

## WHAT CAN WE DO?

In rural areas of East Africa, because of the characteristics of expansive clay, which is called “Black Cotton Soil” or “Red coffee soil”, rural roads often become impassable during the rainy season (Figure 1). The government and international donor agencies have rarely been able to allocate their budget to maintain these roads: this is because the perceived benefits from such projects were limited. The traffic volume passing along rural roads is very small, typically less than 50 vehicles per day. On the other hand, for people living alongside these roads, the roads are fundamental infrastructure for their daily lives. They inevitably sigh looking at their rotten cash crops in their stock that are not transferred to the market due to the impassable road conditions. It takes a whole day to just deliver the daily necessities, such as cooking oil, salt, and sugar, etc., from the nearest town to their village. Consequently, people in the village face considerable inconvenience as they lack basic supplies. The impassability of rural roads also hampers the timely transportation of patients in a village to a hospital (Figure 2). The children sometimes face difficulties getting to school.



Figure 1. A rural road in the rainy season, via which rice is transported (Uganda)



Figure 2. An ambulance stuck on a rural road (Papua New Guinea)

It is said that 75% of individuals globally living in poverty reside in the rural areas. The poor conditions of rural roads in developing countries have been regarded as one of the main constraints to economic development in such countries. In fact, even national and regional roads are not well maintained in those countries. In this situation, do the people in a village have no alternative but to give up on the maintenance of rural roads? Thus far, geotechnical engineering has not been able to develop solutions to this problem regarding rural roads in developing countries.