The Bottleneck Is At the Top of the Bottle

IQBAL Z. QUADIR

"We shape our tools, and thereafter our tools shape us."

—MARSHALL MCLUHAN

Information and communication technologies (ICTs) have generated profound changes in advanced countries. A natural question, then, is how can these technological developments benefit poor countries? Development gurus and ICT experts are urging governments in poor countries to adopt the "right" policies to ensure that benefits from these technologies flow to their nations. They are, however, barking up the same old tree that does not bear much fruit.

Countries are impoverished in the first place because their governments have historically been unable to adopt beneficial policies. The attitudes of these governments towards ICTs are likely to be consistent with their past record of failing to take advantage of development opportunities. The real question worth discussing is whether ICTs can transform governments so that they are compelled to pay more attention to their citizens' broader priorities. By influencing governance, these technologies can release resources trapped beneath vested interests. This impact is far greater than the conveniences for which such technologies are ordinarily known.

The real question worth discussing is whether information and communication technologies can transform governments so that they are compelled to pay more attention to their citizens' broader priorities.

The evidence that good advice does not necessarily translate into good policy surrounds us. Any government official can buy copies of Adam Smith's and David Ricardo's works—they have been around for 200 years. Yet governments in poor

Iqbal Quadir is a lecturer in Public Policy at the Kennedy School of Government, Harvard University, and the founder of GrameenPhone in Bangladesh.

countries invariably do not make use of such advice because the vast benefits to development may come at a cost to existing powerful elites. Nobel Prize winner Amartya Sen[1] eloquently argues that freedom is development itself and, simultaneously, an engine for economic growth. Unfortunately, this may not convince governments to grant more freedoms to their citizens. It does, however, highlight the importance of processes that may transform societies and their governance, particularly if they lead to more freedom.

The extent to which governments fail to pursue an idea or policy that furthers broad interests depends, quite simply, on whether the government is accountable to the general public or to a narrow elite. When narrow interests rule, policies that promote those interests are likely to be adopted even if they hurt the country's general economic health or sacrifice the benefits of a particular technology. After all, the countries where ICTs are flourishing today (such as the United States and Great Britain) did not necessarily have specific national ICT strategies. All they had was old-fashioned good governance. The real bottleneck blocking the benefits of ICTs in developing countries is the quality of general governance.

Interestingly, under authoritarian regimes such as China, ICTs are proliferating because of substantial foreign investment, the economic boom, and the infrastructure modernization in the last 20 years. The Chinese government has been trying to reap the economic benefits of these technologies while at the same time proactively adopting strategies to contain their democratizing effects.[2] While the long-term effect of this containment effort is unknown, the government's very attempt confirms that ICTs can be an effective force against authoritarianism. However, some of the world's poorest countries are not necessarily under authoritarian rule. Instances of extreme poverty are usually found in countries with comparatively more subtle abuses of state power—in places where narrow interests rule through the state machinery. In poorer countries like those in South Asia or Sub-Saharan Africa, abject poverty is widespread; economic growth, foreign investments, and infrastructures are lacking; and entry and effects of ICTs are not obvious.

The real bottleneck blocking the benefits of ICTs in developing countries is the quality of general governance.

Some observers note the profound changes ICTs have wrought in rich countries and quickly extrapolate that these effects exist worldwide, ignoring their potentially different impact on at least half of the world's population, which lives in poverty and in misgoverned countries. Others realize the equalizing and distance-killing effects of ICTs and make equally sweeping conclusions about poor countries finally finding a level playing field. Realists, however, point out that ICTs would not necessarily do away with the advantages of rich countries

because "economies of scale and barriers to entry persist in regard to commercial and strategic information."[3] While these realists are probably right, the issue is not about competition among nations; it is about overcoming abject poverty and bad governance. ICTs do not have to put rich and poor countries on an equal footing to be significant to the latter. They will play a very meaningful role if they merely enable poor countries to attain a degree of freedom and prosperity for their citizens. Realists continue to worry that ICTs cannot enter into countries and make whatever difference they can bring about if governments do not adopt the necessary policies. Thus is their appeal to the governments.

All this analysis misses the true power of technological innovations—the possibility of "sneaking into" poor countries, often uninvited by their governments, and transforming the political and economic landscape. In the absence of liberal policies, ICTs may not be able to make the biggest or the swiftest impact, but they are nonetheless able to bypass or overcome significant barriers. Satellite technology, for instance, dramatically changed the television industry in India where laws had previously prevented the airing of privately made programs. The new technology enabled local entrepreneurs to air Indian-made programs from outside the country, thereby boosting the number of television sets from 2 million to 100 million in 10 years,[4] accompanied by a proportional increase in public discourse.

IMPEDIMENTS TO TELECOMMUNICATIONS EXEMPLIFY GOVERNMENT INTRANSIGENCE

One of the oldest examples of ICT is basic telephony, whose connection to economic development is well-established. More than a decade ago the International Telecommunications Union (ITU) established that each new telephone in a poor country boosts its annual gross national product (GNP) by a factor of three-to-four times the initial cost of installing the line. Yet the severe shortage of telecommunications facilities in developing countries is well known. This shortage does not stem from a lack of economic viability, knowledge of the benefits, or consumer demand. Telecommunications equipment is fairly standard and available for anyone to purchase. Telephone networks are profitable in poor countries because of high demand and the basic value they add to people's lives. As a result, foreign companies are quite willing to set up networks in poor countries using their own expertise and capital if only the local governments would provide licenses and satisfactory legal frameworks. In many cases, however, the government remains unwilling.

Some governments avoid opening up the telecommunications sector, arguing that foreign investors would siphon off profits to their home countries. However, foreign operators cannot unfairly profit from consumers if host governments unleash adequate competition. The Singaporean economy is largely based on

investments from foreign corporations. A strong legal framework and a competitive business climate have helped Singapore's citizens attain high levels of prosperity without subjection to foreign exploitation. The introduction of foreign competition benefits the population by tearing down the walls of monopolistic pricing. Outside operators cannot drain foreign exchange by repatriating profits because a more liberalized competitive environment would attract larger foreign investments.

In the absence of liberal policies, ICTs may not be able to make the biggest or the swiftest impact, but they are nonetheless able to bypass or overcome significant barriers.

The real impediment to foreign investments in telecommunications is the reluctance on the part of the host governments to liberalize the sector and to establish necessary regulatory institutions—moves that would jeopardize the interests of the few who benefit from inadequate and inefficient networks and an overall restrictive environment for economic activities. Despite the established fact that telecommunication is directly linked to economic growth and that reform in this sector leads to growth both in this area and in the larger economy, 106 countries and territories out of 236 had not undertaken any meaningful telecommunications reform by the end of 2000.[5]

GOVERNMENTS ARE TARGETS FOR MANIPULATION BECAUSE OF THEIR CRITICAL ROLES

Noted economist Mancur Olson argued that economic development depends on producing "complex goods efficiently that require the cooperation of many people over an extended period of time, or to achieve the gains from other multiparty or multi-period arrangements."[6] Such complex goods (e.g., building a house or entering into a business deal) can be efficiently produced when there are fair and accessible institutions that can enforce contracts. In the absence of institutions to enforce contracts, a society remains confined to buying and selling simple goods (e.g., potatoes and onions), as is commonplace in poor countries. Therefore, economic development critically depends on institutions that only governments can provide.

However, governments' decisive role even in private production of goods through regulation (because of the need for contract-enforcing institutions, for instance) invites intervention by powerful elites bent on pursuing their narrow interests at the expense of broader societal goals such as economic growth. In the absence of checks and balances (such as an independent judiciary, peer review, watchdogs, and an independent and investigative media), public institutions

become convenient power bases for private ends that use the government to distort markets and redistribute wealth to a select few.

The negative consequences of this behavior for the society as a whole can be devastating. The damage caused by a narrow interest group to the larger society has to be very extensive for the narrow interest group to feel the pain wrought by that damage. For instance, if a special interest represents one percent of gross domestic product, it pays for it "to press for both governmental and cartelistic redistribution to itself up to the point where the social losses are hundred times as great as its gain."[7] Similarly, if an industry represents one-thousandth of a country's income, the industry owners will be adversely affected only when their actions reduce the national income a thousand times more than their gains. In other words, the social losses have to be almost infinitely larger to discourage narrow interests from bribing or pressing for privileges such as unfair monopoly grants and import licenses, unless checks and balances are in place.

The imposition of narrow interests over a nation, and the profitability thereof, often leads the ruling elites to exercise firm control over large populations at the expense of general economic development. As a result, freedom, despite its many beneficial effects, is often hard to obtain. China is a classic example insofar as over the last millennium, it has declined from the most advanced society in the world to one of the poorest because "its government clamp[ed] down too tightly as to leave no room for new development."[8] Control serves the ruling elites well. It secures what they already have, with costs being largely covered by the social and economic degradation of citizens. Such degradation of citizens facilitates greater control and imposition of additional narrow interests, thus perpetuating poverty and bad governance.

OTHER FACTORS CONTRIBUTING TO BAD GOVERNANCE

Despite an increase in professional institutions and multilateral organizations promoting international norms of behavior (e.g., the World Bank, the International Monetary Fund, and the various bodies of the United Nations), corruption is on the rise. According to Transparency International, there is "a worldwide crisis involving pervasive misuse of power by public officials."[9] Lack of education or absence of ethical norms is not the reason. Worldwide enrollment in school has increased consistently over the last 50 years and cultures everywhere promote ethics.

The reason for this general malaise is the rise of statism (the idea that the state has the right to control most aspects of public life) during the last century despite the recent move towards democracy by a number of countries. Though each country has its own complex and unique history, the rise of statism in general marginalized citizens in most poor countries and concentrated power in the

hands of state leaders. The growth of communist and fascist regimes created obvious problems. However, the international response of providing aid to poor countries to contain communism after World War II provided an extra boost to statism. The Cold War rivalry, having started at approximately the same time as many developing countries began to gain independence from colonial rule, enabled newly formed states to find comfort in aligning with one of the two warring blocs. Local elites who took over from the colonial powers found it relatively easy to use the inherited colonial machinery to extend state power. Recently emancipated populations of these countries placed their trust in their leaders, while nationalistic feelings overrode economic priorities and incorporation of proper checks and balances. Furthermore, the existing inequality between the rich and the poor made it easy for vested economic interests to assert themselves in the state machinery.

During the same period a command-and-control management style became somewhat fashionable in industrialized nations. The Allied victory in World War II created a favorable impression of the military approach to solving problems. Companies in developed countries were also enjoying economic success through command-and-control corporate structures.[10] New mathematical tools in operations research, control theory, and macroeconomics extended managers' abilities to solve larger and more complex problems. And indeed, governments in rich countries successfully carried out wars on poverty and economic recoveries within their own borders.

These factors created the perception that state-led efforts worked. Government agencies in rich countries and multilateral organizations began sending aid to governments in poor countries, thus strengthening their state machinery. This approach, of course, served the powerful bloc forces as well. It kept the Cold War rivals happy in their geopolitical aims and, simultaneously, local elites in the poor countries found in strengthened states convenient power bases for their pursuit of narrow interests.

The rise of statism in general marginalized citizens in most poor countries and concentrated power in the hands of state leaders.

However, the aid to governments contributed three problems, all damaging the economies of poor countries. First, it reduced the recipient governments' need to listen to their own citizens by providing them with funds external to their economic systems. Many "of the poorest and least effective states have been 'externally-oriented'...[meaning] that the governing elites have much more incentive to please external agents (other states, large transnational companies) than to build or maintain legitimacy among their own citizens."[11] Second, fed from out-

side, the states become inefficient and unwieldy. For instance, "the African state has tended to be overblown, interfering, and predatory to the point where the ability of its officials to monopolize and misallocate scarce resources has distorted the underlying economy, stifling every kind of enterprise and investment."[12] Third, since central governments receive aid or approve its application, external funding increases their power vis-à-vis local governments. This is unfortunate inasmuch as local governments tend to be more aware of the problems facing citizens and work harder in response to competition and peer review.

Narrow interests play out more comfortably in a less accountable but strengthened state. Ruling elites, benefiting from the absence of checks and balances, have even fewer reasons to establish such measures of accountability when aided from outside. Aid to governments simply adds power where it is already concentrated, and creates a new set of beneficiaries both in developed and developing countries who resist efforts for change. Attempts to make aid more effective by directing it to specific target sectors or by imposing conditions have not been successful. William Easterly, former senior advisor to the World Bank, recently explained how the various top-down state-led efforts have, by and large, failed because incentives for development were misaligned.[13] Although different approaches were adopted, all involved strengthening the state, centralizing it, and making it immune to pressures from citizens—factors that contributed to worsening governance. This deteriorated governance may well be at the root of economic decline in poor countries that only stabilized at a non-growth position in the last decade when aid itself had declined. According to Easterly, "the growth of output per worker [in poor countries] was three percent in the 1960s, 2.5 percent in the 1970s, 0.5 percent in the 1980s and 0 percent in the 1990s."[14]

As evidence that government-led economic development can work, many cite the case of East Asian governments, particularly after the Second World War. This system apparently paved the way to open trade and other liberal policies, dramatically boosting East Asian economies and significantly reducing the proportion of their populations in poverty. Actually, business interests grew through trade and became powerful enough to influence government policies conducive to commerce.[15] With access to American markets resulting from political and military events (American involvement in the Second World War, the Korean War, the communist threat, and the protection of Taiwan), businesses grew rapidly and became the driving force behind government policies. Powerful economic interests pushed for economic growth, investment in plants and equipment, and education. It is the growth in business that eventually empowered citizens through jobs, training, and schooling, thereby building up forces for democratization.

While public institutions are necessary for proper functioning of markets and protection of many rights of citizens, the effort to build up public institutions in the absence of private enterprise has also been counterproductive.

Without the countervailing pressure generated from the economic growth in the private sector, public institutions in poor countries often became the concentrated power base to be abused. In today's advanced countries where governments remedy problems caused by businesses, people forget that businesses helped disperse power in the first place, and that economic growth and good governance co-evolved from the bottom up. Capital investments increased people's skills and incomes and pulled children to school. Innovations let new players enter the game. Diversification of interests that accompanied economic expansion prevented businesses from acting collectively against consumers, investors, employees, and trainees. Rather, the materially empowered citizens questioned misrule of authorities and bad practices of businesses. In contrast, governments dependent on aid and not on a locally dispersed economic base can forgo economic growth, making citizens poor and unimportant.

THE DIFFICULTIES IN IMPROVING GOVERNANCE

Improving governance in poor countries is probably one of the most difficult problems to solve. First, as was discussed already, governments' critical roles in creating a level playing field (in the game of producing wealth) invite manipulations, calling for an extra layer of protection against corruption. Second, developing countries have the usual set of problems associated with the sclerosis of big bureaucratic organizations, especially when scrutiny from outside is weak. If large business organizations in rich countries, facing vocal consumers, investors, and the media, have serious problems of inefficiency and lack of vision, it can hint at the problems governments in poor countries are likely to have when they face little scrutiny from outside.[16] Third, people are afraid to point their fingers at the places where power is concentrated. Almost 500 years ago, Niccolo Machiavelli, when trying to guide his Prince, noted that citizens had much better qualities than their princes. He felt that citizens made fewer and smaller errors and were more corrigible, although they usually were blamed when things went wrong. Machiavelli explained that "[o]pinions of dispraise of people originate in the fact that everyone can speak ill of them freely and without fear. Of princes one can only speak on any occasion with a host of fears and precautions."[17]

The problem of governance is so pervasive that the World Bank and the United Nations have come to recognize it in the last decade. James Wolfensohn, president of the World Bank, stated that "the most important component [in the effort to develop poor countries] is how they govern themselves."[18] On the same topic, Kofi Annan, Secretary General of the United Nations, recognized that "the issue is primarily that of governance."[19] And, of course, both of their organizations and many others have produced volumes of documents publicizing the importance of good governance and how states should adopt it.

However, such recognition and the prescriptions that follow ignore the problems inherent in developing states. Despite vast differences in wealth, power, and other practical matters among sovereign states, they are seen as stand-alone entities and, by that definition, somewhat equal in terms of how they treat each other. One result of this "equality" is that the models and ideas that emerge in well-governed countries are automatically assumed to be replicable everywhere. People in a well-governed country can debate whether the market or the government is appropriate for a given task because the quality of governance can be taken for granted. In an ill-governed country a market-versus-government debate has little meaning since forces not accountable to the public can manipulate both market and government. The net effect is the glossing over of underlying problems.

It is the growth in business in East Asia that eventually empowered citizens through jobs, training, and schooling, thereby building up forces for democratization.

Furthermore, even if the problems of governance are recognized, governments face difficulties in their internal remedies. In China, for example, Communist Party officials are known to sell government posts for personal gain. One enterprising official even sold the post of chief of the anti-corruption bureau for $31,300.[20] Indeed, the Chinese government's efforts to root out corruption within its ranks over the last five years have been largely unsuccessful.[21]

TECHNOLOGY PROVIDES A WAY OUT

If concentration of power has contributed to poor governance, the solution must lie in dispersing power. The distribution of power (in terms of economic and political clout) determines the demands citizens can make from their governments and, in particular, for checks and balances to restrain powerful individuals.[22] In particular, good governance emerges when ordinary citizens can demand checks and balances to restrain powerful individuals. Because checks and balances serve those with smaller means and constrain powerful people, the initiative for them is usually a grassroots movement that can only happen with progressive empowerment of the citizenry.

This is why recognition of governance problems at a high level may do little good unless recognition is followed by genuine dispersion of power. Actual economic and political pressure brings about more realistic change than explanation of and argument for the benefits of change. For instance, Japanese cars were far more effective in bringing real change to the American automotive industry than all the advice and arguments engineers and management gurus heaped on Detroit.

Similarly, technology, without necessarily introducing enlightenment or new arguments, can quietly initiate novel ways of making things or trading them, and effectively put new twists on economic activities, potentially redistributing economic and political clout. Thus, technological innovations can act as an "invisible leg" moving the economy from one location to another in terms of distribution of economic and political influence that impinged on further resource allocation.

This ability to redistribute power is further enhanced by the "surprise element" that is usually associated with innovations. Surprises often help overcome barriers that are placed by existing economic interests. Each piece of technology generates new possibilities that are sometimes unimagined even by its inventors. Thomas Edison conceived of the phonograph to provide spelling instructions for the blind and to record messages from dying people. Twenty years later, he reluctantly accepted that his invention actually led to recorded music. Alphabets were developed over the millennia for writing and reading purposes, and they unintentionally gave rise to alphabetization, a technology without which dictionaries, telephone directories, and many other convenient data management systems would have been impossible. More interestingly, as the population of technologies increases, the recombinant permutations expand exponentially, dramatically increasing the chances of making new things, thus redistributing economic and political might.

In an ill-governed country a market-versus-government debate has little meaning since forces not accountable to the public can manipulate both market and government.

Technology's ability to bring about economic and political change is not new. One can go back to the technology-driven agricultural revolution, which eventually led to a whole set of new economic activities, social structures, and political institutions. Agricultural surplus gave rise not only to the need for storage and rationing, but also to the idea of accumulating wealth, its protection, long-term arrangements, and eventually economic power. Within the last millennium, the European feudal society came and went because of technological changes. Simple stirrups allowed the emergence of feudal lords by effectively combining horsepower with manpower in combat. Later, new technological revolutions in Medieval Europe gave rise to small businesses and eventually a merchant class that allied itself with the monarch to integrate national economies and put an end to the feudal lords.

Simple technical innovations such as water mills, eyeglasses, and mechanical clocks empowered many ordinary citizens in Europe as early as the Middle Ages.[23] This enabled the emergence of many entrepreneurs, which in turn gave birth to even more innovations. These entrepreneurs had sufficient economic and political power to press for and they could obtain property rights and rule of law

as compromises, not gifts, from their political and military authorities. What gave an additional boost to this process were the weaknesses among the rulers who were forced to make compromises that eventually turned out to be beneficial to society. Since the fall of Rome, political authorities in Europe were fragmented and small. In order to survive they had little choice but to compromise with these entrepreneurs. "Despotism abounded in Europe, too, but ...fragmentation gave rise to competition, and competition favored good care of good subjects. Treat them badly and they might go elsewhere."[24]

Recognition of governance problems at a high level may do little good unless recognition is followed by genuine dispersion of power.

In short, European good governance emerged through compromising authorities (because of fragmentation of the continent) and rising citizens (through empowerment by technology). This process progressively allowed citizens to bargain for and achieve checks and balances that were in their interest. Each acceptance of demands meant a further devolution of authority, a further empowerment of citizens, and a broadening of interests impacting on governance. A virtuous cycle ensued involving economic prosperity, investments in technology, and broadening of interests. This model is in stark contrast to what happened in poor countries after World War II. The rise of statism set off a vicious cycle in poor countries that served to strengthen authorities and further marginalize citizens. Global impact ICTs, on the other hand, parallel the experience in Europe since the Middle Ages, and empower citizens and compel governments to make compromises.

EMPOWERING FROM BELOW

ICTs at the consumer level tend to be capital-light with benefits expanding and devolving to an increasingly larger population. While there are reasons to fear that new technologies in general could indeed further concentrate power as many past capital-intensive technologies have done, a key feature of ICTs is the constant decline in price. Moore's Law captures this effect in its expression of an expected doubling of computing power every 18 months while maintaining level cost. As prices continue to decline with respect to computing power, the cost of access will also fall and the ease of using ICTs will improve (i.e., consumers with lower skills will be able to use them). Moreover, ICTs have a genuine global reach because of the Internet, because miniaturized equipment can be easily transported, and because digitized content can be sent over great distances with virtually no physical constraints. In short, ICTs are becoming more accessible to the developing world in terms of affordability, proximity, and necessary skills.

GrameenPhone, a cellular telephone company in Bangladesh, illustrates the new possibilities of access in poor countries that has been made viable by declining costs of digital technologies. Its service is rapidly expanding and is already available in 11,000 villages, previously without telephones, giving access to approximately 20 million people. Each village gets connected to the rest of the world and receives information on market prices, doctors, job opportunities, and the well-being of relatives.

Once access is expanded to larger segments of the population in poor countries, ICTs empower individuals along at least four dimensions: enterprise, organize, scrutinize, and surprise.

Enterprise

ICTs help start small enterprises. They are usually "producer" tools, not consumer goods. They allow greater and easier access to information and help bypass barriers while compensating for weak infrastructures in developing countries. A cellular telephone can overcome at least some of the problems posed by inadequate telecommunications networks and bad roads. Voice recognition can partially overcome problems of illiteracy. The Internet compensates for the absence of libraries. ICTs also help in storing expertise, a scarce resource in poor countries. For instance, a simple spreadsheet can store thousands of rules and instructions for a particular task.

On the ICT development side, lower costs of computing and communications are enabling small companies in developing countries to deliver programming services to companies in richer countries. An enterprising college graduate in a poor country can start a programming business with relatively little capital instead of looking for a job in a factory. Since products in electronic form can be "shipped" instantly, harassment typical in a poor country's customs office is not possible. India's software export, which today stands at $8 billion a year and is expected to surpass $50 billion in a few years, has not been possible merely because of talented workers there. Talented workers were there for other industries as well but could not help those industries expand because of various operational restrictions and import-export rules. Software exports, however, are relatively easy in India because this industry is able to escape such restrictions. While it is large companies that are producing many of these exports today, the field is creating new and dramatic possibilities for young people who may or may not be working in this industry currently.

When a country changes from being dominated by five businessmen to, say, 500, arbitrary influence by a few begins to fade and checks and balances begin to emerge.

When a country changes from being dominated by five businessmen to, say, 500, arbitrary influence by a few begins to fade and checks and balances begin to emerge.

At a lower level, satellite television provides an example of how a specific ICT development helped small businesses spring up throughout the developing world. Entrepreneurs capture programs through satellite dishes and operate tiny cable systems in their neighborhoods. Hundreds of thousands of such entrepreneurs are gaining political voice, along with millions of viewers, and are shaping the attitudes of governments regarding future laws on airwaves.

Organize

Increased connectivity enhances the fundamental ability to organize and assert political rights. According to the *Los Angeles Times,* telecommunications services had more than doubled in Iran in the early 1990s and played a "pivotal [role] in the stunning upset victory in May [1997] of moderate President Mohammed Khatami." Apparently, "word of mouth campaigns brought millions of Iranians to the polls who had never voted before, particularly women and young people who rely heavily on telephones because of limited public forums for communications."[25]

Telephones have also played a role in removing political leaders. Filipinos effectively overthrew former President Joseph Estrada's corrupt regime through the use of cellular telephones. Thousands of citizens knew where and when to rally in Manila because of messages sent to their cell phones declaring, "'Full mblsn tday Edsa.' It was short for 'full mobilization today at the Edsa shrine in Manila.' Opposition leaders sent it to every mobile number they knew. Recipients sent it to every number stored in their handsets. Within minutes millions knew what was afoot."[26]

Similarly, many citizens' groups are organizing through the Internet, domestically and internationally, to make meaningful demands on authorities. Despite the Chinese government's great efforts to remove challenges to its rule, the "government felt angry and foolish when... 10,000 or more followers of the Falun Gong suddenly surrounded the compound in Beijing where the top leaders live ...organized in large part by e-mail that the government could not detect."[27]

Scrutinize

Increased access to information helps citizens assess and question misrule of authorities and bad practices of businesses. The ICT revolution, and the Internet in particular, is reducing costs for investigation, information gathering, transmission, and publication of information. As a result, new establishments with few vested interests in the existing order can pop up to challenge the status quo. This was not necessarily possible even in the case of privately held media if

their investments were large. Large companies tend to play friendly roles with the elites as they have much to lose in an unfriendly environment.

An Internet news site in India, Tehelka.com, put secretly made video footage showing senior politicians, bureaucrats, and army officers apparently taking bribes in connection with fake defense contracts on its site in March 2001. Millions of people were able to see the footage through the Internet and it led to resignations of both the defense minister and president of the ruling Bharatiya Janata Party.[28]

Surprise

The recent emergence of Internet services is a good example of how technological innovations, with the associated surprise element, shift power—in this case from government-owned telecommunications monopolies to private entrepreneurs. Internet services appeared throughout developing countries relatively rapidly due to the low cost of equipment and the existence of cheap personal computers. The speed of proliferation caught governments by surprise and they had no laws in place to stop private initiatives. In most countries they found their initial footholds due to unprepared regulatory environments, although they were later regulated. In addition, government organizations lacked the capacity to handle new technologies on their own. Ignorance led them to underestimate the potential impact of ICTs and they let these technologies slip out of their hands. This is exemplified by the fact that fixed telephone services are monopolies in 121 countries of 184 (67 percent) and Internet services are monopolistic in only 13 countries out of 97 (13 percent).[29]

New technologies often change the rules of the game and, as a result, vested interests are often unable to foresee their arrival and stop them.

New technologies often change the rules of the game and, as a result, vested interests are often unable to foresee their arrival and stop them. In rich countries, where new technologies emerge fairly routinely, this process is quite common. America Online and Apple Computer came seemingly out of nowhere to challenge existing large communications and computing companies.[30] The challengers' strengths were not large resource bases but in the surprise element itself. ICTs are particularly good at sneaking in to sclerotic societies because of decreasing costs, miniaturization, and virtually limitless possible ways of connecting. This surprise element also eases the entry of new competition, promoting growth, and checks and balances. In most developing countries, cellular licenses were issued without much opposition from existing interests in telephony because the potential of cellular was not understood.[31] Once in, they changed the rules of the game, preventing vested interests from taking any counter action.

...AND DEVOLVING POWER FROM ABOVE

The ICT revolution helped to end the Cold War by demonstrating the increasingly insurmountable differences between Western liberal economies and the Soviet system.[32] Consequently, it ended the superpower rivalry and the chances for dictators in poor countries to exploit the two warring camps that had boosted statism.

In addition, the ICT revolution has promoted trade and communication across countries, which has empowered individuals, businesses, and non-governmental organizations. As a result, responsibilities and authority are shifting to non-state entities on many fronts.[33] While capital-intensive means of communication may have helped governments exercise control in the past, ICTs are capital-light and can easily be owned by individuals worldwide, creating decentralizing pressure. As a result, devolution of authority is taking place worldwide through compromise, internalization, sensitization, and regularization.

Compromise

Governments have reduced power over their citizens due to broader and more diverse flows of information.[34] Different sources of information reduce the chances of people being deceived. Seeing how people in other countries live prompts demand for fairer and better treatment at home. Moreover, connectedness across borders makes it difficult for regimes to demonize foreigners. Demonizing human beings in other countries and creating a perceived threat from outside has been widely used to distract citizens from unresolved domestic problems.

On the economic side, governments are being compelled to reduce their portfolio of activities and retreat from areas over which they had complete control only a decade ago. The effect of satellite technology on Indian television is a case in point. The technology compelled the government to reduce its hold on this sector, and in effect freed the government to pay attention to the problems the private sector cannot solve. Another case is the effect of the Internet on international telephone calls, which used to be a lucrative source of revenues for governments in poor countries. People are using e-mails, making calls over the Internet, or even switching to prepaid cards, which are dramatically reducing revenues for the state-owned telephone operations.

Most interestingly, governments may even be forced to accept ideas and concepts that are beginning to compete with the concept of territory on which they place their strongest claims. "Within hours of the first gunshots of the Chiapas rebellion in Southern Mexico in January 1994, for example, the Internet swarmed with messages from human rights activists. The worldwide media attention they and their groups focused on Chiapas, along with the influx of rights

activists to the area, sharply limited Mexican government's response."[35] In terms of commerce, according to Joseph Nye, the "Internet is creating a new transnational domain that is superimposed on sovereign states in the same way newly created medieval markets were centuries ago, and it promises equally significant evolution of attitudes and identities."[36]

Internalize

Economic development seems to have spread from one place to another if genuine interdependency is established through trade, whereby one side internalizes the problems of the other. This is important because one of the roadblocks to economic development is the protectionist pressure in the rich countries. For instance, agriculture is very protected in the rich countries, being a sector where it is easiest for a poor country to develop an advantage.

The specific economics of ICTs, requiring massive development costs and negligible reproduction costs, make such companies seek out larger markets than a traditional manufacturer would. Each additional business has little production cost and, as a result, ICT companies are usually more enthused to pursue markets in poor countries. In the process, they become more aware of the poverty, illiteracy, and lack of infrastructures they find in these "new" markets. Were these problems solved, there would be millions more profit-producing customers at little cost. This awareness and the situation's impact on business make the solutions to their problems aligned to the new vested interests in rich countries. In addition, new technologies' high development costs drive companies in rich countries to subcontract to firms in developing countries, thus increasing the possibilities of healthy technology transfer. This may explain the extraordinary attention paid to the global "digital divide" in recent years, and such programs as Hewlett-Packard's e-Inclusion and Cisco's collaboration with the United Nations Development Program (UNDP) to produce NetAid.

By building up this global audience in the first place and contributing to general globalization, ICTs led to the possibility that the most powerful country would be sensitive to the impressions of young people in poor countries.

It goes without saying that vast markets are possible in poor countries for the Hewlett-Packards or Ciscos of the world if personal computers became available at one-third or one-fourth of today's price, a scenario that, per Moore's Law, is not unlikely.

Sensitize

After September 11, U.S. Secretary of State Colin Powell used MTV as a platform from which to reach 350 million young people worldwide. Because he chose to do this, in addition to talking to his counterpart foreign ministers of other countries, he must have felt the need to directly reach out to the citizens of other countries. By building up this global audience in the first place and contributing to the general globalization, ICTs made this possible and, in effect, led to the possibility that the most powerful country would be sensitive to the impressions of young people in poor countries.

The empowering effects of ICTs are also contributing to making governments in poor countries more responsive to citizens' needs.

This sensitivity highlights a shift of focus that may be taking place due to the ICT revolution. Development projects have traditionally focused on large-scale schemes like damns, power plants, and airports aimed at governments and attractive to powerful entities ready to pursue projects irrespective of their utility. ICTs, however, are likely to make powerful companies in rich countries move their focus away from government and towards the consumer. Driven by a new awareness and sensitivity to the conditions in poor countries, business communities in developed nations would automatically affect the attitudes of rich country governments towards these regions. The leverage these powerful companies in rich countries exert is likely to lead governments in both rich and poor countries to be more sensitive to the needs of consumers in poor countries.

The empowering effects of ICTs are also contributing to making governments in poor countries more responsive to citizens' needs. In India, access to the Internet is spreading even in rural areas, albeit at a very slow pace. Computerization and access to government records presents unique benefits to Indian villagers:

> Villagers... pay hefty bribes to officials to see land records. But the Internet should allow them to download such information instantly and discover when the records have been tampered with. Villagers seeking work abroad sometimes have to pay touts and labor contractors large sums to get a passport. With access to an Internet link they may be able to download a passport application form and submit it by post... Unsurprisingly, the state bureaucracies oppose the computerization of government records because they stand to lose from such openness. Yet the process may now be unstoppable.[37]

Clearly, remote access to government records would improve information flow and further increase citizens' expectations of the government.

Regularize

Thomas Friedman, who attributes much of the current wave of globalization to the ICT revolution, describes governments' dwindling room to maneuver as the "Golden Straight Jacket" whereby a country's politics shrink.[38] Friedman is right in the sense that larger economic forces take over, leaving little choice for a country's government. However, this takeover is the accumulated result of the internal and external economic forces often wrought by technology, not necessarily an overnight decision to put on or take off the "Jacket." ICTs enabled businessmen to pursue trades more efficiently, gaining further economic strength, allowing them to demand further liberalization from their government and so on. On the other hand, as advanced economies moved to designing and producing ICT products, their economies shifted labor force away from manufacturing, reducing protectionist pressure on certain sectors and accepting more imports. In short, ICTs contributed to the globalization process as it evolved, rather than it being the sum effect of binary choices made by governments.

Nonetheless, the shrinking of politics is real. ICTs are compelling governments to regularize and streamline their operations in several important ways. Technologies are literally helping private sectors (both for profit and non-profit) to decrease domination of certain activities by the government. This is important because in many poor countries the state machinery controls sectors simply for rent-seeking purposes. Additionally, ICTs are helping media, watchdogs, and other non-governmental organization increase their vigilance, putting pressure on governments to stay in line:

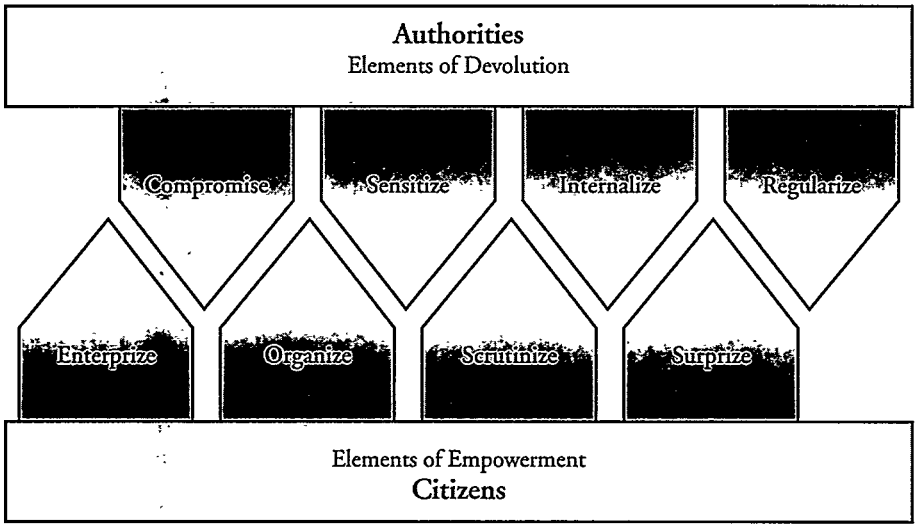
> Non-governmental organizations (NGOs) are invading areas that used to be reserved for national politicians. Some NGOs, such as the Soros Foundation, Amnesty International, Doctors Without Borders, and Alert International, already command resources that dwarf those available to the states in which they operate; and the imbalance is likely to get bigger still, particularly given the fact that first-world activists are rather more technologically savvy than third-world bureaucrats.[39]

Technology is also "shifting financial clout from states to the market with its offer of unprecedented speed in transactions and its dissemination of financial information to a broad range of players."[40]

Dani Rodrik worries about the dilemma this creates since "institutions remain by and large national,"[41] while markets strive to become global. He feels that the "stakes are greater for developing countries, since they have weak institutions to begin with."[42] However, the shrinking room may actually produce good results. Property rights, for instance, which had been at the root of most economic and political progress, emerged when Medieval authorities had little choice but to grant such rights in order to entice merchants and craftsmen to their particular domain.

It was economic power of citizens that balanced the coercive power of authorities. The industrial revolution predates institutions that now govern economic matters in advanced countries because the empowerment of the citizenry that took place through the industrial revolution produced the necessary democratizing force. At the same time, the economic progress that had taken place prior to institution

IMPACTS OF ICTs ON GOVERNANCE



building ensured that the institutions did not overburden the businesses. The statism that took place in poor countries without the underlying economic progress represents such overburdening institutions with their vulnerability to abuse.

CONCLUSION

ICTs empower from below while devolving power from above, resulting in a two-pronged attack on abuse of state power that has left so much of the world's population languishing in poverty.

What can be done to sustain this trend? Help disperse power. Provide tailwinds to these technologically driven, naturally occurring processes that are empowering citizens and making authorities sensitive to their needs. Empower commercial and social entrepreneurs, foundations, non-governmental organizations, and universities in poor countries. Establish funds for small businesses and microcredit so that the poor can meaningfully enter markets. Promote trade because it empowers many entrepreneurs rather than sending foreign aid to governments where power is already concentrated. Promote international laws mandating that all communications assets (telephony, Internet operations, media, and others) be privately owned, with widespread control. ICTs can help people in rich countries aid entrepreneurs in poor ones directly, without the need to have state-

to-state intermediaries. If, as Amartya Sen believes, freedom is development, then ICTs can be the means to both freedom and development by blindsiding the obstacles to both. ■

NOTES

1 Amartya Sen, *Development As Freedom* (New York: Alfred Knopf, 2000).
2 Shanti Kalathil and Taylor C. Boas, "The Internet and State Control in the Authoritarian Regimes: China, Cuba and the Counterrevolution," July 2001 (Working Paper), Carnegie Endowment for International Peace.
3 Joseph Nye Jr., *Paradox of American Power* (Oxford: Oxford University Press, 2002), 75.
4 John Sinclair and Mark Harrison, "Globalisation and Television in Asia: The Cases of India and China," *UTS Review,* 6(2) (2000): 78-90.
5 Scott Beardsly et al., "Telecommunications Sector Reform—A Prerequisite for Networked Readiness" in *Global Information Technology Report 2001-2002* (New York: Oxford University Press, 2002), 122.
6 Mancur Olson, *Power and Prosperity* (New York: Basic Books, 2001), 185.
7 Ibid., 96.
8 Fredrich A. Hayek, *The Fatal Conceit* (Chicago: The University of Chicago Press, 1988), 45.
9 Margeret Bald, "Everything for a Price," *World Press Review,* October 2001, 66.
10 Thomas Petzinger, Jr., *The New Pioneers* (New York: Simon & Schuster, 1999), 20.
11 Mick Moore, "Toward a Useful Consensus?" *IDS Bulletin* 29(2) (1998): 47.
12 Paul Kennedy, "Political Barriers to African Capitalism," *Journal of Modern African Studies* 32 (2) (1994): 199.
13 William Easterly, *The Elusive Quest for Growth* (Cambridge: The MIT Press, 2001), 23.
14 Ibid, 74
15 See Mason et al., *The Economic and Social Modernization of the Republic of Korea* (Cambridge: Harvard University Press, 1980); Tom Gold, *State and Society in the Taiwan Miracle* (New York: M. E. Sharpe, 1986); and Charmars Johnson, *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975* (Palo Alto: Stanford University Press, 1982).
16 Gary Hamel, "Strategy as Revolution," *Harvard Business Review,* July-August 1996: 69-81. In this article, Hamel used the phrase "the bottleneck is at the top of the bottle" to describe the problems senior management cause in developing strategic visions for companies.
17 Niccolo Machiavelli, *The Prince* (New York: Bantam Books, 1966), 112.
18 Steven Pearlstein and Manny Fernandez, "The World Bank Defends Policies: Lender Blames Bad Governments," *Washington Post,* April 28, 2001, Business Section, 1.
19 Barbara Crossette, "Making Room for the Poor in a Global Economy," *The New York Times,* April 16, 2000, 1.
20 Minxin Pei, "Will China Become Another Indonesia?" *Foreign Policy* (Fall 1999): 94.
21 "Something Rotten in the State of China," *The Economist,* February 16, 2002, 37.
22 There are exceptions whereby rulers—autocratic or otherwise—voluntarily solve people's problems (e.g., Emperor Ashoka in India in the third century, B.C.; Emperor Meiji in late nineteenth century Japan; and Lee Kuan Yew in modern Singapore) without necessarily having to meet demands from below in the short run. These unexpected aberrations do not necessarily illuminate the natural processes that generate accountable governments.
23 David Landes, *The Wealth and Poverty of Nations* (New York: W. W. Norton and Company, 1998), 45-59.
24 Ibid., 36
25 Robin Wright, "Cellular Phones Answers Rural Areas Needs," *Los Angeles Times,* November 10, 1997, D1.
26 Robert Guest, "A Survey of Technology and Development," *The Economist,* November 10, 2001, 15.
27 "The Flies Swarm In," *The Economist,* July 22, 2000, 28.
28 Rama Lakshmi, "Bribery Scandal Engulfs Indian Regime," *Washington Post,* March 14, 2001, A21.
29 Geoffrey Kirkman and Jeffrey Sachs, "Border Crossing," *World Link* (January/February 2001): 61.
30 Previously successful companies are routinely unsuccessful in capitalizing on disruptive technologies that bring new value propositions to a market. See Clayton Christiansen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (New York: HarperBusiness, 2000).
31 Even in advanced and sophisticated economies, the potential of cellular telephony was severely underestimated. For instance, when cellular telephones began to emerge, the total worldwide demand was projected to be one million by the year 2000. The actual demand by that year turned out to be nearly 1,000 times higher.
32 Nye Jr., 44-47.

33 Jessica T. Mathews, "Power Shift," *Foreign Affairs* (January/February 1997).
34 Frances Cairncross, *The Death of Distance* (Boston: Harvard Business School Press; 1997), 257.
35 Mathews, 54.
36 Nye, Jr., 75.
37 "When India Wires Up," *The Economist,* July 22, 2000, 40.
38 Thomas Friedman, *The Lexus and the Olive Tree* (New York: Anchor Books, 2000), 105.
39 John Mickelethwait and Adrian Wooldridge, *A Future Perfect* (New York: Crown Business, 2000), 155.
40 Mathews, 57.
41 Dani Rodrik, "Governance of Economic Globalization," in Joseph Nye Jr. and John Donahue, *Governance in a Globalizing World* (Washington, D.C.: Brooking Institution Press, 2000), 348.
42 Ibid.