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Background Paper

By

Virgilio Labrador
The Asia-Pacific region is the fastest growing region in the world in terms of GNP, growing at a rate three times faster than the rest of the world. Leading the pack are the so-called dragon economies of South Korea, Taiwan, Hongkong and Singapore averaging growth rates of 9-10 percent per annum. Endowed with abundant human and natural resources, the Asia-Pacific region is well-poised toward becoming a major player in the emerging global economy. Possessing an estimated 21 percent of the world's oil, 63% of its wool, 86% percent of its natural rubber, 97% percent of its natural silk, and 40% of global bank reserves the Asia-Pacific region is now establishing a strong foothold in information technology, semiconductors, consumer electronics and even artificial intelligence and satellite rocket launching (Hukill, 1990).

However, the Asia-Pacific region is composed of diverse countries in varying degrees of development. Eighty percent of the population still live in rural areas, where vast pockets of poverty exists. Despite marked improvements in poverty alleviation, 50% percent of the population in South Asia still live in absolute poverty according to the World Bank.

The contrast to the development in the urban centers in Asia is striking: 90% of Asia's poor live in rural areas according to the World Bank. The effects of the economic boom being experienced in the urban centers are barely felt by the rural population in Asia. Unsanitary conditions, lack of basic services, lack of safe drinking water, high infant mortality rates and high-school dropout rates characterize the plight of rural population in Asia.
The influx of new communication technologies, however, is changing the face of the Asia-Pacific region. A vast plethora of new communication technologies composed of microelectronics, computer hardware, software and services, telecommunication equipment and services, mass media via satellite, cable, fiberoptics, videotext and teletext services and various database and information services have made significant inroads in the Asian way of life. So much so, that some hopes are being pinned on the idea that the widespread introduction of new communication technologies in the Asia-Pacific region will enable its less develop countries to leapfrog the industrial stage of economic development from an agrarian into an information economy.

The relationship between the introduction of new communication technologies and socio-economic development has been the subject of many studies. Ever since Daniel Lerner’s pioneering study on the effects of mass media on Middle Eastern society, The Passing of Traditional Society (1958) a plethora of studies have emerged examining the causal correlation between the introduction of communication infrastructure, particularly mass media, and economic development (Schramm, 1964; Hudson, 1982; Saunders, Warford and Wellenius, 1983).

Everett Rogers (1977), however, proclaimed the passing of the old paradigm of communication from the vertical, top-down model to the horizontal bottom-up model. According to Rogers, the "old paradigm" perpetuated a one-way communication flow from decision makers to the masses, while in the new paradigm a two-way process of communication is effected between senders and receivers of information. Development, according to Rogers:

is a widely participatory process of social change in a society, intended to bring about both social and material advancement (including greater equality, freedom and other valued qualities) for the majority of the people through gaining greater control of their environment.
The new communication technologies are well suited for the type of participatory development of which Rogers describes. As Ithiel de Sola Pool (1983) observed, the new communication technologies can be potent instruments for freedom. This is inherent in the nature of the technology itself. New communication technologies are mainly interactive—allowing for two-way communication and feedback—and can be targeted towards individuals—resulting in the "demassification" of the mass media.

The convergence of computers and communications and the interface of broadcasting and telecommunications have created a whole new media environment that makes it possible for the first time to make communication services universally available to anyone in the entire planet.

The introduction of new communication technologies alone, however, cannot ensure development, but it can be a potent instrument depending on how it is used. The problems of uneven development cannot be solved by the introduction of advanced communication technologies. Development is a complex interplay of socio-economic and political relations and unless communication technology serves to alter those relations in order to give greater control to disadvantaged groups, it will not be able to have any effect on underdevelopment—which has existed even before the introduction of technology (Gillespie et. al., 1989, p. 88).

The most successful development plans and projects have proven to be the ones which involve the actual beneficiaries in planning, decision-making and implementation. The new communication technologies have great potential in mobilizing people towards developmental goals. New communication technologies such as satellites are being used in effectively disseminating information for family planning, health, nutrition and other social development programs.
Despite the successful application of the new communication technologies in
development, their introduction can also be fraught with peril. Of particular concern is
the effect of the introduction of new communication technologies on cultural identity. The
convergence of broadcasting and sophisticated telecommunication technologies cuts across
national boundaries and policy makers are wary of the social effects of foreign
programming. Likewise, efficient telecommunication links enable massive transborder
data transfers which can have major potential economic and national security implications.

The potentially negative effects of the new communication technologies should not
deter countries of the Asia-Pacific region from tapping its vast potential. With the
increasing trend towards globalization of telecommunications in the world today, the
Asian countries should rationally plan and utilize its communication resources to promote
national and regional development.

The primacy of communications in development is self-evident. New
communications technologies stimulates development by making coordination more
effective and efficient, leading to a more streamlined and productive economy. A more
efficient telecommunications system would encourage foreign investment and stimulate the
development of local industries, among other benefits. Realizing this fact, regional
groupings such as the ASEAN nations are investing heavily in developing their
telecommunications infrastructure.

Some considerations for the rational use of communication resources include the
following:

Balancing the needs of urban and rural areas. The needs of business, both
foreign and local, have had a major influence in the accelerated development of the
telecommunications infrastructure in Asia. The efficient conduct of business requires
effective communications between head offices and branches in the capital city or abroad. However, in the process of developing the infrastructure to suit the needs of business, the needs of villages and towns to link up with district or regional centers are often neglected. There is no arguing against providing efficient communication for commercial purposes. In fact, the main bulk of income of any telecommunication operation comes from businesses, which in turn can provide the necessary revenue to service unprofitable areas such as the rural areas.

There are differences in requirements, however, between the rural and urban markets. Rural areas need telecommunications as much as urban areas, perhaps even more so. People in the rural areas need to be linked to district, regional and national centers for a variety of purposes: to obtain market information; to effect coordination between administrative units, etc. According to the Maitland Commission report (1984) the majority of calls from rural areas are for emergency purposes i.e. to request for medical supplies or personnel during disasters, etc. These needs can be served just as well by providing a public access phone station capable of transmitting voice and data. The Philippines' National Telephone Plan (NTP), which aims to provide a telephone in every city and municipality, is a case in point. The NTP, however, is facing financial problems. Such a program can be partly financed by earnings from commercial operations.

Choice of technology. Asian countries should strive for a mix between local and foreign and between low and high technology. Appropriateness should be the key. There is hardly any point in installing digital switching systems in areas where there is little or no non-voice telephone traffic to justify the expense. Every effort should be taken in order to ensure that components that could be obtained or manufactured locally should not
be imported, or at least make provisions to the effect in the longer-term. Lessons from
the Indonesian local satellite earth station network could be instructive. The Bandung
Institute of Technology, Indonesia’s premier engineering school, has developed satellite
dishes and "village teletypes" using locally available materials (Pool, 1990, p. 179). Even
more ambitious are plans of the Indonesian National Institute of Aeronautics and Space
(LAPAN) to launch its own satellite made completely from local materials. In the longer-
term, technology transfer should be taken into account in all plans to introduce new
technologies.

Research and development activities should also be encouraged promoting
indigenous forms of technology.

**Human resource development.** The effectiveness of a communication networks lies
not only in the installation of state-of-the-art infrastructure but in the quality of its
personnel. This requires telecommunications managers, engineers and technicians, of
which the less developed countries of the Asia-Pacific region have an acute shortage.
There is a need to reexamine the thrust of the educational system of some countries in the
Asia-Pacific region in order to encourage more students to go into the sciences and
vocational schools. More regional training programs should be instituted and competitive
salaries should be provided to stem the brain drain to the more developed countries.
Human resources development, however, should not just produce personnel trained in
foreign technology but also encourage development of local and appropriate intermediate
technology.

**Software development.** A common mistake among planners and policy makers is
that they focus their efforts on obtaining and installing state-of-the-art hardware without
making provisions for software development, on the assumption that the latter follows the
The former. The ASIASAT 1 satellite is a case in point. ASIASAT is now operating under full capacity for the lack of regional programming that will cater to its wide coverage area.

As a result of the lack of local programming, developing countries end up simply importing foreign programs to fill up air time that could be better served by local programs with developmental content. As Pool (1990, p. 182) pointed out, it would be a waste of an expensive resource just to provide villages with reruns of *Dallas* and *Dynasty*, when what they really need are educational programs that promote nutrition, literacy, health and sanitation.

The abovementioned concerns cannot be viewed in isolation. Obviously the problem of having adequate software is related to the human resource problem. The emphasis on either rural or urban development will have an impact on the choices in technology. What is needed is a systematic approach to communication planning and policy making that situates the pivotal role of new communication technologies in the overall socio-economic environment in which it operates.

Prepared by Virgilio S. Labrador, Head, Seminars and Institutional Development Programme, Asian Mass Communication Information and Research Centre (AMIC), Singapore, for the Seminar on "The Impact of New Communication Technologies on Rural Society in Asia and the Pacific" held in Jakarta, Indonesia, September 13-14, 1993.
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