

**Greater Mekong Subregion
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CONNECTING THE GMS: THE VITAL ROLE OF INFRASTRUCTURE

I. Background and Setting

1. In the GMS context, infrastructure relates essentially to transport, energy, and telecommunications. Within this group, the transport sector is dominant. Unlike more traditional forms of regional cooperation, such as the former EEC, or ASEAN, the GMS program does not rely on reduction of tariff barriers as the chief means of integrating the region economically. Instead, it focuses on the removal of structural and policy impediments to the movement of goods and services across the six geographically contiguous countries, which occupy a total land mass approximately the size of western Europe. A major structural impediment is the absence of an integrated network of land transport links among the countries which makes the intra-regional movement of goods and people costly. Improved transport linkages support the many different objectives of regional cooperation: increase in trade and investment due to larger markets, improved access for land locked partners, border development, and establishment of land bridges with other regions.

2. The ASEAN+PRC FTA provides added impetus to the development of the transport sector. GMS countries will need to develop their transport networks nationally as well as regionally to take advantage of declining tariff barriers as well as proximity to the large PRC market. Improvements in transport infrastructure will also promote the use of the GMS as a land bridge, or transit route, for trade between PRC and non-GMS, ASEAN countries. Improved transport infrastructure is also key to establishing a land bridge with the potentially large South Asian market.

3. The development of regional telecommunications and power networks critically supplements the development of transport infrastructure. The ultimate goal of transport infrastructure is the development of a region-wide, seamless logistics system which minimizes transaction costs and makes the GMS competitive. The development of telecommunications will facilitate the rapid adoption of intelligent transport systems which are the basis of recent improvements in logistics. More broadly, telecommunications development will permit the growth of e-commerce and cheaper intra-country communication.

4. Regional cooperation in power, primarily through a rational sharing of power resources between producers and consumers, will lead to cheaper electricity which is important for sustaining high rates of economic growth in the GMS as well as in enhancing productivity. Cooperation in the power sector will also have the added benefit of improving reliability of services and reducing the size of capital investments which would be needed if power grids were only national in scope. As in the case of transport infrastructure, cooperation in power is likely to play a significant role in the development of border areas bypassed by existing development strategies that may be less regional in outlook.

II. Connectivity in the GMS

5. A transport master plan for the development of the GMS was prepared in 1995. An important addition to the plan was the adoption of the economic corridor concept in late 1998. Five corridors connecting the GMS countries were agreed upon. Three corridors are on a north-south alignment with Kunming at the northern axis and Yangon, Bangkok, and Hanoi serving respectively as the southern axes of the different corridors. Two of the corridors are on an east-west alignment. It was also agreed that the East-West Economic corridor, stretching for 1500 kilometers from the Indian Ocean to the South China Sea, would be the first corridor to be developed. It will be completed by 2007 and all-weather travel between Myanmar, Thailand, Lao PDR and Viet Nam will be possible for the first time. A pre-investment study for this corridor identified numerous economic activities (tourism; industrial estates; export processing zones; agro-industries) which are being developed as a result of improved access and shorter travel times between the countries. The remaining corridors are at different stages of development. By 2010, the GMS countries will be connected to each other by a network of corridors including major bridges across the Mekong and Salween rivers. These corridors, many of which are connected to newly renovated seaports, will be the backbone of the land transport system of the GMS for the foreseeable future.

6. Development of civil aviation in each of the GMS countries has also improved their intra-connectivity as well as access to more distant destinations. Key airports have been developed. Mandalay, Vientiane, Hanoi, and Phnom Penh all have airports which are built or substantially reconstructed in the last ten years. In some GMS countries, smaller airports have also been upgraded substantially. The rapid growth of Angkor Wat as a major tourist destination is due in no small measure to the development of the nearby Siem Reap airport.

7. Cooperation in the power sector has focused on two issues: expansion of power generation capacity (mostly in Lao PDR) and transmission lines, and a six-country agreement which would permit the trading of power on a region-wide basis. The six GMS countries signed an Intergovernmental Agreement on Power Interconnection and Trade in late 2002. GMS governments have also endorsed the development of a sub-regional telecommunications network linking the international gateways of their nations. Over a dozen transmission links have been identified. As in the case of transport and energy, physical projects will be complemented by GMS governments formulating telecommunications sector policy and establishing transparent regulatory frameworks.

8. The development of physical infrastructure is complemented by the adoption of common policies and administrative changes. The corridors are complemented by the Cross Border Agreement on Movement of Goods and Services which is to be concluded by 2005 and which will govern customs procedures, rights of cross-border passages for drivers and vehicles, vehicle and load specification, insurance provision and transit and user fees. Most of the GMS countries have also agreed to pilot test the single-stop customs facility concept which could reduce transaction costs and time at international borders. In the civil aviation sub-sector Cambodia, Lao PDR, Myanmar, and Viet Nam agreed upon an open skies policy in late 2003 which will take advantage of recent development of both air services and ground facilities in all four countries. Taken together, these project and policy initiatives are critical components of travel without borders within the GMS.

III. Major Challenges

9. As the map in Annex A shows, the GMS will evolve into a highly interconnected region by 2012. The enhanced connectivity will be the basis for improved competitiveness as well as the true emergence of the GMS as a single tourist destination. While the extent of connectivity is historically unprecedented, gaps remain at national and sub-regional levels.

10. In land transport the road network has to connect with feeder roads to ensure better access to rural areas where the vast majority of the GMS population resides. Corridors will need upgrading based on growth of traffic and economic activities. Issues of road safety will need addressing. Rail transport possibilities will need to be explored. The rail network in the GMS is key to the completion of two large scale, visionary projects: the Trans-Asian Railroad and the Singapore-Kunming Rail Link. However, low efficiency, large operating losses, and currently limited links between countries, as well as improvements in road transport, are serious deterrents to the development of a GMS rail network.

11. Urban centers in the GMS, including those that are nodes on the GMS corridors, are growing rapidly. The GMS is already home to four cities each with at least four million inhabitants (Bangkok, Ho Chi Minh City, Kunming, Yangon). However, the role of these centers in driving GMS growth, and their relationship with transport sector development, has yet to be clarified.

12. The large rivers of the GMS are a potential source of economic and environmentally clean transport but realization of this potential will require inland ports, capacity building and navigation agreements, and aids based on a realistic needs assessment. A fresh, comprehensive study for development of the transport sector in the GMS is under way and will provide a strategy for the way forward.

13. While the speed of adoption of new technology in some of the GMS countries has been impressive, per capita consumption of energy and access to telephone services is still low in all GMS countries except Thailand. Telephone lines per hundred population is less than 5 in Cambodia, Lao PDR, and Vietnam compared to nearly 50 in South Korea. Major expansions in physical assets, complemented by appropriate policy, regulatory, and institutional changes, are needed for several years.

IV. The Cost Question

14. Investments in GMS infrastructure were estimated in 2002 at \$10 billion to complete the projects under the 11 GMS flagship programs. However, given recent estimates of the cost of major projects in the East-West Economic Corridor, the \$10 billion figure would seem to be a bare minimum. Clearly, actual capital expenditure will be limited by the fiscal positions of national and local governments, debt servicing capacities, and the availability of external assistance. Public finances are obviously insufficient to develop GMS infrastructure and innovative financing mechanisms must be identified.

15. Improvement of the banking sector, or development of new channels of financing such as the Asian Bond Market, are desirable but they are longer term solutions. In the short term, recourse will have to be had to effective public-private partnerships. To tap the global private capital markets, the public sectors of the GMS countries need to be able to offer, both

individually as well as collectively, vision, transparency and an appropriate regulatory framework that will attract private investment. This could, in fact, be the primary function of the public sector in GMS infrastructure development except in cases where there are significant externalities. The Theun Hinboun hydropower project, that was commissioned in Lao PDR in early 1998, may, therefore, be the forerunner of many public-private partnerships. The project is owned by the Lao state power company and a consortium of Thai, Norwegian and Swedish companies and operated by a private firm under a 30-year build-operate-transfer contract. The project has been a major source of foreign exchange to the government earning about \$95 million in about five years.

16. Given the large needs and the different areas of interest and expertise there can be mutually beneficial cooperation among the international financing agencies. Comparative advantages need to be better identified and exploited. Further, because of the differences in development levels, assistance between GMS countries for infrastructure development is also feasible. PRC and Thailand have, for example, both offered assistance to neighboring Lao PDR for the completion of a corridor project.

V. Some Related Issues

17. Equity and distribution of costs and benefits of cooperation. This is a key issue that exists between countries as well as within countries. Within each country, regional development strategies will have to be consistent with national and local strategies. How provinces benefit from regional cooperation and how much they will be expected to pay for these benefits are issues that are increasingly being raised. Their resolution may require substantial changes in the power, scope and responsibilities of local governments.

18. Human resource dimension of infrastructure development. Infrastructure-related policies require to be designed and sustained by trained expertise that is often missing in the GMS countries. Capacity building is, therefore, a needed complement to infrastructure development. However, it is a lengthy process in which commitment to sustained assistance is needed. Further, the benefits of improvement in physical capital, increased productivity and competitiveness, can occur only if there is a general and complementary increase in human resources. It is essential, therefore, that infrastructure development be embedded in general development strategies that have accompanying strategies for human resource development as well.

19. Negative externalities emanating directly or otherwise from new regional infrastructure. These range from the possibility of the rapid spread of HIV/AIDS along new corridors to increased mortality rates among younger populations due to traffic accidents. They may also arise from the use of a natural resource such as a major river, or competing uses for transport, power, or irrigation. Proactive approaches that take full advantage of improved understanding achieved among the countries through regional cooperation may be the most effective.

20. Finding the resources to cover operations and maintenance costs of new infrastructure will be a challenge for some GMS countries which currently have difficulties maintaining existing levels of infrastructure. Poor maintenance of corridors is a complex problem since there can be significant cross border impacts. GMS countries may need to consider the creation of multi-country institutions which are dedicated to the upkeep and development of corridors and the resolution of possible disputes.

VI. Some Questions to Consider

- 1) What are the main impacts of expanded infrastructure development in the GMS on the sub-region's competitiveness? How should the negative impacts be addressed?
- 2) What factors in infrastructure development are likely to affect the decisions of investors who have an interest in the sub-region? What constraints need to be eased to facilitate private investments in GMS infrastructure? Are there common constraints that the GMS governments can address jointly? What sort of investors are most likely to be attracted by improvements in infrastructure? Are there ways of targeting such investors?
- 3) What lessons, positive or otherwise, can be learned from the experience of public-private infrastructure development in Asia.
- 4) What role would investors like ADB to play in infrastructure development
 - a) financing
 - b) guarantees
 - c) policy formulation
 - d) capacity building
 - e) honest broker/catalyst between countries

