

Rural Infrastructure Development in the Decentralization Process

Rural infrastructure development in Cambodia depends to some extent on the commitment and effort of the decentralized local government. Rural roads, irrigation system, and rural electricity are the main infrastructure deserving development in the decentralization process.

Among all other things, the decentralization program, which has been launched since 2002, has brought many opportunities to Cambodia in terms of local infrastructure development, especially in the rural areas where approximately 40 percent of the population is living under the poverty line. The progress and improvement in physical infrastructure at the local level is known as one of the factors leading to successful long-term decentralization as it helps decentralization to achieve its ultimate goal of reducing poverty.

It is suggested that the objectives of implementing decentralization in Cambodia are to promote democracy at the local level and to reduce poverty. While the former can be realized by software approaches through policies and regulations, the latter requires both software and hardware approaches. It can be claimed that although with perfect policies in addressing poverty reduction, reducing poverty cannot come true without proper investment in physical infrastructure. Efficient and adequate rural infrastructure will reduce agricultural production costs, bring people closer to market and opportunities, and intensify the economic activities of the rural population contributing to improving rural livelihoods.

In this framework, this article attempts to show how enhancing decentralization can be considered as a key to deal with the infrastructure bottleneck in rural areas of Cambodia.

Overview of Rural Infrastructure

While more than 85 percent of the Cambodian population is living in rural areas, the current rural infrastructure which is an important lifeline for their daily life is still inadequate and not able to respond to their demands. Since

most rural people rely on agriculture-related activities, farm-to-market transportation, water resources, and electricity are of the utmost importance. Yet, the road network, irrigation system, and power sector in rural Cambodia are still in a deplorable state.

Rural Roads

A report by JICA released in 2006 highlights that only 0.3 percent of 18,948 km of rural roads are paved, whereas the rest is covered with earth or laterite. The section of unpaved rural road network, in most cases, is hardly accessible or non-trafficable in rainy season, which often forces some parts of the country to remain isolated as well as facing economic disruption.

According to the Commune Database (CDB) developed under Seila program, about 15 percent of the rural population in 2005 lives more than 5 km away from a year-round accessible road compared to 20 percent in 2002. This shift implies that all-season accessible roads have been made more accessible to the rural population.

Yet, it is remarkable that, in

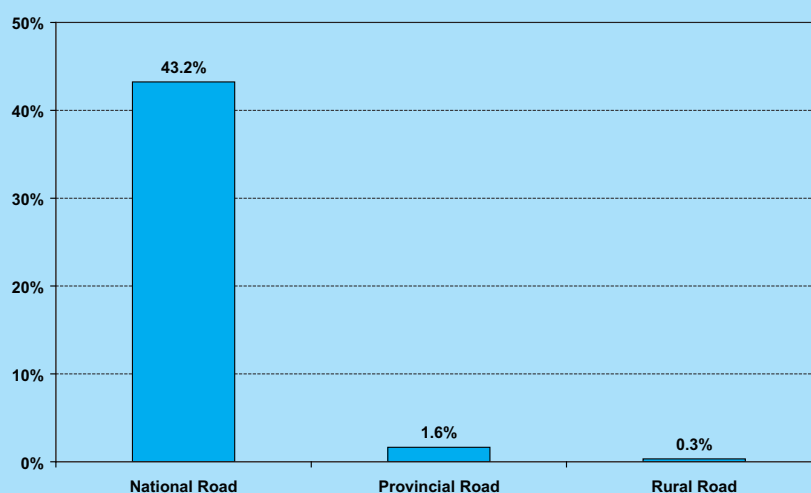
2005, about 11 percent of the rural population, equivalent to 1.2 million people, needs to travel more than 30 minutes by motorbike to reach the nearest year-round road. This indicator clearly shows that still today a large part of the rural population needs to spend substantial travel time on badly deplorable roads before they can use a road network, which is passable in all seasons. These people, therefore, become often secluded during the rainy season and the lack of access to market and public services becomes a major constraint.

In addition, about 740 villages in Cambodia may require more than one hour to travel by motorbike to reach an all-season road, often making these villages socially isolated and economically disadvantaged during the rainy season.

Irrigation System

Besides poor rural road conditions, the irrigation system, which is fundamental for agriculture, has yet to be adequately developed. Based on CDB 2005, only 16 percent of rural

Figure 1: Percentage of Paved Road in Cambodia in 2004



Source: Report on the Study of Road Network Development in Cambodia, JICA 2006

households have their paddy field irrigated, while the rest, up to 84 percent of farmers, have their farmland reliant upon the rain which is vulnerable to weather and climate change. There is no doubt that these farmers often experience low production yields, and as a result earn lower incomes for their family forcing them to remain in the poverty trap.

Rural Electricity

Inefficient provision of electricity is also an issue in rural areas. On the one hand, the electrification rate and consumption level is low, on the other hand, the tariff rate is very high compared to urban area.

There are currently only 8.6 percent of rural households, equivalent to nearly 200,000 households that have access to electricity which is unreliable and costly, while the rest use other traditional sources of energy such as kerosene and batteries for lighting. In addition, the disparity in power consumption between rural and urban areas is also significant as the per capita electricity consumption in rural area is about 45 times lower than that in urban areas. This low electricity coverage and consumption in rural area is due to the lack of rural power supply, and if there is, the tariff rate is hardly affordable. It is notable that while the rural population earns lower incomes than the urban population, the average

electricity's price in rural areas is about US\$0.75 per kWh compared to urban areas of around US\$0.20.

The limited access of electricity is an impediment for rural households to access to new technology, diversify economic activities, increase agricultural production, and improve living conditions. More importantly, the shortage of efficient electricity forces these rural areas to remain unattractive for possible investment in sectors such as the agro-industry. In addition, it hinders the development of Small and Medium Enterprises (SMEs) which can play a role in providing employment and agricultural market to rural people.

It is worth noting that in a country in the phase of rapid economic growth like Cambodia, infrastructure development has more significant impacts than a country with economic stagnation. In this context, improvement of infrastructure particularly in rural area may come to the fore in poverty eradication in Cambodia.

Decentralization as a Means to Enhancing Rural Infrastructure

As mentioned earlier, one of the objectives of decentralization is to reduce poverty through providing better service delivery and community development. It is recognized that the poverty in Cambodia is a rural phenomenon since the majority of the

poor, more than 93 percent, live in the countryside.

In this context, the objective of decentralization in reducing poverty can only be achieved if it can deal properly with rural communities. It is understandable that one of the main reasons why poverty is concentrate in rural areas is because of the lack of social and economic opportunities, which is attributed to improper rural infrastructure provision.

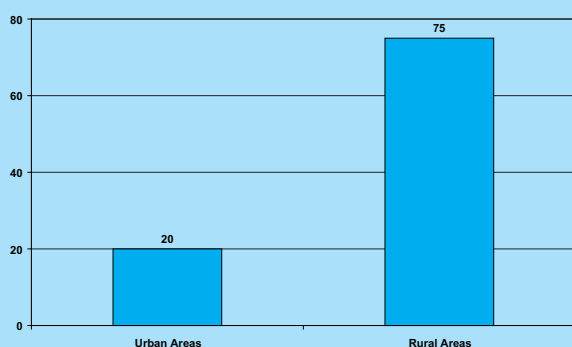
Therefore, an effective way that leads decentralization to successfully achieve poverty reduction is the development of rural infrastructure, specifically rural roads, irrigation system, and rural electricity.

Understanding Commune Budget

Since the implementation of the decentralized system in 2002, the Royal Government of Cambodia (RGC) has allocated large amounts of funding to all communes throughout the country to function this infant government system and to promote local development. According to the Law on Administration of Commune (2001), the budget for the commune is principally separated into two components: administration component and development component.

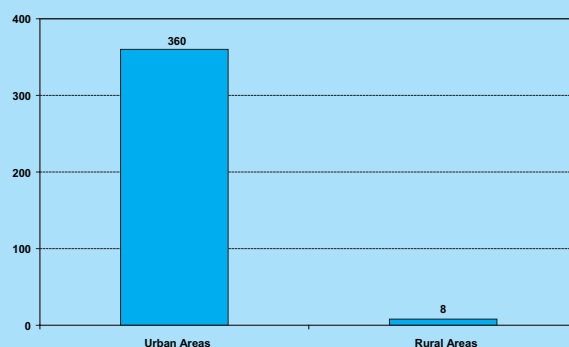
Whereas the amount of budget for administrative component is given to each commune solely in proportion with the population size, the

Figure 2: Average Prices of Electricity in Cambodia's Urban and Rural Areas (US cents/kWh)



Source: Compiled from Electricity Authority of Cambodia, 2006

Figure 3: Per Capita Consumption of Electricity in Cambodia's Urban and Rural Areas (kWh)



Source: Compiled from Electricity Authority of Cambodia, 2006

development component is dispatched according to the population size and poverty ranking based on proxy indicators derived from the CDB.

The administration component, which takes no more than one third of the total budget allocation, is used for the functioning of the routine work of commune councils (CCs) including salary of council's staff, allowances of village chiefs, and allowances for additional staff hired for administrative work or service provision.

The development components account for two thirds of total budget allocation is, however, intended to cope with recurrent and investment incurred by CCs for the development of local infrastructure and delivery of local economic and social services.

Given that large share of the budget is allocated for local development within decentralization process, it is possible to postulate that decentralization has recently played an important role in intensifying public investment in infrastructure, especially in rural areas where lack of private investment in this sector is not uncommon.

Between 2002 and 2005, the amount of budget, totaling US\$47 million, has been spent by the government to support the decentralization process, where about US\$17 million (37 percent) went to the administration component and around US\$30 million (63 percent) was allotted to the development component.

As for the latter, besides government support, each commune could also receive funds from donors and could equally generate revenue from local contribution. Since 2002, the total amount of money received from other donors for local development has accounted for US\$5.7 million while the revenue from local contribution is merely US\$0.9 million. This additional amount of money has brought the funds available for local development to about US\$36 million, 93 percent of which has been used for improving physical infrastructure.

Development of Rural Roads

It is notable that during the first mandate of the decentralized government in Cambodia, the rural road network has received, among others, the highest investment from the local government.

According to Seila annual reports, the annual investment in rural roads alone, on average, takes up to 64 percent of the total infrastructure investment fund, and this share has remained unchanged over time from 2002 to 2005. In absolute terms, the annual investment in rural roads by local government throughout the country has been gradually increasing – public spending jumped from US\$2.7 million in 2002 to US\$7.5 million in 2005. This means that investment in rural roads during the period of decentralization process has been recently tripled compared to the initial stage.

Among all infrastructure projects under the commune development scheme, the number of contracts for road improvement projects has been by far the largest. Annually, rural road projects have absorbed more than 60 percent of total contracts. On average, there have been roughly four infrastructure projects taking place in each commune, where more than 2.5 of them are rural road projects. The field

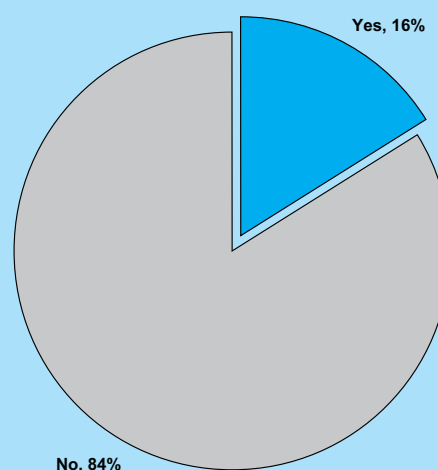
survey by Economic Institute of Cambodia (EIC) in August 2006 also found that, among other infrastructure, rural road tends to take the lead in commune development.

To trace the evolution of rural transportation improvement after decentralization from 2002 to 2005, travel time is used as a proxy indicator representing the quality of rural road network. In this sense, high travel time signifies poor road condition, while low travel time reflects highly trafficable and easily accessible roads. For the purpose of this article, travel time by motorbike from a rural village to a nearest all-weather road is used to characterize the condition of rural roads in a particular village.

Based on the CDB, the average travel time from a village in Cambodia to a nearest all-weather road has declined about 37 percent, from around 24 minutes in 2002 to 15 minutes in 2005. It has been proved that travel time has gradually decreased with the growing amount of annual investment in rural road by CCs. This decreasing travel time implies that some rural roads which used to be inaccessible in rainy season have been converted to all-season roads or the surface of roads linking a village to a year-round road has been upgraded.

This improvement is partly due

Figure 4: Percentage of Cambodian Paddy Producers Who Can Access to Irrigation System



Source: Compiled from Commune Database, Seila Program 2005

to CCs under the local development scheme. Yet, further effort by CCs is required to make the whole country accessible throughout the year.

Development of Irrigation

The report on development investment highlights that after rural road investment, irrigation system improvement, usually small-scale projects, have become the second priority of investment by CCs. A reason for this is that each local government realized the importance of the irrigation sector in agricultural activities of rural people, which can effectively contribute to poverty reduction.

Since the implementation of decentralization, the annual share of investment in the irrigation system over total development investment by CCs nationwide was on average 15 percent. The share has been increased significantly from 7 percent in 2002 to 21 percent in 2005, reflecting the growing interest of local government in investing in agricultural infrastructure. Parallel with this increasing share, the annual spending of CCs on the development of the irrigation system nationwide also increased eight-fold, from US\$0.3 million in 2002 to US\$2.4 million in 2005. This mounting amount of investment contributed, to some extent, to the increased irrigated paddy land in throughout the country. Nevertheless, CCs could only handle micro-irrigation projects requiring small amount of investment, while large-scale irrigation schemes are normally carried out by the government.

According to CDB, the average irrigated paddy land in a commune in Cambodia increased about 17 percent between 2002 and 2005. It is estimated that in 2002, a commune in Cambodia had on average 270 hectare of irrigated paddy land including both wet-season supplementary irrigation and dry-season full irrigation. Then, the average irrigated area in a commune jumped up to 320 hectare in 2005. The jump is a good indicator showing the

progress that has been achieved in the period of decentralization despite the fact that this increased irrigated farmland is not solely attributed to commune development funding alone.

Development of Rural Electricity

Unlike the rural roads and irrigation system, rural electricity investment has not appeared in the development agenda of CCs since the implementation of decentralization. The development of rural electricity rests solely under the responsibility of the private sector, the so-called Rural Electricity Enterprises (REEs).

Given the autonomous power, although local government has not financially involved in the development of rural electricity, CCs can play a coordination role in boosting the development of this sector at their community. Firstly, they can raise issues to central government in order to have their community connected to an existing power grid. Secondly, they can create an enabling environment for REEs to invest in their locality to supply electricity to households.

Concluding Remarks

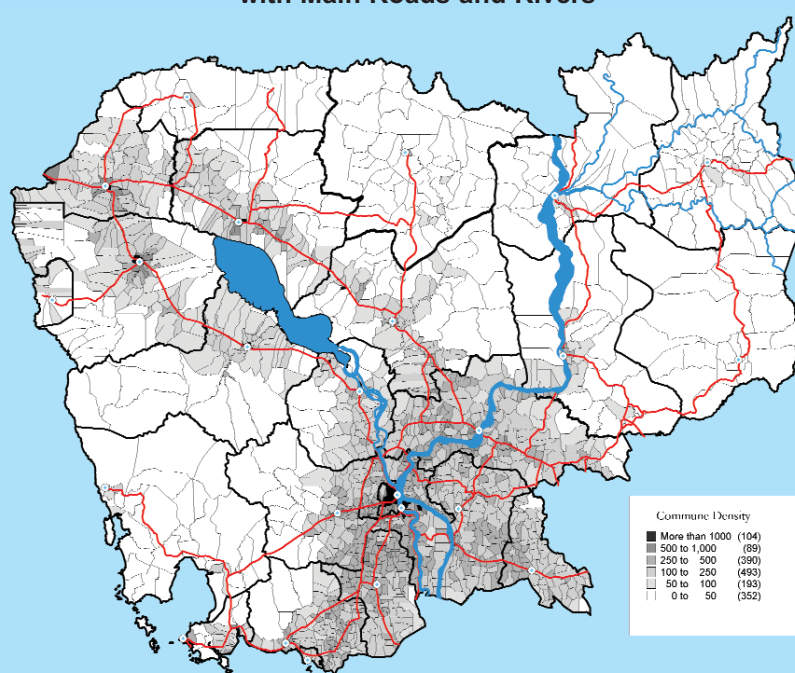
In parallel with the objective of reducing poverty in the decentralization program, developing infrastructure, particularly in rural areas, has come as priority development agenda for CCs.

To respond to actual needs of the community, local government can play both financial and institutional roles in developing rural infrastructure deemed to have significant impacts on rural livelihoods. The financial role means that CCs can directly allocate some commune's budget for the development. The institutional role refers to the efforts of CCs in voicing the issue to high-ranking policy makers, promoting people participation, and public-private partnership for local development.

Therefore, while most rural infrastructure namely road, irrigation, and electricity are still in poor condition, CCs can take a lead in dealing with this problem. Nevertheless, it depends very much upon the commitment and dynamism of CC itself.

Kov Phyrum

Figure 5: Map of Population Density by Commune with Main Roads and Rivers



Source: Compiled from Commune Database, Seila Program 2005