 12 volt battery to the laptop's power of 16 – 20 volts. To connect directly to the battery the cigarette lighter adapter would be removed and replaced with the two clips allowing a direct connection to the battery posts. Here is an example:

This can only work with an adapter made for an automobile to laptop since the input needs to be the 10-12 volts from the auto battery. I hope this is of some help. You may need to find someone who can modify such an adapter for you.

Richard Cravy

I have since discovered that one can buy dc printers for laptops.

Another way, which is simpler but maybe more expensive in some places, is to use a UPS [uninterrupted power supply]. Plug it into the 120 or 220 v and it charges the battery in the UPS. Connect your computer, etc to the UPS. In the USA they cost from $50 to $200 according to quality and to the size of the battery.

Use a solar panel to charge the battery. Solar electricity panels: Light homes, classrooms, etc. Can power radios, TVs, computers, etc. Use to recharge batteries. http://biodesign.webeden.co.uk; Graham Knight [English & French] <DIYSolar@btinternet.com> waame.sn/ (french); Haiti - vssnet.org/index.html; Benin - gawa.nu/stories/story_solar.htm; http://ntong-benin.ifrance.com/ (french); Malawi - http://solar-aid.org/, for videos click on 'Solar videos'; Kenya - kcyp.net; Blog at http://www.solar-aid.org/?gclid=CKac4bfh3YkCFQnoEAodlVQSFA; http://www.idrc.ca/en/ev-111741-201-1-DO_TOPIC.html; Ghana - www.graphicghana.info/article.asp%3Fartid%3D14797+ghana+CASOLS&hl=en&gl=uk&ct=clnk&cd=5

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Dear Sir

I come from a village where living conditions are very limited. These difficult conditions have made me try to search for alternatives using the little resource at hand. I come from Ingidi Village in Maragoli, Western Province of Kenya. This rural village has no electricity, no piped water, and no landline telephone, neither do we have tarmac roads.

I don't come from a rich family, we don't have a modern home with gigantic satellite dishes, electric power posts or telephone line cables crossing by. The point I am driving at is that:- 'You do not

necessarily need to be a millionaire to get in touch with the rest of the world'. With whatever little resources, you can bring hope to the less fortune.

To start with, my electric power supply is a motor vehicle battery connected to an inverter. The inverter steps up the 12volts to 240volts, an equivalent of a mains supply! I then connect a multiplug to the inverter so that my laptop, printer and mobile phone can get power. The battery drains off after about 4 or 5 days. I then get it charged at the nearby shopping centre and the cycle continues. I hope that one day I will get a solar panel.

We are lucky that local mobile phone service providers have coverage at my rural village. I do not require a satellite dish or landline telephone to set up my Internet connection. I simply use a dial up connection between my mobile phone and Laptop. I use Bluetooth technology and occasionally infrared. Bluetooth technology allows me to connect the mobile phone to a computer up to 10metres away. The bluetooth technology communicates using radiowaves, therefore the phone does not need to be in direct line of sight. But with infrared, the phone should point towards the infrared window of the laptop and not more than 1metre.

The Internet access is achieved by use of GPRS connection. The configurations from the ISP (my mobile phone service provider) are freely obtained from their sales office. You simply go to the control panel and access the Internet connections to configure the settings.

I am a prepaid customer to the mobile phone service provider. I buy scratch cards to get air time. The charges for packet data transmission are low. For example only Kshs.12 per Mb. I can browse the Internet, get information, attach my translated work and download more work for less than Kshs. 100. Previously I had to travel to town (Kisumu) some 35km away in search for Internet service.

Transport to and from Kisumu would cost me Kshs. 200, the cybercafés were slow and charges are per minute. Every visit to a cybercafé would cost me Kshs.150 or even more depending on work that I downloaded or attached. Kshs. 150 for lunch or snack while away. If for instance I went to Kisumu three times in a week, I would require Kshs 500 per visit, i.e Kshs. 1,500. In a month kshs. 6000.
I am proud that I have solved the Internet costs. I have saved time and money Now with Kshs.1,000 I can comfortably enjoy the internet for a full month! also send text messages and make calls within that budget.

We have told him about DIY pv panels. Perhaps you could do something similar? He does not really need an expensive inverter. Most devices work on dc including PCs.