AL'MUASH NETWORKS

PUBLICATIONS

Capacity Building
Environment
Rural Development
Disaster Risk Management
One Village
Economic Growth
Trade Development (Logistics, Trade Fares)
Efficient Agriculture Management
Rural Development
Poverty Alleviation
IT Village
Education through ICT
Basic Health & Hygiene
Energy Conservation
Safe Water, Improved sanitation and Waste Management
Generate Livelihood
Advocacy of Values based Society

Al'Muash Networks is working towards networking and collaboration of organizations at local, national, regional and international level for sustainable community development by raising quality of life and generating economic opportunities in a hygienic and conducive environment. We are working on poverty alleviation, awareness about quality of life, generation of economic opportunities in the rural areas and bridging digital divide with urban areas by year 2020.

For More Information

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Operation Gibraltar
Bridging the **Digital Divide**

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Programme and Project Management;
Organizational Development

This paper has been written with the intention to request for sponsorship and to explain the underlying compulsions for undertaking this project

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Operation Gibraltar
Bridging the **Digital Divide**

Broad Vision:

A balanced approach: practical use of technology, taking user needs into account.

Our Mission:

Poverty alleviation through real access to information and communication technologies throughout Pakistan".

The specific objectives are

> ***The establishment of an IT Centre to provide access to the technology which students need to perform their educational requirements, and … to provide information technology for today's young people by assisting them to further their education, which will result in greater employment opportunities both locally and internationally.***

As Pakistan begins to emerge from the "Dark Days" of the past, one thing has become blatantly clear: unless the "Previously Disadvantaged" Pakistanis, which are identified as the Poor Villagers, Women, and the Disabled, are assisted to become "Computer Literate", they will never move out of the types of jobs which their parents and grandparents have been forced into because of a lack of education. They were the labourers, cleaners and maids in homes of the wealthy Pakistanis. I belong to the group of "Previously Disadvantaged Individuals" (PDIs).

For many years, we have been formulating the idea of opening an IT Centre in a "less fortunate" suburbs and rural areas of Pakistan. While we could obtain a mortgage bond and finance the Centre from that, if business does not perform as anticipated, we would lose the house, and we, too, would join the line of 60% of unemployed Pakistanis.

Since the IT Centre will encourage residents and students who do not have their own "access to technology" at home to use our facilities, and since it can also double as a meeting place for user group meetings, for training sessions, for collaborative research and/or development projects, for ABET, for school projects, etc., our motivation and vision is to assist those "less fortunates" bridge the "digital divide" by providing the access to the computer equipment and the Internet which they need. The greater the subsidisation, sponsorship or donation, the lower the fees charged, or vice-versa, but one cannot price oneself out of the market. You must be acutely aware of the foreign exchange rates. For a few US Dollars or UK Pounds, one can get a few hundred Pakistani Rand!

The ITU Conference at Gallagher Estate between 11 and 16 November 2001, and Dr Ben Ngubane's message[1] in the Sunday Times of 10 November 2001, are clear indications that bridging this so-called digital divide is an urgent regional priority. The Al'Muash Netowrks will go a long way in assisting the people who either cannot afford to, or do not wish to, set up their own technological infrastructure. That is our mission and vision: we want to do this *for* them, but we need sponsors to help us.

Ever since my retirement in 1997 from the air force, and the advent and rush of IT in the blood of the Pakistan Government, I have been actively seeking ways of establishing this "Digital Village" as just one

avenue of assisting people to help themselves out of the chains of continuing poverty. Finding suitable replacement employment for a white male over 40 in the Pakistani economy of today is nigh on totally impossible. As a result, he is dedicating himself to providing some form of assistance to other people, using what knowledge he has gained over his working career to the service of others.

What do children do who cannot afford the luxury of their own computer infrastructure at home? What do they do when they go to what was the local Internet café only to find that all the equipment has been stolen?

Our aspiration is to have an initial stock of six or eight PCs – all Pentium 4s – running Windows XP Professional (or a dual-boot structure allowing XP Home for those wishing to play games during school holidays) – connected to a Windows 2000 or XP server, connected to a dedicated 64k leased line to the Internet. The PC on which this letter is written, he built himself. It is running Windows 2000 Professional SP2. It's a 200MHz Pentium MMX (1997) with 128MB RAM, 15GB HDD, 17" Samsung monitor, etc. He has the technical knowledge to set up a networked computer centre, install and administer the servers, e-mail and internet gateways. We also need a scanner, colour printer, fax machine (or an all-in-one, for example, the HP OfficeJet G95), photocopier, laminators, binders, a range of office and/or school stationery, as well as computer consumables.

We are looking for sponsors to assist us in getting the Computer Lab up and running. We will attend to the advertising and marketing, promotions, talking to schools, talking to people in the area, and everything else it takes to make the business work. We will sell consumables, build PCs according to user specifications, host vendor-approved meetings and/or training courses ... everything and more that any other centre of a similar nature or purpose can and will do.

The goal of an envisaged *after-school program* will be to broaden the computer knowledge of school children by introducing them to software applications not generally part of their school curriculum. The program will be supervised by one technical expert and will be held every afternoon, Monday to Friday, from 16:30–18:30. The activities will concentrate on multimedia projects using sound and visual imaging. The children may decide to use the world wide web as a resource for project materials, or one of the reference works in the CD-ROM Library. The results will be that children will do better at school, will improve their language and communication skills, and that fewer will feel marginalised due to personal circumstances.

Background

Real disparities exist in access to and use of information and communications technology (ICT) between countries (the "international digital divide[iv]") and between groups within countries (the "domestic digital divide"). There is a wealth of real and anecdotal evidence to support this statement. The volume of statistics is impressive and persuasive: "In the entire continent of Africa, there are a mere 14 million phone lines – fewer than in either Manhattan or Tokyo. Wealthy nations comprise some 16 percent of the world's population, but command 90 percent of Internet host computers. Of all the Internet users worldwide, 60 percent reside in North America, where a mere five percent of the world's population reside" (Nkrumah). "One in two Americans is online compared with only one in 250 Africans. In Bangladesh, a computer costs the equivalent of eight years average pay" (The Economist). Underlying trends are often lost in the heated debate over how to define the problem, but a pattern emerges from within the statistics.

There is an overall trend of growing ICT disparities between and within countries:

a). All countries, even the poorest, are increasing their access to and use of ICT. But the "information have" countries are increasing their access and use at such an exponential rate that, *in effect,* the divide between countries is actually growing.

b). Within countries, all groups, even the poorest, are also increasing their access to and use of ICT. But within countries the "information haves" are increasing access and use at such an exponential rate that, *in effect,* the division within countries is also actually growing.

In highly developed countries a different process *appears* to be occurring, but upon further examination, it is the same pattern of growing ICT disparities:

a). In certain rich countries (such as the US and Finland), saturation points for baseline technologies such as PCs have almost been reached for some groups. Therefore, since the underserved are increasing baseline technology access and use, the gap between the information "haves" and "have-nots" *appears* to be closing.

b). A closer look shows that even when the gap for a particular technology appears to shrink, underlying disparities remain. When new technologies are introduced, the actual divide is re-illustrated because only the "information haves" can afford to acquire and have the skills to use the technology quickly, and they derive exponential benefits.

c). Underneath the apparent widening and narrowing of the ICT divides, the underlying trend is that privileged groups acquire and use technology more effectively, and because the technology benefits them in an exponential way, they become even more privileged.

d). The infusion of ICT into a country paints the existing landscape of poverty, discrimination, and division onto the new canvas of technology use. Because ICT can reward those who know how to use it with increased income and cultural and political advantages, the resulting digital divide shows up in increasingly stark contrast.

e). Therefore, ICT disparities usually exacerbate existing disparities based on location (such as urban-rural), gender, ethnicity, physical disability, age, and, especially, income level, and between "rich" and "poor" countries.

f). The digital divide is not a single thing, but a complicated patchwork of varying levels of ICT access, basic ICT usage, and ICT applications among countries and peoples.

g). Each country and group has a unique profile for how technology is used, or not. While a few countries rate low on many of the metrics for ICT use and readiness, most have a mixture of positive and negative ratings.

h). Divisions can only be effectively tackled by looking at these specific deterrents; gross measurements of ICT usage available in most reports on the digital divide do not provide a coherent plan of action to address the inequities they describe.

i). E-readiness assessments are a valuable tool with which to gain this more informed, region-specific understanding, and to develop an action plan.

j). Donation and other philanthropic programs are actually very necessary. Donations and philanthropic programs have demonstrated the useful application of technology among underserved populations, but in many cases they have failed to produce sustainable, widely replicable models.

This perception is changed by the Computer Lab. The model is widely replicable and sustainable providing the users can afford its services. Other research shows that “Computers sit in classrooms and closets around the world unused, because teachers don't have the training and support to use them”. This perception will change too as the Computer Lab will be able to provide training and support to anyone and everyone who needs it.

ICT Growth and Equity

The stark reality is that ICT usually benefits privileged communities first – those that have the education and resources to afford the technology and the skills to use it. Since ICT skills can (although not necessarily) lead to higher paying jobs and opportunities, ICT is exacerbating existing inequalities. Likewise, companies with the resources to take advantage of ICT are often larger companies or branches of foreign multinationals. These companies are increasingly enabled to reduce internal costs and coordinate dispersed offices and operations, and thus beat or buy out their smaller, domestic competitors.

None of this is necessary, however. ICT exacerbates inequality only when the privileged gain effective access to them and others do not, or receive only minimal access. If no other lesson comes out of this report, it should be clear that ground-level efforts and government policy are fundamental to changing the status quo and spread the benefits of ICTs. Only with a concerted effort will the potential of ICTs impact on and improve people's quality of life, whether they are underprivileged or not.

Development initiatives have been essential to providing basic access to underserved populations, but have failed to provide sustainable, replicable models for community ICT use, and often err with top-down approaches that are not grounded on the needs, interests, and active direction (or even participation) of local residents. Government policy has often tried to meet the short term demands of their constituencies, but failed to provide a coherent long term plan for prosperity, or hindered the efforts of development initiatives and private sector markets to address ICT disparities. The private sector has slowly spread the technology to middle income groups, but on the whole has failed to see the developing world and underserved populations as valuable markets which require targeted products, thus exacerbating existing inequalities. Together, the three have provided pieces of the puzzle including valuable practical experience in ICT usage, but failed to provide real access in society, and the economic growth needed to fuel further access.

Without the entrepreneurship of individual operators (such as Al'Muash Networks) of tele-centers spreading technology to other income groups, and government policy encouraging and supporting equity, development initiatives face insurmountable tasks and no funding to finance them. Government policies are useless without ground-level programs to take advantage of them.

There are some basic perspectives on what the digital divide is and how to solve it, which focus on various elements of ICTs and ICT use:

a). the digital divide is a lack of physical connections and training – computer hardware, network access, and (in some arguments) training is required to bridge the digital divide – government, NGO and private initiatives should supply them;

b). the digital divide is a lack of computers, access and training, but the problem will solve itself in time – computer hardware and network access are required, but the market and selective development projects will solve this problem on its own by steadily lowering prices, fostering an IT training sector, and extending infrastructure to outlying regions;

c). the digital divide is a lack of computers, access and training, exacerbated by ineffective government policy – government actions (or inaction) hinder the development and use of computers and until these policies are changed, the digital divide cannot be solved;

d). the digital divide is a lost opportunity, with disadvantaged groups being unable to effectively take advantage of ICTs to improve their lives – what really matters is how the technology is used, and its incredible potential to improve quality of life for disadvantaged or underserved groups; effective use requires computers, connections, training, locally relevant content, and real applications of the technology to fit immediate needs;

e). the digital divide is a reflection of the lack of basic literacy, poverty, health and other social issues – computers are useful, but nothing will enable a society to bridge the digital divide until basic literacy, poverty, and health care issues are addressed.

f). Forecasting international and domestic digital divides is impossible without looking to the interplay of government policy, ground-level development efforts, and market driven growth. While reports and studies abound about the future of the digital divide, and their projections are as varied as the authors, no one really knows what will happen.

Al'Muash. will play an integral part in addressing the above issues. What Pakistan needs today is bandwidth at the speed and cost of that in developed countries. The cost of internet access in Pakistan is exorbitant. Too many companies are profiteering on the backs of the impoverished, and this must change. While there are moves to introduce WAP as well as cellular internet connectivity, the latter is affordable only by those extremely well-off companies and individuals, thus contributing even more to the "digital divide" where those in the low income groups are further marginalised and precious human resources are either undiscovered or wasted.

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[1] … "Information and communication technology will play a major role in making education more attractive and accessible to communities which have traditionally been excluded from high quality education in the sciences. This area is being actively explored in a number of bold experiments across the continent – but we must be even more bold than this – experimentation is not enough for it does not reach sufficient people. Exclusion from the Information Age equate exclusion from the benefits of the Information Age. The technological solutions do exist and they are the same technologies that will improve health care delivery, better service to marginalized communities, and greater awareness that underpins the true democratic spirit we must nurture on the continent". … "Information Technology has the peculiar nature that, provided the core infrastructure is in place, the benefits can be replicated to a very large number of users." … "The attractiveness of ICT for our continent is not that it provides primary resources, but that the same channel becomes the basis of conversation and conversation is the basis of both democracy and education. Science is a highly structured conversation, but it remains a dialogue at the cutting edge. Science and technology are at the heart of the debate about sustainable development. It is my hope that these reflections add to the growing realization that we require a conscious and strategic programme of action, which should be linked to the new African Initiative, to mainstream science and technology as key instruments of sustainable development in Africa."