

Victoria Falls → Masvingo

Zimbabwe, past and future.

While driving through Zimbabwe's Zambezi National Park, local member Alistair told the team, "*Zimbabwe's roads all used to be like this.*" The roads were dirt and gravel, sometimes with rocks. They slowly made their way through a large sunken basin and then gazed at some giraffes to their side. Abe, who worked in the division Automated Driving & Advanced Safety System, was thinking about Africa's future while driving through Zimbabwe's past.

"I did some research on Africa before coming here, and learned that as the number of cars sold has risen, so has the number of accidents. Once a system is developed, it's hard to fundamentally change it. That's why

we should also factor in the challenging African environment."

For example, even when off-roading in a national park with the dust dancing up and obscuring visibility, radar can be used to get information beyond what is in the field of vision. It may be places outside Japan and the western markets where the roads are not upgraded and well maintained—that will really experience the safety technology in action.

Changes in the environment show up on the road.

In Chobe National Park in the African leg's fourth country of Botswana, the convoy drove by elephants walking in an unbelievably large herd. The amount of sand had been increasing since the day

before. Changes in the environment show up on the road. When the convoy slowed down to avoid getting too close to the animals, or to drive in a line formation, several of the cars got stuck. Kamiya from the Vehicle Engineering Development Division was used to off-roading on test courses, but even he appeared a little worried when asked if he had expected these "*original roads*" to be this bad—where you had to deal





with corrugated surfaces and sand and rocks all at the same time. Team members managed to push the Fortuner out of a deep pocket of sand. The drivers of the Land Cruiser 200 and the Land Cruiser 70 said they had no problems as they reconfirmed the different attributes of the models. Yamagata of the Chassis Control Development Division said, “I’m rather amazed that the Fortuner has been able to drive as much as it has on the same roads as the Land Cruisers.” He continued, “But, for example, even if an experienced

off-road driver can quickly decide when to switch the traction control on and off, or when to switch to H4 mode, it’s difficult for someone like me who’s not accustomed to off-roading. People might like to have a system that can follow the driving conditions and make adjustments as needed.”

Overtaking at high speed.

While their car was driving on a long stretch of straight road in Botswana after

leaving the national park, Maeda, who joined the Drive Project from Suzuki, peppered Michael from TSAM with questions. From their conversation, it became apparent that cars’ long-distance on-road performance was actually very important in Africa. Rough shaking and vibration that continue for a long time take a toll on the driver and any passengers. On top of that, vehicles overtake other vehicles at speeds of more than 120 kph. TSAM uses roads in the desert where there is no speed limit to test cars’ performance. As if to

demonstrate what Michael was saying, the team drove on a long road in Botswana with a speed limit of 120 kph, which would drop down to 80 and 60 kph as they approached small villages and towns. The problem was that the long, monotonous road was not necessarily well maintained. There were potholes and narrower stretches of road where the asphalt had peeled away. Goats, donkeys and cows would walk along the road's shoulder. Scrub did not grow tall because elephants would break off the branches to eat the leaves. The team members had become familiar with African roads and used the wireless radio to check how much space there was when overtaking trucks so they could pass them while deftly maintaining their caravan formation. It's been three weeks since the African leg of the Drive Project got underway, and the team has gelled.

Exceeding the Toyota standard.

The team continued the drive, returning to Zimbabwe from Botswana. The dry, flat land the team had experienced so far gradually took on some ups and downs. When there was a river, some taller trees could also be found. Executive General Manager Sadakata, who was with the team for a week, talked of how the cultures and the people had made an even stronger impression on him than the roads.

“The cars are packed with people. Obviously they're overloaded, but that's just a part of life here. They bottom out while driving, and even if damage to the suspension or shock absorbers is not a problem, if the car body

developed cracks it could lead to a major accident. How cars break down is also something we test, but we don't look at these extreme conditions. While not the Toyota standard, to what extent should we test these things? It feels like this question is staring me in the face. Perhaps we need to think through how they use cars here and at least see how the cars break down accordingly.”

Just as there are many different types of roads, how cars are used also completely changes depending on the country or region. The team will learn about and pursue these differences, and then create an even higher standard. This may be the real significance of the Drive Project. There is one week left on Team 1's African leg.



Distance: 1,219km
 Duration: September 10-14, 2018
 Days: 5 days
 Vehicles: Fortuner, Land Cruiser 200,
 Hilux Double Cab,
 Land Cruiser 79 Double Cab,
 Land Cruiser Prado