OUR COMMON HUMANITY IN THE INFORMATION AGE

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Our common humanity in the information age, and particularly the use of information technology for economic development, is an issue of pressing importance. We have been talking about the issue for a long time, but we haven't solved it yet. I want to discuss some very practical solutions that I hope we can push forward in the area of using ICT to achieve the Millennium Development Goals.

For three years, the UN Millennium Project, on behalf of Secretary-General Kofi Annan, worked with scientists, engineers and development practitioners around the world to try to identify the reasons why certain parts of the world are still trapped in extreme poverty, at a time when so much of the world is surging forward. We have to understand those basic reasons before we can make a proper diagnosis and a proper set of prescriptions for moving forward.

After all, extreme poverty is not the norm on the planet, it is increasingly the exception. Economic stagnation or decline is also not the norm, but fortunately increasingly the exception as well. Hundreds of millions of people are being lifted out of extreme poverty and all of this gives an opportunity for us first to learn some lessons of success and to better identify some parts of the world are struggling to so remarkably and profoundly, with the epicenter of the development challenge remaining in sub-Saharan Africa.

We tried our best in the Millennium Project to examine that, and we found that the major differences between success and failure were not overwhelmingly due to politics or governance. We found that certain structural conditions with a very powerful weight were causative of the trap of extreme poverty in many parts of the world. We found four kinds of structural conditions that seemed to be pervasive and of significant quantitative importance.

First, places that have not achieved an agricultural breakthrough, a so called Green Revolution, almost invariably were trapped in extreme poverty. One of the biggest differences between Asia and Africa in the last forty years is that Asian farmers, including small holder farmers, achieved an increase of crop yields from about 1 ton per hectare 40 years ago to around 3 or more tons per hectare today. African farmers are still achieving only about 1 ton per hectare today. Africans are hungry, Africans are not able to produce adequate amounts of food to keep families alive, to keep children healthy, much less to earn a surplus and achieve economic development. There are a lot of reasons for that, including the greater difficulties of farming in Africa. The depletion of soils, the

economic isolation of rural communities, and the climate are factors, but in essence they all come down to extreme poverty itself as preventing small holder farmers from getting access to the basic inputs that they need to be more productive.

Second, we found that the burden of disease was a fundamental determinant of stagnant progress and that ecologies that were conducive to higher disease burdens, such as African malaria ecology or other tropical disease ecologies in Africa, were fundamental reasons for the persistence of poverty. Again we found that there were practical approaches to alleviate the suffering because in almost all cases -- whether it is the problem of malaria, AIDS, TB, respiratory infections that kill nearly two million children a year, parasitic infections, undernourishment, mothers dying in childbirth -- there are easy solutions.

Third, we found that economic isolation was a huge factor in outcomes. In almost any part of the world, communities living in the mountains, living in landlocked regions, living far from coasts and navigable rivers have a harder time achieving economic development than populations living near the coast, near major navigable rivers, or along trade routes. This is not surprising but it's often neglected by politicians and policy-makers. The U.N. has always been very clear on this point - about the special needs of landlocked countries, about the special needs of remote small island economies that face particular vulnerabilities. Economic isolation is a huge force for stagnation and for the poverty trap. It happens that in large parts of Africa, for example, population densities are higher at high elevation and in the interior of continent than they are at the coast because farm conditions are much better at the higher elevations. This has led hundreds of millions of people to move to the interior of a continent that is otherwise difficult to reach from the point of view of trade routes and communication.

Fourth, we found that natural hazards -- droughts, floods, El Ninos, tropical typhoons and hurricanes, seismic events -- are all additional major risk factors not only for immediate crises, but also for long-term development.

Addressing these specific underlying structural challenges that are trapping whole regions in extreme poverty requires very practical interventions and investments that can address these burdens and barriers. In agriculture, there is plenty of evidence that African crop yields could be tripled, or more, in a short period of time, if farmers were availed of the basic inputs that they need for high productivity agriculture. It is absolutely clear that low cost interventions are available to save millions of lives every year, to help communities to free themselves of the horrors of malaria, AIDS, TB, diarrheal disease, respiratory infections, other preventable diseases, micronutrient deficiencies, mothers dying in childbirth, are all absolutely necessary. These conditions need practical, low-cost interventions that have been proven for decades, but which simply do not reach the poorest of the poor now. There is a wonderful paper from the World Bank which has done a superb analysis of where a road network ought to be placed in Africa, because there are no roads from East to West. The analysis shows that trade would be multiplied enormously if it were actually possible to have low-cost exchange of goods. Information technology has the lowest cost for access right now – that's where the true revolution has to come.

Similarly, hazards are predictable to some extent. We have increased climatological knowledge on how to anticipate the kind of El Nino which is now causing floods in East Africa. El Nino was forecast several months in advance, but was that forecast meaningfully used to identify risks, to pre-position supplies, to help communities face the kind of challenge that would likely arise? The general answer is "no, not to any significant extent". Information technology can play a pivotal role in every one of those areas: for improved farm productivity, for health care, for breaking economic isolation, for disaster preparedness.

I have seen every one of these demonstrated to an extraordinarily powerful extent within the last few months. I was in a very poor village in Tamil Nadu just a couple of months ago where a farm IT kiosk has been established to help farmers identify which markets to use for selling crops. It's not a theory, they're doing it every day, and it has tremendously increased their effectiveness in marketing their crops. And it's a little kiosk almost in a rural area, with many farms around. The farmers come and use very low cost commercial programs. This is an area where every one of the information and communication technologies is absolutely pivotal. A cell phone, which is probably the most revolutionary of all ICT technologies, becomes the 911 service for a village. With one truck somewhere within ten or twenty kilometers and with a plan, as all of a sudden one can take core of emergency medical deliveries. Who is doing it right now? A few communities. Who could do it? Virtually everyone, everywhere.

The amazing thing about cell phones is that they essentially work everywhere, even where people are too poor to have cell phones. In the villages where we were working in Africa, my cell phone works just fine. Nobody has a cell phone around. But with a little bit of investment, we can have a cell phone with a truck driver, with a community health worker, with a teacher, to change the life of these villages. And it does not take everybody having the connection; it takes one person who can reach of everybody else. Telemedicine is another obvious area where a tremendous amount can be done using ICT.

When it comes to isolation, clearly, the beautiful thing about ICT is that you do not even need the road, so virtually every place in the world can be on an inexpensive cell phone. Literally every place in the world can be on broadband by putting up a VSAT and just pointing the dish in the right direction. And that costs about $10,000 right now for a village of 5,000 people. It is maybe $2 per capita lasting for many years.

The realistic costs of getting everybody on-line are tremendously low. We talk a lot about it, but we haven't done it yet. The ability to make a breakthrough here is profound. New satellite services dedicated to data transmission for climatology information is just one of many examples where IT services, whether it is e-mail, cell phones or more sophisticated ICT, can be used for disaster preparedness, disaster relief, or more basic prevention against hazards. Information technology is a lot like treating malaria or a lot like helping farmers with inputs, in that the tools are proven and have been applied in hundreds or thousands of small-scale cases. Yet, they do not reach all who need them.

Africa still lacks a submarine fiber-optic cable up the East Coast. This is really a huge tragedy. It is the last part of the world that does not really have access to fiber optics right now. So if you want to do broadband from East Africa, you have to do it by satellite rather than by connectivity to the backbone or the global internet. This adds costs and reduces service availability. There has been discussion for years, of course. There was the idea of a loop around Africa – Africa 1 – but that project collapsed. A cable did go up to West African Coast successfully and that's changing life and access in West Africa. But the cable on the East African Coast has not yet been put in place. This is something where the African governments have to agree as it is not really something outsiders can do. It is taking much too long, because there has not been an adequate sense of the urgency or the recognition, perhaps, of all that can be accomplished by improved connectivity. It desperately needs to be done. The talk now is that by 2007-2008 it would be accomplished. The project is in its late stage, but it has been for quite a while, so it has to actually be completed.

A number of research groups have identified the cost of actually providing continent-scale terrestrial fiber optic systems in Africa, and one solid estimate is that for about one billion dollars one could connect all of the major cities of Africa with terrestrial lines. This is an affordable investment, because foreign assistance for Africa is supposed to reach $50 billion per year by 2010, according to the promises made at the G8 Gleneagles Summit in 2005. One billion dollars for a fiber optic backbone in Africa is not unaffordable, and it is a high priority. We should really be getting a comprehensive program in place, because this would change life everywhere.

Now, while all of that backbone is being done, we have to continue to pioneer on the individual project scale to identify success stories that can then be scaled up, on how to use cell phones to interface with the internet, for example, or for emergency medicine.

I also view the internet as important not only for the information that can be brought in or can be transmitted out, not only for helping to make the connections with markets, but actually as a source of jobs and livelihoods as well. India did it and that is really where the leadership is on creative solutions at village level. One can train large numbers of people with a high school education to provide basic IT services, such as data transcription, data entry, even some graphics and mapping facilities, translation, and other services, that can be sent out on-line, so no roads are required. People can provide these services remotely, from their villages.

E-governance is turning out to be a real source of livelihoods: where local governments with lots of paperwork need to put their records online and outsource that work - not half way around the world but to the village down the road. So a lot of service sector development could take place in the rural areas as well. We have been thinking about villages as agricultural producers and as manufacturers, but we ought to think about villages as making the breakthrough to the service sector as well.

All of this is to say that the importance of our common humanity in the Information Age is tremendous, because of the important general themes, but also because there is so much good that can be accomplished. The links between ICT and achieving the

Millennium Development Goals are not theoretical or remote, they are absolutely direct. They should be part of anybody's projects right now. That kind of empowerment is about as powerful as it gets to break isolation and deliver and transmit information with a remarkable effectiveness that we could not even have imagined until recently.

I conclude by saying that the Millennium Development Goals, which are arriving at their halfway mark between the start date of 2000 and the end date of 2015, are still within reach. We have pushed a lot of ideas that haven't gone into implementation, but 2007 to 2015 is time enough, because our tools are very powerful and the information and communication platform expands our power enormously.