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The Transport Revolution: Can It Revolutionize Asia?*

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The importance of concentrating on the transport problems of Asia is measured by the fact that the people of this continent comprise more than half the population of the globe.

To be specific, Asia accounts for 56 percent of the world's people, but for only 12 percent of its railway freight and 9 percent of its trucks and buses. For every thousand people in Asia there are 4 motor vehicles, compared to 259 per thousand people in Australia and New Zealand.

If the capacity and performance of transport facilities in France are described by an index number of 100, the mobility index for Pakistan and Thailand is 7 and for Burma 5. A low index of mobility is a certain index of poverty.

The urgency of measures to improve Asian transport stems from the fact that by 1975 there will be over two billion people on this continent: three times more people than in Latin America and Africa combined. For China, India, Pakistan, and Indonesia the increase in population from 1960 to 1975 is expected to be 40 to 50 percent. These figures alone indicate the growing demand for transport services.

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The efforts now being made to increase the rate of economic development will lead to even greater transport burdens. Trends in India, for example, indicate that for every 10 percent increase in the output of goods and services there is a 25 to 30 percent increase in the volume of freight to be moved. Obviously the anticipated growth in production will not be possible without a rapid expansion of transport capabilities.

For these reasons, there will have to be a revolution in transport if the necessary economic revolution is to be achieved. The challenge is so great that an adequate response might seem futile if it were not for the example of Japan. The accomplishments in this part of Asia during the past decade have been monumental.

Japan has the highest economic growth rate in the world. The expansion of transport has reached extraordinary dimensions. Japan's railways carry ten times the passenger traffic moving by rail in the United States. Japan has tripled its highway budget in the past decade, while the number of motor vehicles has increased five-fold. Tokyo is moving at a furious pace to build an expressway system, a monorail, subway extensions, new terminals, and the world's fastest railway to Kobe and Osaka. The number of excavations per square foot of street space has become the new index of economic progress.

A great complex of industries is supporting the transport revolution, including steel production, petroleum refining, tire manufacture, and a wide variety of transport equipment manufactures. Japan is the world's foremost shipbuilder. Her automobile industry has grown up almost overnight. The question we confront today is how to make this Japanese fever contagious.

To an encouraging degree the transport boom has already spread to other parts of Asia. Between 1950 and 1960, railway freight in Asia increased 261 percent, compared to a world average of 65 percent. The number of motor vehicles increased 250 percent, compared to a world average of 80 percent. While India's national income increased 42 percent during the fifties, mechanized freight movement increased 111 percent.

These statistics reflect in mathematical terms what the traveler through Asia sees with his own eyes. The Friendship Highway in Thailand is an example. This road has created a productive and prosperous agricultural belt a hundred miles long in an area that was jungle five years ago. On both sides of the new route are broad fields of corn, sugar, and rice, a growing livestock business, and prosperous homes. Within the zone of influence of the highway, production is expanding two to three times the rate recorded elsewhere.

East Pakistan's farm-to-market road program is another spectacular success. Useful jobs on roads and other public works are being provided in the off- season when farmers are otherwise idle. This effort is being financed

in part by the sale of surplus wheat from the United States. A total of 20,000 miles of low-cost roads were built and improved through this works program in a single year.

Along the rivers and klongs of Asia the hand-poled country boat is beginning to give way to the outboard motor; ocean ports are being expanded; diesel power and other improvements are modernizing the railways; and jet airlines already link the major cities of the continent to provide a first step toward a more integrated Asian economy.

Despite these and many other hopeful signs, the disturbing reality is that mechanical transport has displaced age-old obsolete methods only on the main arteries, in the major cities, and for the wealthier classes. In an age of jetliners and motorized transport, the symbols of mobility in much of Asia continue to be the bullock, the camel, and the backs and heads of human beings. The transport revolution has bypassed most of the people.

The lack of adequate transport in East Pakistan has created a situation as ironic as it is typical. Efforts to get sugar cane to grow have finally succeeded. But now there is a surplus of cane because there is no way to transport it to the refineries. Sugar cane is used for fuel, and efforts to grow it are being abandoned. Yet every sugar refinery in East Pakistan is operating below capacity because poor transport prevents cane supplies from being delivered.

Investments in all kinds of industrial plants are going to waste because supplies of fuel and raw materials are not getting through. Agricultural

surpluses are rotting on the ground because transport systems are unable to cope with peak traffic. Fertilizers and seed are often delivered too late. Lack of transport makes it impossible to harvest food from the sea because slow transport means inevitable spoilage.

Nearly every aspect of the development effort in Asia is being held back by lack of transport. Frequently there are no transport facilities to permit trade with close neighbors. Poor transport makes it exceedingly difficult to achieve the national unity or internal security required for development. Immobility is a major obstacle to technical assistance programs because trained personnel are wasting time and energy trying to get from one place to another.

If there is to be a major breakthrough, the Asian nations will have to concentrate on three aspects of the mounting transport revolution. First, measures will have to be taken to get the maximum development impact from transport expenditures. Second, transport expenditures will have to be increased to keep pace with the demand. Third, industries to support the transport program will have to be developed to multiply economic opportunities and employment.

To make transport investments more effective for development requires that they be designed to promote economic and social goals. Transportation projects have to be built specifically to help achieve objectives in agriculture, health, education, industry, and other sectors. If they are not, the

resulting impact on living standards may not be worth the cost. The reason is clear. It is too easy to provide the wrong kind of transport in the wrong amount, in the wrong place, and at the wrong time.

Whether transport leads to development or not depends on circumstances. In some cases a highway may be all that is needed to trigger economic growth. More often it is only one of many things that are needed. Roads must often be combined with power, irrigation, agricultural extension services, industrial loans, and other programs. Providing transport alone in the hope that something else will happen often leads to disappointment. The risk is illustrated by at least one high-capacity highway in Asia that has so little traffic that nearby residents use the pavement to dry corn and peppers.

Roads and factories have important things in common. A fertilizer plant, for example, is not built without assuring a source of raw materials. Without them the plant would be idle. A road also needs the ingredients that will permit it to produce. Its product is ton-miles of transportation. It should not be built without knowing in advance where the materials to make those ton-miles are coming from. If they are not in sight, steps have to be taken to create them.

This lesson was learned and taught many years ago in Japan. In the Meiji period, investments in transport were part of a general development plan of the national government aimed at simultanious advances on many fronts. The program included transportation, communications, education, industrialization, taxation, and public administration. Transport was critically important

as it is today, but was only one ingredient of many that together made possible Japan's economic growth.

The second requirement for increasing the development impact of transportation in Asia is a more ambitious program with more vigorous support from the industrial nations, including both capital transfer and technical help. There is an urgent need for grants to supplement the loan programs that are now the chief source of external financing. The goal should be the establishment of a world development fund under the United Nations, supported by annual assessments on countries that have already achieved self-sustaining growth.

Grants from a United Nations development fund would have to be matched by the participating countries, and spent only for projects included in a transportation system plan. In the case of roads, which are now absorbing from 50 to 75 percent of national transport investment programs, participating nations would be required to designate limited systems of primary and secondary routes that would be eligible for international support. Grants from the international fund would be made with the stipulation that maintenance would be carried out according to specifications, and that effective organizations would be established to conduct the program. The Economic Commission for Asia and the Far East would need to be equipped to administer the program for the region.

Obviously a stepped-up transport program would call for accelerated

education and training. This should be carried out through regional arrangements which permit the experience of Malaya, for example, or Thailand, to be transmitted to others in the area grappling with similar problems. The task involves not only engineering but organization, administration, planning, and financial policy.

The recent action of the United Nations Special Fund in establishing the Asian Institute for Economic Development and Planning in Bangkok points the way to the kind of research and educational efforts required. This new center offers the opportunity for representatives of all the countries in the region to combine experience for a more effective attack on common problems. Comparable efforts are needed within each country, such as those conducted by the National Council of Applied Economic Research in New Delhi, and by many Asian universities, including Tokyo and Waseda. The efforts of the International Road Federation, too, in its capacity as a consultative body to the United Nations, have had a significant influence in highway transport research and training. The expansion of these kinds of national and international institutions will hasten the coming of an era in which man will think his way as well as work his way out of bondage.

The third requirement of an effective transport program is to establish in Asia the industries that can supply a greater part of the equipment and materials needed to build and operate transport systems. The experience of the United States and Europe, and more recently of Japan, demonstrates

that the transport industries can be a major source of economic growth and productive jobs, as well as an indirect impetus for development in other sectors. A program to help create these industrial underpinnings is essential to realizing the maximum impact of the transport revolution. Plans for Asia should envision a regional integration of these industrial developments to assure that each country makes its most effective contribution, and that each industry is assured an adequate market.

In conclusion, if the transport revolution is to spread through Asia with sufficient speed to meet the urgent need for higher living standards, three steps will be necessary: a closer relation between transport and the rest of the development effort to assure an effective program; an accelerated effort to improve woefully inadequate transport facilities through a United Nations development fund; and a more vigorous program to create the industries in Asia that can help support the transport program and contribute to the whole development strategy.

The more developed countries are in an increasingly favorable position to help in this endeavor. This fact has become apparent as a result of nearly a decade of extraordinary progress in science and technology. The technological revolution has already demonstrated the possibility of producing an abundance of food. The United States, for example, produces five times as much as it consumes. Automation now promises an even greater abundance of industrial products. And already the revolution in weaponry suggests that productive

capacity once needed for armaments will be shifted to production for peace.

The significance of these trends is that they enable the rich countries to help the poor without hurting their own position. Indeed, we are entering a period in which it will make good economic sense as well as sound principle for the haves to help the have-nots. The tremendous capacity for production now within our grasp compels us to seek higher levels of consumption in a more prosperous world economy.

In other words, what is morally sound is at last economically feasible. The tremendous potentials for spreading the transport revolution in Asia are within our grasp. We can repeat with confidence the words of President Kennedy in his inaugural address: "To those peoples in the huts and villages across the globe struggling to break the bonds of mass misery, we pledge our best efforts to help them help themselves, for whatever period is required . . . because it is right."