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**The Application Of Information And
Communication Technology To Development**

By

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THE UTILIZATION OF INFORMATION AND COMMUNICATION
TECHNOLOGY TO DEVELOPMENT*

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Liberalization, privatization, high technology - the strong
northerly winds blowing through our section of the globe today -
what have they to do to with furthering development in Asia?

From the evidence that is in, not all that much - at least for
now - if by development we mean advancing the economic, social,
political, cultural and moral transformation of the poor and the power-
less in the nation. Unbridled market forces have never been the
saviors of such a pauperized, underdeveloped economic institution.
Inside and outside a country remain biased against that country's
majority. The effect of these same forces when combined with feudalistic
and colonial structures was that moved the United Nations and individual
governments, in the first place, to mount interventionistic programs for
the poor back in the 60s.

Now we seem to have come full circle after barely four decades.
The events in eastern Europe that have vindicated democracy and
capitalism have only speeded up the return process. Free market
reforms - which liberalization, privatization and deregulation are -
have virtually become a universal prescription for cash-strapped
countries. And now have those countries responded to the treatment?

In Latin America, according to the Week writer Marc Levinson
and his team, economies are booming. Much of foreign debt have been

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retired. Capital flight has been arrested. Growth rates are up. With trade barriers down, businessmen are investing in high technology in order to cut costs and be more efficient.

But with populations still growing, average incomes are declining. Health services remain poor. Workers are being laid off. Corruption persists. Inflation refuses to go lower than 10%. Says Levinson: "Latin America's reform programs have failed to focus on equity, and the assumption that economic growth will eventually trickle down to the poor has proven flat wrong."

Do the words have a familiar ring? They are a near reprise of the statements made in the mid-60s when the defects of a purely growth approach to development began to show and income distribution then became an equal concern for most development theorists.

The return of neoclassical economics or the modernization model as the preferred engine of development has its counterpart in today's hard sell of the sophisticated hardware of information and communication technology as the new catalyzers of development. So is the pressure to deregulate and liberalize this technology. According to John Lent, the whole panoply of technology born of the interface of computers, telecommunications, and the varied ways of processing information is again being touted by some as the deliverer that will lift people from underdevelopment.

Observers are quick to note that the same kind of hope was raised for radio and television in their time. In the roseate beginning of each communication technology, the temptation is great to equate promise with fact.

Many communication professionals conversant with development issues, however, have questioned the glowing claims for high information and communication technology with varying degrees of doubt. Some of their arguments run along these lines:

1. The technology was developed for military, space or commercial uses in industrial economies (Miranak 1990). It was not designed for the needs of developing countries who neither perform the surveillance and control functions that the technology serves nor play a significant role in its production.

2. Satellite communication is not a substitute for structural reforms in a society (Jayaweera 1985). It will only aggravate the dependency of periphery countries and strengthen the domination of the center. It will work to widen the information gap between the rich and the poor, the town and the countryside.

3. So far the Information Revolution has not informed ordinary citizens better, has not raised their educational standards, has not changed much the content of media they patronize (MacBride, Traber 1986). The control over those decisions does not lie in their hands and will not likely ever be. They are made by governments and the transnational corporations which finance the steep start-up and operating costs of high-powered technology.

These statements are not unique to the writers who made them but represent positions shared by others. To see how valid they are, let us look at some of the relevant experience.

A project funded by USAID in eastern Peru tried out a satellite-based communication system in 7 small communities in a remote jungle area east of the Andes. With satellite antennas, earth stations and VHF radiotelephones, the project provided telephone service to the public and teleconferencing facilities to three government ministries.

The telephone service was an immediate success. The heaviest callers were those who had commercial and business interests. The revenues, however, did not cover operating costs or the initial capital outlay during the first two years of the service.

The audioteleconferencing services were designed for administrative, training, diffusion and promotional purposes. At first they were used more for training. The participants preferred formats that involved presentations from authorities based in the capital city of Lima.

The Peruvian telecommunication organization which administered the project became itself a major user of the teleconferencing services. It planned to offer them thenceforth to government development agencies and private business groups.

Of the three Peruvian ministries, the health ministry, which had a stable organization and a real need to coordinate its staff, used the teleconferencing services most. Not one of the three ministries turned out to have a big enough discretionary budget to sustain telecommunication use on its own.

The satellite facilities proved to be technically viable once installation and maintenance problems, which dragged on for years, were resolved. The project evaluation, while suggesting greater

investment in telecommunications in the future, concluded that -

"....the transfer of sophisticated telecommunication technology is not, and probably will not be for the foreseeable future, a straightforward exercise.... New and innovative communication strategies require extensive promotion as well as innovative management structures, especially when changes in standard operating procedures are involved."

The Indonesian Palapa domestic satellite communication system represents another experience. According to Wi Wijaya, rural development did not figure in the proposal to set it up in 1976. The need was for a fast, continuous, island-spanning system that could service a rapidly growing business and industrial sector, particularly the extractive industry. Not until later did the government recognize the system's potential to knit together an archipelagic nation state, to build an administrative network reaching to the farthest villages, and to extend television and radio broadcasts to the far-flung areas.

An evaluation of the impact of satellite television on rural Indonesia done by Chu, Alfian and Schramm over a 6-year period showed generally positive results. The most significant gain was in the increased learning of Bahasa Indonesia, a plus factor in unifying the country. According to the researchers, knowledge about programs in agriculture, health and family planning increased and so did adoption of recommended practices, especially among those in the lower socio-economic brackets.

People learned to save more, to borrow from banks and cooperatives rather than from money lenders, to market their own products instead of

relying on middlemen. They also learned to buy more advertised goods, however, prompting the government to ban commercials from TV but not from radio,

The evaluation found that television became the main source of news among the villagers and seemed to have stimulated social participation, especially among those with less education. But it cut down social visiting and time spent on the traditional Koran recitation. It should also be noted that television was only second to the village headman as a source of information on development programs. When there was a specialist in the area on a particular program, TV ranked third.

Dahlan observes that while the long-range prospects for rural telecommunication are brighter than before, financial constraints make them only secondary to urban needs. He adds that for rural people, and perhaps for most of those in the urban areas as well, Palapa means television. Of all Palapa's services, it is only television that is within their reach. I might add parenthetically that of all the programs that television offers, it is the entertainment programs that rural Indonesians most prefer. In this respect they are no different from the rest of the world.

Dahlan cautions that some changes attributed to satellite television may in fact be part of the general economic growth in Indonesia or may have been stimulated by information coming from other sources. He believes, however, that in shortening physical and psychological distance, Palapa must have helped weaken resistance to

transmigration, speeded up decision-making and problem-solving, and opened up new markets for rural products.

The experience with satellite communication in Peru and that in Indonesia are not directly comparable. Their different outcomes derive in good part from the dissimilarities in the communication systems themselves, their management, their ownership, their duration of use, even their content. Putting the two cases side by side underlines at least four things, though: (1) the pitfalls of plunking down alien technology in a relatively unsophisticated environment, (2) the natural affinity between high technology and the interests of the urban elite, (3) the fact that high communication technology does have the potential to accelerate rural development if programmed right, and (4) the added fact that only the most deliberate and determined political will can incline high technology towards serving the poor.

One other thing is certain. The enormous cost of building, launching, maintaining, and even renting satellite capability puts its use for rural development beyond the reach of many Asian countries today.

In a sense, the issue of whether or not governments ought to use high communication technology for rural development became rather moot sometimes in the 70s when development activists, moved by a new vision of development, virtually disassociated from high communication technology. Finding it too centralized and top-down, they opted for the more congenial small media, which ordinary people can access better. That was the time when the idea of "another" development was beginning to gain currency.

"Another" development has since become sustainable development, which is proof that the development concept remains dynamic. In either manifestation, the process is seen as a self-directed one of cultivating one's capabilities in harmony with others and with the environment. This kind of development takes to more dialogic styles of communication. Their channels have become known as alternative, group or community media: uncomplicated, affordable, interactive, ideally controlled by their users. Local radio is probably the most complex of the lot. One of the others are puppetry, soundslides, newsletters, picture exhibits, drama, cinema - whatever connects to the poor. They come in the guise of low technology or appropriate technology, but a technology which is also governed by management principles and training methods.

Most of the time this technology is not meant to inform, persuade or motivate but instead to sensitize, to encourage reflection, to help people understand their reality as a first step to overcoming their problems. The self-realization process is moderated in the main no longer by government but by nongovernment or private voluntary organizations and their partner peoples organizations. Rather than efficiency, cost-effectiveness, or favorable cost-benefit ratios, the success indicators of this technology are degrees of empowerment, participation and self-determination.

Romanticized? Hopelessly unrealistic? Some say so. Yet many more times than it is generally thought, the process works. Few outside the affected communities hear about the success stories because

they do not get written about. This kind of pilot projects make do on shoestring budgets because if there is something that government organizations and grassroots nongovernment organizations share in common in developing countries, it is perennial shortage of funds. Some of this type of NGOs' operating costs are spread out through their own version of networking with other like-minded NGOs.

These pilots are so small and casual that no one bothers with stringent evaluations, unlike huge communication technology projects which must justify all that money they spend. Besides, working so closely with their chosen communities, the grassroots NGOs get fast feedback about how they do.

Because the projects have no formal evaluations, indicators of project success tend to be anecdotal. Often there is a charismatic person somewhere in the picture. Let me cite an example from the Philippines, not because other countries do not have them but because they are so low-profile they are barely visible.

Father Francis Lucas is the parish priest of Infanta, a town in Quezon province in Luzon. It takes a good part of one day to get to Infanta from Manila because much of the trip is up a steep mountainous road overlooking the ocean, a road which must be negotiated at 10 km. an hour.

Father Francis is a key officer of PHILDHARRA, an association of Philippine NGOs. He is also station manager of DZJO, a low-powered radio station in a community where the men are farmers at certain times of the year and fishermen at others. Fr. Francis blesses their

boats, baptizes their children and, through it all, runs DAB as an interactive communication channel among his parishioners.

Once some men came to Infanta in a fast boat to fish with dynamite. An alert was flashed over DAB. The villagers were asked to gather on the beach, which they did in no time. The dynamiters claimed to have the blessings of the governor. The villagers let that pass and simply engaged the visitors in conversation. They made it known that the interview would be aired on TV. That was the end of this caper.

Fr. Francis distinguishes between field-based and field-generated program in this manner. Field-based is where a producer goes to the field to get program materials from people through interviews and some such means. Chances are that he or she already has a program plan in mind. Field-generated means identifying a program topic with people, discussing it with them and then producing the radio program with them.

Fr. Francis has other similar little insights. I have urged him to put them down in writing. He says he will, but what with running a radio station, ministering to his flock, and going up and down that Infanta road, he never finds the time.

Indefatigable as Fr. Francis is, it will take more than him and his radio station to catalyze development in Quezon. They are not the full answer. But neither are communication satellite systems by themselves.

If I have over-drawn my examples just a little this afternoon, it is to make the point that in development practice today, there are two levels of technology: clearly in use but running parallel to each other. They roughly approximate two models of communication in development. Perhaps the challenge to development communicators and administrators is to work to have the two kinds of technologies and the two models of development infuse each other.

In the course of writing this paper, I have asked myself whether there really is anything new in the application of communication technology to the development of the marginalized. After all, it has been about 15 years since Schramm added to our vocabulary the terms "big media" and "little media". It has been even longer since communication technology was first used deliberately for animation and especially for diffusion of information. If by communication technology we may include the novel patterns and combinations of its use and the way it is switched around to serve different types of people, then perhaps there is no cause for development weariness. That kind of experimenting is still very much alive and continues to generate useful information for application to development.