Drought threatens Mali elephants

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The elephants living in the Sahel of Mali are the northernmost in Africa. Their range has shrunk since the 1970s, probably due to climate change and habitat degradation caused by livestock. They have a circular migration route and one elephant was measured to have covered 3435 km in 12 months. In March 2008, Save the Elephants attached satellite GPS collars that take hourly geo-reference readings to nine elephants. This movement study, funded by African Parks Network, is part of a long-term elephant conservation project in partnership with the Mali Directorate pour la Conservation de la Nature (DNCN) and the Wild Foundation.

In mid-May 2009 this unique population of elephants suffered an acute shortage of water during the region's worst drought in 26 years. Lake Banzena, normally their main dry season reservoir, dried out apart from a few rapidly drying muddy pools polluted with dead cattle and flapping catfish. The rains normally do not come until June.

The only drinkable water was supplied by two pumps that were provided by the government, but for most of the day the watering point was dominated by thousands of cattle, so the elephants could only get to water at night. Under these circumstance the normal peaceful co-existence between the elephants and the Pheul and Touareg herdsmen in this area started to break down. Occasionally the elephants would push their way through the cattle to get to the water, but normally they had to wait until nightfall to drink. When it was the elephants' turn to drink, they quickly broke down the walls of the makeshift reservoir and that source also became undrinkable.

In the previous months, six elephants—including one collared animal—were thought to have died from drought related causes, including the stress of the heat in temperatures as high as 50ºC, lack of food or from drinking heavily polluted water. Responding to an appeal from the DNCN, Jake Wall from STE organized a helicopter survey of the western side of the elephants' range on 20 May. This showed some ephemeral pools of water 50 km southeast of Lake Banzena. However, the landscape was drying fast and if these were to dry up the elephants would have nowhere left but Lake Banzena. Meanwhile, 40-50 elephants were still trapped at Banzena, apparently without the knowledge of the water to the southwest. The challenge was to provide sufficient water for elephants as well as cattle and an environment where elephants could drink in peace.

It was decided that a concrete reservoir was needed into which the pump on the south shore of Banzena, which was more heavily used by elephants than the north shore. The tank would retain the water in such a way that it would not be churned up into mud and would be available to the elephants at night when the cattle left and the pumps were switched off.

By 22 May, the situation had become critical and there was no water left in Banzena for either elephants or livestock. There was severe overlap around the pumps and without a way of capturing the water being pumped, livestock were left dying and thirsty. The elephants, driven by thirst, became increasingly bold approaching the pumps in the daytime. Fortunately, light showers fell to the that evening and were preceded by a sandstorm bringing with it the smell of rain. The STE team was able to detect immediate movement by remote tracking as some of the collared elephants responded to the distant thunder and storms and raced southwards. As we go to press there is water to the south, but if there is no more rain these ephemeral supplies will probably dry out within the next two weeks. However, construction of the concrete holding tank is underway and it should be ready by then. The tank is under the administration of the DNCN who have agreed to administer the all important water distribution between herders and elephants so each can drink adequately. The construction of the tank and 1000 L of diesel has been paid for by donors who responded to the appeals put out by Save the Elephants and the Wild Foundation.

Importantly, this crisis has drawn the attention of the authorities to the pressing need for a wildlife

protection policy around Banzena. Ideally, the elephants should be granted priority at the lake as it is so important to them, and it should be declared a reserve. This can only come about with detailed land use planning that takes into account the detailed elephant migration route that has now been defined by the GPS-tracking, and to work out a compromise between human and elephant needs.

Our research has shown that elephants' decisions taken on finding water are critically important. Some bulls have adapted by kneeling down and sipping water from small wells at full trunk length. We have noticed elephants making frequent exploratory round trips at the height of the dry season of 75 to 100 km and our hypothesis is that they are reconnoitring surrounding areas to check if surface water is available, as the landscape becomes drier. Making mistakes can be fatal. In March 2008, during a radio-collaring operation Jake Wall came across three elephant calves trapped in a mudhole along with a half-grown female. From the age structure it looked like they had lost their matriarch. Evidently, this young female had led the youngsters into a waterless area. They happened upon a shallow well dug by herdsmen for watering cattle and it appears that the elephants, desperate for water, tumbled into the well and all four were hopelessly stuck in the mud for three days. The research team pulled them out one by one, but they were so weak that only the half grown female survived. She had to be immobilized after she was extracted from the hole so that the calves could be pulled out too. When she was down she was radio-tagged and when revived she streaked over 80 km to the nearest water at Lake Banzena.

Local people try to help rescued calves with water, but to no avail.