

# THE WILD BEST

What brings Rio Tinto, NASA and a luxury goods conglomerate together in a little hut in the middle of the Mongolian desert? A grand plan to restore the supply chain of quality cashmere – and the landscape it comes from.

Mongolian herdsman Nergui Ayaykhuu at work with his goats.





**Sometimes, fashion's front line lies far from the front row.** Welcome to Mongolia, where the outside temperature is minus 31 degrees. Night is falling over the South Gobi Desert yet the nearest hotel is ... well, frankly, I don't know.

We'll unroll our sleeping bags and bed down later tonight in a ger, which is a round tent of felt and animal hide somewhat like a yurt. But first, our nomadic herder hosts are giving us the warmest of welcomes in their main ger, which is larger and pitched right next door. Camel milk tea? Hot cow-fat vodka? Perhaps intestines as an appetiser? They've made us dinner which will not, as it turns out, be camels' balls but minced camel meat in dumplings, an adjustment in translation which comes as something of a relief. This brings me to the not-ensuite. It's a tiny tin hut further down the hill, guarded from the wolves by our hosts' dogs.

What brings a diverse band of travellers way out here in the depths of winter is fashion's finest fibre. What follows is a yarn about cashmere, an exploration of how the supply chain of this most precious raw material has come undone. Yet it is being woven back together thanks to a new pattern in partnerships. It's true that the start of this story has more grit than glamour.

Yet I promise you it will end well and in Paris. But best to brace yourself first, because the telling of it requires such fresh vocabulary as "superior semen" and "faecal matter".

Mongolia is vast and sparse, an independent nation about the size of Western Australia which lies sandwiched between the superpowers of Russia and China. Yet this was once the greatest superpower of them all, ruled by Genghis Khan, whose legacies include the spread of paper money and trousers, meaning that you might argue the Mongol hordes were in at the very beginning of the international fashion business. What the Mongols were also known for (besides killing anyone in their way) was finding pragmatic solutions, which also parallels the more gentle reasons why we are here today. Rebooting a global supply chain isn't simple. A flimsy little fashion story this is not.

But then who would want anything flimsy out here in an infinity of emptiness, a lunar landscape set in desert air so dry, its harshness is not even softened by snow. Bringing the focus closer again, there are the gers, two of them for humans and a tiny one for baby goats. Beside these is a fenced paddock and a half-moon shaped shelter which is constructed of

bricks formed of frozen camel dung. In these, 428 cashmere goats, 40 sheep, 21 cows, nine camels, and a horse cleave together against the bitter cold. In winter, which is when we have incomprehensively dropped in to visit, the temperature ranges from minus 11 to minus 40 degrees.

There are good numbers and bad numbers when it comes to the complexities of cashmere, which is combed from domestic goats living in cold conditions so their hair grows as thick and as profuse as possible. Cashmere goats can be found right across Central Asia, although the independent nation of Mongolia, formerly known as Outer Mongolia, together with Inner Mongolia, which is part of China, have by far the greatest numbers. Mongolia and China are responsible for 90 per cent of the world's production of raw and processed cashmere.

There is an optimum ratio of sheep to goats in a mixed herd. Without getting too deep into hoof mathematics, when goats exceed 500, the balance tips. In the past 20 years, the number of goats in Mongolia has increased fourfold. It has become common for herds to include 800, even as many as 1000 goats. The driver for this is not coming from fashion's

high end, but from the mass market, where a once-rare fibre has become more accessible and seemingly more affordable. And for that, alas, there is a high price to pay.

You are paying it. The democratisation has had a serious impact on quality. Herders are earning less money per goat, due to middle men squeezing those at the beginning of the supply chain, which forces the herders to be less discerning (put simply, they mix the rough with the smooth). But this all pales compared with a devastating impact on the environment. The problem comes down to goats eating everything, roots and all, leaving nothing for the native large mammals in this remote and arid ecosystem. Out here in the Gobi, it means hungry gazelles, along with a rare type of ass called a khulan, experiencing a declining birthrate and a rising death rate.

You might not lose sleep over an ass but the knock-on effect is a near-mythic creature missing out on lunch. When scientists started noticing a decline in signs of the already rare and reclusive snow leopard, their first thought was poaching, which remains a threat. But the bigger culprit? Those goats. Why can't the snow leopard just eat the goats? Because the former tends to be timid and to live high up, whereas the latter, rounded up each day by herders on horseback and motorcycles, doesn't tend to stray.

Having never seen a snow leopard in the wild, perhaps you won't miss them when they're gone. Yet there's another impact too. Goats eating roots means there's nothing to anchor the soil, which then lifts up into massive dust storms that circle all the way to Beijing or Hong Kong. That, coupled with climate change and pollution, makes it a lot harder to breathe for a whole lot of people. The wind of the

Gobi sometimes reaches California. The expansion of arid deserts is not good news for anyone.

**Problem. Solution. Sustainable Cashmere Project. While** this initiative, which was started in 2015, is still small – 207 herder families, 60,000 goats – it is designed to upscale and has the partners in place to implement this widely. The aim is no less than to restore the degraded rangeland ecosystem in the South Gobi. Those coming together to turn an environmental disaster back around are not in superhero cloaks but snow boots. I'll introduce you to them one by one.

First among equals are the herders themselves, who are being incentivised to shift to smaller herds of more productive goats while maintaining a proud way of life and their age-old traditions. Next, from Paris, the luxury group, Kering, which owns Yves Saint Laurent, Balenciaga, Gucci, Bottega Veneta, Christopher Kane and co and is the project's catalyst. Now let's bring in Wildlife Conservation Society (WCS), the global non-government organisation which has been working in Mongolia for two decades. You might be surprised to see mining giant Rio Tinto in this group and who would expect NASA at a fashion gathering? The former is chipping in with logistics and cash, the latter with "specialised remote sensing monitoring", aka satellite systems so that the improvements in biodiversity that result from changed grazing practices can be tracked. NASA has joined the project in association with Stanford, the American powerhouse university which is also known as the feeder of brainiacs to Silicon Valley.

Still thawing out in the warmth of the main ger are my fellow travellers from fashion's front line, seated on stools tiny enough for a doll's house while pretending to enjoy dried

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*Above:* Camel milking in the South Gobi Desert.

*Right:* Tuyama Nanjidulam and Oyumaa Bataadorj are members of the Hurhiin Naran Co-operative, one of the pioneer groups in the Sustainable Cashmere Project.







*Left:* Inside the ger, host Nergui Ayaykhuu works on tenderising strips of camel skin, which he will plait into reins for his horse. *Above:* Herdsman EnkhTUR Tseveenrulam, holding the next generation of sustainable herders.

camel candy, which has a pungent, sweaty smell and a distinctly off-cheese flavour. So let's hear from Dr Helen Crowley, an eminent conservation and ecosystem services specialist who works for Kering, which is setting the trend among luxury companies by employing a scientist. Crowley, who is Tasmanian, is head of sustainable sourcing innovation, based in Paris. What she knows all about is how fashion's environmental footprint is almost always heaviest at the raw materials stage, yet even she was surprised by the "disproportionate negative impact" of cashmere, given it is natural and the quantities used are proportionally small. "Vast areas of land were becoming dangerously degraded, meaning we had to act," she says. "This was an opportunity for Kering to leverage change."

It is incredibly unusual for a fashion company to fund a scientific field study, this undertaken by WCS. Yet this is what Kering did for the first two years of the Sustainable Cashmere Project. It represents a radical new model of business behaviour, with Kering then weaving in the other partners as the project gathered pace. Representing WCS here is Onon Bayasgalan. Onon's role (not Bayasgalan's, a Mongolian's second name is their father's first name and does not function like a surname) includes liaising with the herders themselves, including our hosts, a married couple called Otgonjav Demuul and Nergui Ayaykhuu.

Having served and cleared dinner for 14 (this with a stove the size of a picnic table and without running water), Otgonjav is now laying out her cashmere combs so we can learn more about goats. The largest of three, the size of a little rake, is to remove the dirty and coarse outer layer, which is then mixed with camel dung and used as fuel. A comb of about the width of a spatula picks up the medium hair, which is used to make felt for slippers, hats, even board games. A much smaller comb captures the precious inner cashmere. According to Otgonjav, the goats, which get combed once a year when the first new shoots appear in spring, find the process pleasurable although it is painstaking for her. She can comb only eight goats per day. She gets about 150 grams of useable cashmere per goat, which means that's at least six goats before anyone way over there in Paris can make a

skinny sweater. Not that that's all you get from a goat. There's milk and cheese and yoghurt, meat of course, and the hooves boil down to a sweet jelly. Goat bones turn into toggles to fasten clothes.

To keep a herd healthy needs husbandry and good breeding. Members of the Sustainable Cashmere Project get access to artificial insemination (AI), hence the aforementioned superior semen. When it comes to eliminating parasites, vets, also provided by the project, are expert at spotting the warning signs in faecal matter and providing treatment. A healthy goat is a clean goat, yet to guarantee this herders must face an unappealing job which some admit, in the past, to have somewhat let slide. The winter shelters must be spruced up each spring, which involves removing six months' of faeces from the open floor. Who could face such a

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Herder Otgonjav Demuu with some of her goats.

task alone? Here, too, it's the Sustainable Cashmere Project to the rescue. What happens now is that members are organised into collectives, usually of 10 families, these in turn part of larger co-operatives. Each collective gathers to clean all the shelters one after another, together. You have to admit you weren't expecting shit shovelling to link to a Saint Laurent sweater.

While it may seem strange, impertinent even, for a bunch of urban outsiders to instruct herders, many of the herder families already involved in the project report that they felt trapped before in a system that they knew was out of balance, yet individually, felt powerless to change. They respect their livestock and they are active in helping wildlife to survive. Water is a rare resource in this desert landscape. When herders bring it up from bore holes for their herds, it is becoming common practice among those in the initiative to allow some extra to run off and turn to ice. This is then transported, by horse or motorbike, to where wild sheep, asses and gazelles might find it to lick. Through the project, herders are guaranteed better than market price in return for best practice, more direct access to market, as well as support for improved quality and grazing practices. Over time incentives will include assistance to diversify their income, for example through cheese making, and financial packages such as access to loans and insurance against loss of herds. Eventually certification will be put in place meaning their sustainable practices are verified and rewarded by the market. Kering doesn't buy the herders' yield directly, nor does it own the factories which, further down the chain, clean and spin cashmere into yarn. But it does purchase that spun yarn.

#### **Taking a project to scale needs other powerful partners.**

Perched on another of the tiny stools in the ger is Robyn Ellison, also Australian, from WA, and manager, communities and communications, in Rio Tinto's copper and diamonds portfolio. Rio Tinto's commercial interest in Mongolia is copper, specifically one of the world's biggest copper deposits at Oyu Tolgoi (OT) in the South Gobi. While copper is an everyday luxury (in our heating, our air con, our phones), its mining byproducts of gold and silver, as well as



Rio Tinto’s diamond mines in sub-arctic Canada and at Argyle in Australia, means the mining giant is already familiar with luxury supply chains.

The first thing Rio Tinto brings is logistics. The OT mine, which employs 14,000 people, 94 per cent of whom are Mongolian, has drivers, heavy goods vehicles, the biggest staff canteen I have ever seen (catering for palates both Western and Mongolian), basic overnight accommodation and the only airport in the Gobi, 800 kilometres from the Chinese border. For those involved in the Sustainable Cashmere Project, that cuts out days of hard driving and more nights of ger-camping (which, you will have gathered by now, should not be confused with glamping).

To mine you need money, about \$US4.4 billion (\$5.5 billion) worth of multilateral bank financing in the case of OT, which comes with strings attached. Modern mining must demonstrate a net gain on biodiversity. Later, in the mining giant’s Mayfair, London offices, Rio Tinto’s chief of copper and diamonds, Arnaud Soirat, will sit in front of a map of OT and tell me: “We take our societal responsibilities very seriously. In the South Gobi, we honour those by working closely with communities in this precious ecosystem.” Here’s how Robyn Ellison puts it now, somewhat more casually: “There are definitely a number of threads in all this that excite us. Supply chain transparency is also at the heart of how we operate, from mine to market. This goes way beyond compliance for us.” Rio Tinto is in this for the long haul. The life of the OT mine is estimated to be more than 50 years.

I see with my own eyes that the most alluring objective – the return of the snow leopard – is already being achieved. Three years into the project and I see two, a mother and her cub, not live but on footage downloaded from a camera trap concealed high up a mountain. Usually I don’t do mountains, no matter what the story, so when I’d spotted “hike to check on snow leopard sightings” on the itinerary, I declined with “I’ll just hang with the herders”. Yet a protocol about vehicles sticking together when off road (and this is as off road as you get) means I find myself at the base of the mountain anyway. Truth be told, by the time I reach the summit, I do not care if I see Santa Claus, although others are ecstatic. My thanks goes to Rio Tinto’s biodiversity expert in snow leopards, OT’s fauna officer Dashnyam Batsuuri, who guides me back down while kindly not pointing out the vulture circling above the weakest member of our human herd.

Later that night when we reach the gers, our hostess Otgonjav is astonished to hear of the snow leopards’ return,



Cashmere featured heavily in Bottega Veneta’s fall/winter 2018 collection at New York Fashion Week in February.



Star of the show ... cashmere is combed from domestic goats living in cold conditions so their hair grows as thick and as profuse as possible.

even though she’s only ever seen one once and admits she was scared stiff. She’s also astonished when I ask, via Onon, who translates throughout, if she wears cashmere. Of course not, it is far too valuable. That is not to say that Otgonjav and Nergui don’t up the fashion ante, nor that Demna Gvasalia, the designer at Balenciaga and king of the outsized puffa jacket, couldn’t learn a trick or two in here. Herders, male and female, wear deels, long padded coats which conceal clever folds to ensure these never ride up when astride a horse. While women tie theirs with a sash, men often secure theirs with the equivalent of a tool belt, from which hangs a tinder to make fire, a silver cup and a knife for everything else. But here’s the brilliant bit: once removed (our hosts wear Western sweatshirts and jeans beneath), the deels fold into wall cushions, adding both comfort and added insulation.

By now the main ger is prepared for evening, which means the puzzles have been brought out. Mongolians love puzzles (They hold all manner of records for the Rubik’s Cube). The men here tonight, all cheekbones like razor blades, including our excellent drivers without whose astonishing skills at navigating across what was once an ancient seabed we would never have arrived, sit silently engaged in moving rings along strings or in playing a game that involves upturning a bag full of knuckle bones, which they then read like runes.

IKEA should look to Mongolia for innovative storage solutions. There’s a place for everything, indeed a use for everything too, as our host demonstrates when he brings out his latest craft work, a flesh-coloured whip-stitched bag, the shape of a funnel and the height of his thigh. It is a camel neck bag, as in a bag made from the neck of a camel, which he uses to hold mares’ milk as it ferments into alcoholic arak. And it seems he has understood our chatter about iPhones “dying” outside in the cold. “For you” he indicates, palming two of us a pair of matching little bags, each finished with a jaunty tassel. Apple might think of offering goat scrotum as an all-weather phone cover. We try it and it works a treat.

Time to head for our bedroom ger (a fast and freezing sprint), remove our snow boots and shimmy into our sleeping bags. As we pretend to shut our eyes (I’d be lying if I said this was a good night’s sleep), NASA’s eye in the sky is bringing a unique dimension to a project taking place on what looks

like the dark side of the moon. NASA’s in-kind contribution to the tune of about \$US1 million means the accurate tracking of improvements resulting from this most unusual fashion initiative. The lead scientist, Becky Chaplin-Kramer from the Natural Capital Project at Stanford, will later explain by email why this is critical: “NASA’s funding and involvement has allowed us to use remote sensing and ecosystem modelling to provide more continuous information across space and time, in order to support and assess the impacts of the Sustainable Cashmere Project. This is at the cutting edge of a new field integrating Earth observations and ecosystem services.”

Once I am back in London, Rio Tinto’s Arnaud Soirat is not surprised to hear how an unprecedented project is coming together. Perhaps this is because he is also a doctor of quantum physics, where the enduring lesson, he tells me, is “to build resilience into your ability to tackle problems and eventually, you will find a solution”. Not surprised either is Marie-Claire Daveu, chief sustainability officer and head of international institutional affairs for Kering, when I catch up with her in Paris. “We won’t change the paradigm if we don’t work altogether.”

Ah, springtime in Paris. Three years into the project means some of Kering’s biggest designers must already be using sustainable cashmere, except Daveu gives no clues as to who. The sweaters at Alexander McQueen are looking sumptuous, I ponder, and isn’t the knitwear at Stella McCartney looking good? Daveu doesn’t even blink. For the whole point is not to grab the attention of the press with a single collection, a single sweater, but instead to fix the system. In Kering’s carbon neutral headquarters, which even has a tree growing through the atrium, Daveu reiterates that what matters is a new way to source a loved raw material while helping – not harming – our wider world. As the number of herders in the project grows and their herds shrink, there will be, paradoxically, enough of this fabulous fibre to share even with Kering’s arch competitors. “You are not sustainable if you say, ‘I keep my sustainable solutions for me’,” shrugs Daveu.

Fashion has always been gutsy and brave, the difference now is that the most inspiring fashion show is happening where we never expected. You can even see it from space. ● *The writer travelled to Mongolia with assistance from Rio Tinto.*

## “THIS IS AT THE CUTTING EDGE OF A NEW FIELD INTEGRATING EARTH OBSERVATIONS AND ECOSYSTEM SERVICES.”

Project lead scientist Becky Chaplin-Kramer.