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**Communication And Sustainable Development
In Asean**

by

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COMMUNICATION AND SUSTAINABLE DEVELOPMENT IN ASEAN

by Dr. Naswil Idris¹

I. Introduction

Communication has quietly assumed a major role in the development of ASEAN. All these developments have been made possible through the incredible progress in telecommunication technology. The rapid pace of economic development in ASEAN has been accompanied by a substantial and ever increasing demand for an improved telecommunication system/services. Demand for an efficient telecommunication system will be growing over the coming decades and it has to take into consideration its contribution for a sustainable economic development, a better quality of life, human development, "basic needs" philosophy and environmentally benign technology.

Communication has been considered a vital ingredient to the economic process that has transformed the industrial communities into a progressive societies. Access to relatively efficient telecommunication system has enabled technological progress to march towards an ever increasing development of a country.

This paper will discuss on the importance of communication for sustainable development in ASEAN and to look into how it correlates with energy.

II. Communication Development In ASEAN

The ASEAN region is undeniably growing and expanding fast which means that telecommunication technology will continue to progress at an even faster pace than before. The progress will produce and stimulate facilities, services, regulations and more sophisticated demand for services. Satellite communication services in ASEAN region are served by several satellite networks, consisting of Intelsat satellites and domestic satellites.

Satellite technology is creating networks that are available for developmental activities in the ASEAN region. Satellite systems have contributed significantly to national development, regional development and in particular, the enhancement of the quality of education in the region.

The ASEAN region has been marked by dramatic technological developments in computers and telecommunications and the growing importance of information in all aspects of human life. Access to information and to the facilities to produce, store and

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transmit information is now considered vital to development, so that the classifications "information rich" and "information poor" maybe more than distinctions based on GNP or other traditional development indicators.

There has been certainly a notable progress in many respects by which the human condition today is better than it has been in history. For more than 20 years the potential role of mass media in development has been the focus of attention. The new communication technologies of post 1980's are the combination of micro computers and telecommunication through satellites. In the span of 20 years, satellites have become an integral part of the communication industry in ASEAN, and have been used successfully for voice, video and data transmissions in numerous conditions. Remote sensing for agricultural development, television, radio, teleconferencing, newspaper printing and teaching have all been carried out successfully via satellite communication. The most significant contribution of satellites will be to bring basic communication to people.

III. Future Trends In Communication Technology In ASEAN

The area of interest in the ASEAN region includes expansion of satellite capacity through launching of new satellites, introduction of new services, value added services and TV broadcasting, provision of wider mobile communication, introduction of broadband ISDN and enterprise network, and implementation of new policies.

The future trends in telecommunication technologies indicate that satellite telecommunications will continue to play an important role in fulfilling the ASEAN region demand for reliable, sophisticated and cost effective services.

IV. The Role of Communication for Sustainable Development In ASEAN

Telecommunication development is a basic factor in the economic growth and eventually for the sustainable development in the region. It facilitates economic links to other countries and helps in realizing the country's development goals. Telecommunications operation with global services and systems has become an important part in the development of industry, information technology, trade relations and strengthening national development. The improved communication links among the ASEAN member countries serve as a vital infrastructure for solid economic cooperation in the ASEAN region.

"Sustainable economic development" is very vital for the region. This approach argues that real improvement cannot occur unless the strategies which are being formulated and implemented are

environmentally sustainable over the long term and are consistent with the people's social values.

It is therefore a primary concern of sustainable economic development to ensure that the poor have access to sustainable and accessible telecommunication means. Telecommunication technology are necessities for sustainable development, both in urban and rural areas in order to overcome the barriers of distance and diseconomies of reaching scattered users. Communication is a powerful tool for social and economic development to address the rural inequality and backwardness in the changing Asia, but, Asian countries should formulate a satellite communication policy on the basis of their socio political, economic and socio-cultural reality to shape the socio economic growth and information needs of the people for the country's sustainable development.

The quantitative dimensions of sustainability can perhaps be captured by some basic needs or physical quality of life index. Moreover, the dynamic nature of development means that the various trade offs involved are constantly changing over time. This makes continuous assessment of benefits and costs even more crucial. One basic analytical approach is to view this process as an interaction among three systems: resource system, economic system and the social system.

Sustainable economic development is therefore directly concerned with increasing the standard of living of the poor at the grassroots level. Therefore we should look into the improved and efficient telecommunication sector as a contributor to the economic development of the country.

It is also necessary to stress the importance of **"basic needs approach"**. This is a strategy which addresses all aspects of human life. The basic needs targets are not restricted to the eradication of absolute poverty, but extend to the satisfaction of needs over and above the subsistence level as a means of eliminating relative poverty through a continuous process of economic development and social progress.

The satisfaction of human needs is indeed the whole purpose of growth and the telecommunication needs of the population should always be an important factor to the growth and development of a society.

A new paradigm for telecommunication use is therefore essential. Telecommunication must not be viewed as an end in itself but a means of providing services. For it is the telecommunication services and not telecommunication per se, that directly satisfy peoples needs : the quality of life in a village depends more on the access in telecommunication services. **The extent to which telecommunication services are accessible is therefore the true indicator of the level of development.** Communication therefore should go hand in hand with improved and environmentally efficient acceptable technology use for the furtherance of sustainable economic development of a country.

One of the driving force for the technology development in telecommunication is often the improvement of the efficiency of energy use in the communication sector and the utilization of environmentally friendly and benign technology with the use of renewable energy technologies that will reduce environmental damage and which can be adopted in the telecommunication system. There is a considerable discussion around the world at present on the subject of global warming with carbon dioxide emissions from the use of fossil fuels being held up as the major contributor. Since the telecommunication system is also a user of energy, therefore the two should have a link in coming up with an energy efficient use of appropriate technology. Consequently, many conservation and decentralized technologies find a place in a least cost mix. Because energy efficiency improvements are environmentally benign, the resulting technology mixes can advance development without jeopardizing sustainability.

Communication-Energy Interaction

For developing countries, an important step on the path to self sufficiency, social progress and sustainable development is to find economical, environmentally acceptable and reliable sources of power in the telecommunication sector. However in generating this power and supplying it to the end-users, particularly in remote areas, development planners face a difficult challenge.

In general people always have the attitude of "resistance to change" and therefore, communication will play an important role in convincing and providing the proper dissemination on the vital role of energy in the economic progress of any country, as well as, as choosing the appropriate energy technologies for sustainable development.

Energy has been regarded as an important prime mover for development and its important role is not only brought about by its contribution to the improvement of economic growth but also by its close connection with environmental quality conditions. The implementation of efficient and environmentally sustainable energy systems should be one of the goals of urban and rural communities nowadays, in view of the uncertainties of energy supply and the growing concerns about the continuing decay of the environment.

For example in ASEAN cities, urban energy related problems (city transport problem, traffic congestion, environmental pollution, etc.) is growing because of the rapid growth of population, increasing land uses, increasing gap between resources available to the rich and the poor and the deteriorating state of the environment. Beyond this problem lies the question on how the urban and rural areas utilize energy efficiently. The growing built environment especially in urban areas and the uncertainties in energy supply and other energy constraints add up to a strong case on the importance of communication to disseminate the importance of energy in the economic development of any country.

The level of energy awareness both in the utilization and conservation aspects in the urban and rural areas needs to be enhanced and strengthened and this should be done through an effective way of communication. This is where communication should play a significant role in disseminating the importance of energy for sustainable development of any country. It is a major task to improve, enhance and intensify the level of awareness of the people regarding energy within the local, national and regional context.

The implementation of an energy information dissemination campaign, in both rural and urban areas, can only be done by using an effective communication system to get across on the message that we wanted to impart to the people. All efforts should be made to maintain contact with the general public (energy users) by providing continuous information, for example on the current energy situation, on how to use energy efficiently, on the energy saving opportunities, on the effects and impact of energy on the environment and the appropriate energy technologies that can be adopted in the communication industry in ASEAN region.

It can be said that communication and the adaptation of environmentally benign technology are necessities for sustainable development. Whether the ASEAN region will reap the full benefits of telecommunication technology and other energy technologies that go with it, will depend less on the technologies itself but, more on the commitment of the policy makers to allow them to flourish by using an effective way of communication to make people realize its importance.

In terms of the energy technologies that we want to disseminate, renewable energy provides a way to meet the challenge in a variety of applications. Renewable energy technologies are well suited to typical rural conditions both technically and economically. Renewable technologies can make a particularly valuable contribution in the telecommunication sector of developing countries specifically in areas directly affecting social and economic progress. The renewable energy sources provide reliable, manageable and environmentally sound energy that is well suited to sustainable development and the conditions found in rural communities where there should be an improved telecommunication services.

As with any technological innovation, careful economic and technical evaluation of needs and alternatives are essential for successfully meeting high priority area development needs especially in the rural areas.

Telecommunication is vital for both the formal and informal education of rural families. Radio and television systems broadcast educational programs can introduce communities to events and changes happening outside their region. The use of solar energy through the use of photovoltaic technology, micro

hydro sources etc. can power microwave repeater stations and satellite ground stations which broadcast to even the most remote area. The modularity of these sources makes them suitable for televisions and radios in community centers and even individual homes. Where batteries are the primary source of power to televisions and radios, photovoltaic powered battery chargers can eliminate the need to buy replacement batteries or to pay to have car batteries recharged at a service station.

Photovoltaics (PV) has numerous benefits, particularly for remote power needs. Photovoltaic is a proven source of high quality electrical power, and the PV system is simple, clean, flexible, reliable in operation and environmentally acceptable. PV systems have no moving parts, require minimal maintenance and the fuel source "sunlight" is free.

In the telecommunication sector, photovoltaic may be used in repeater stations for telephone and telegraph services. Because of the nature of ultrashort electro magnetic waves and the line of site requirement, repeater stations have to be located on the highest possible sites. Thus, these stations are often located far away from any of the existing grid.

In many islands like Indonesia, maintaining nationwide links which are unavoidably located in mountain tops has given some problems to telecom companies. Telecom links are vulnerable, if one station fails, the whole network is crippled.

In unelectrified areas, telegraph outlets are usually powered with gasoline, diesel generator sets or car batteries. Unfortunately, sometimes the operation of these stations is hampered by logistical problems caused by unsteady supply of fuels and also by cumbersome repair and maintenance works required by generator sets.

Some pilot projects have showcased the prospects and benefits of the PV technology in the telecommunication industry. These projects demonstrated that photovoltaics can supply power more cheaply and more efficiently compared to the traditional tandem of 2-3 diesel generator sets and storage batteries.

The economics of PV use improves with the elimination of problems inherent to the operation of diesel generator sets such as the lack of qualified technical manpower, huge fuel storage requirements, voltage fluctuations and irregular frequency outputs, poor transport infrastructure and high cost of fuel handling. Other benefits are in terms of enhance efficiency and the reliability of telecommunications network, improvement of the economy of less developed areas because of the unavailability of reliable telecommunication services, shield against adverse effects of changes in fuel and oil prices as well as in foreign exchange savings.

The paradigm highlights the importance of scenarios that focus on development objectives and that find opportunities to improve the efficiency of end-uses for energy. In other words, there should be a need to construct what we call development-focused, end-use oriented, service directed scenarios that incorporate conservation and renewable sources into a least cost mix in the telecommunication sector.

Telecommunication, energy and environment priorities should not be looked upon in isolation, but as a challenge that will lead towards sustainable growth. There should be a "communication-energy interaction", that is, communication is necessary to disseminate the vital role of energy in economic development and promoting energy conservation and the environmentally benign technology. If this is properly and effectively disseminated to the society then it contributes to the sustainable development in the ASEAN region.

It is important to look into the following : promoting an efficient and improved telecommunication services and energy efficient technologies, meeting the communication needs of the developing nations through appropriate technologies and strategies. There should be a need to internalize and consider the environmental costs whenever possible, initiating a transition in the use of renewable and sustainable energy resources, generating new knowledge and technological advances, addressing the imminent global environmental issues.

What seems to be the most important is the concept of communication and energy interaction for sustainable development and the significant role of information in the development process. Communication satellite technologies have the potential to eliminate the barriers of "distance and time" that have hampered economic growth, social service delivery and public participation, specifically in rural and remote areas.

We need to know how effective communication can be used to increase rural and urban people access to information to raise and promote energy efficient utilization, increase productivity and development in rural areas.

It should be borne in mind that that access to relatively efficient telecommunication system both in urban and rural areas will enable technological progress to march towards an ever increasing development in the region. The extent to which telecommunication services are accessible in remote areas of the country or region is one of the true indicators of the level of development. It is also important to note that development requires interaction among different factors in the society and communication is a facilitator to that interaction.

Role of Communication in Development

The development of telecommunications which is used as the main facility has led to the development of other many related sectors. The telecommunication facility improves the efficiency of economic, commercial and administrative activities, as well as, improves the effectiveness of social and emergency services and helps distribute the social, cultural and economic benefits of the development process. The important role of communication in the development of any country could be summarized as follows:

1. Accelerate National Development

One of the most essential elements for an accelerated development is the availability of high quality telecommunication systems. The availability of telecommunication infrastructure could be accelerated through satellite systems.

2. Modernize and Integrate Society

Modernization of society depends on the educational system, industrialization and easy access to information. Satellite systems could play a major role in education, information dissemination and industrialization.

It is also a vital means of integrating society through satellite broadcasting, facilitation of nationwide commerce and trading, as well as, providing for socio-cultural infrastructure.

3. Improve National Efficiency and Productivity

Efficiency and productivity of an organization is dependent on timely availability of information and its speed of response to the demands placed by the society and the market place. Satellite communications could become the new system of a nation supporting its information network and the management of the national development process.

4. Enhance Equitable Distribution Of Development

Isolation has always been an issue of national development. The pace of development in the urban areas are normally higher than rural areas. Rural isolated areas are normally looked at as unattractive development centres. Satellite communications could change this situation very rapidly and make investment in rural and isolated areas more attractive. The Palapa satellite has played a major role in maintaining development in the very remote parts of Indonesia.

5. Increase Level of Awareness and Conserve Energy

Since energy is an important prime mover in the economic development of any country, thus, effective communication system to increase the level of energy awareness in both rural and urban areas is necessary.

Availability of good communication discourages travelling and improves the speed of decision making. The reduction of travel would mean conservation of energy. Satellite communication should therefore, be planned in such a way that it could enhance energy conservation.

6. Eliminate Isolation of Remote and Rural Areas

Satellite communications provide a fast and economical solution to the growing need to serve rural and remote communities with long distance links to the centre of national activities. The satellite communications advantages of distance insensitivity and its ability to bridge geographical barriers proves to be ideal to ASEAN countries.

7. Expand Market Opportunities

The increase of global connectivity facilitates the expansion of services and introduction of new products. The availability of information networks will ease decentralization and corporate development.

8. Attract Capital Flows for Infrastructure Development

Improvement of national telecommunication infrastructure, including the establishment of its international links provide global linkage in order to attract capital flows and investment activities.

V. Conclusion

Communication technology is progressing very rapidly creating networks that are available for developmental activities in ASEAN. It has contributed significantly to the national and regional context for sustainable development in ASEAN, taking into consideration that the strategies which are being formulated and implemented are environmentally sustainable over the long term and are consistent with the people's social values.

In the era of "communication revolution", a nation or region cannot progress or have an advantage without the support of high quality and effective communication networks.

The development of sophisticated communication technology is an important milestone which has enabled us to progress and even change our civilization and gave us power to overcome distance and to speed up delivery of information.

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