



## Inside America's atomic state

### Residents of New Mexico reflect on the toxic legacy of life at the centre of the US nuclear complex.

[Samuel Gilbert](#) | 16 Feb 2016 13:55 GMT |

Seventy years ago last August, a B-29 bomber named the Enola Gay released its 4,000kg load over the Japanese city of Hiroshima, the sudden loss of weight jolting the US aircraft violently upwards as the pilot banked hard to escape the imminent blast.

"My God, what have we done," wrote [Enola Gay](#) co-pilot Robert Lewis, recalling in his journal the morning of August 6, 1945, when he witnessed the atomic bomb, code-named Little Boy, successfully detonate 1,800 feet above Hiroshima. The blast killed tens of thousands of people instantly and [levelled](#) more than half of the city.

Two weeks earlier, the first atomic device, called the "Gadget", had been successfully tested at the Trinity Site in the white sands desert of New Mexico.

"The hills were bathed in a brilliant light, as if somebody had turned the sun on with a switch," said Otto Frisch, a physicist for the Manhattan Project, who designed the first theoretical mechanism for the detonation of an atomic bomb, in his account of the early morning blast described by Eric Schlosser in his book *Command And Control*.

The light from the explosion was seen up to 320 kilometres away in the town of Gallup, and the shockwave - covered up by the US government as an ammunition dump explosion - was felt as far as Albuquerque.

#### 'Unknowing, unwilling and uncompensated'

"It was sort of like an earthquake," says Robert (Bob) Keller, 80, describing to Al Jazeera how he was woken up at 5:30am on July 16, 1945, in the town of Ruidoso, New Mexico, 50 miles from the blast.

Keller was 10 years old.

"My mother and I were at the Noisy Water Lodge hotel when the whole cabin started shaking," says Keller. "My mother screamed. She thought someone was under the bed."

The day before, Bob, his mother and his older sister Barbara had driven up from El-Paso, Texas, to drop 13-year-old Barbara off at a camp in the mountains of Ruidoso. Keller remembers his sister telling him how she was outside with the other girls when it started "snowing" - in the middle of summer.

They were playing in the ash, "catching what they thought were snowflakes in their mouths," he says, and "rubbing it on their faces".

"It doesn't snow in July," says Keller.

For years, his family remained unaware of what had caused the unusual sight.

Of the 12 girls at the camp, Keller explains, only two made it out of their thirties. "The rest died of cancer," he says.

"We were unknowing, unwilling, and uncompensated guinea pigs in the world's largest science experiment," says Tina Cordova, from nearby Tularosa, about the event that would mark the beginning of a long legacy of contamination felt by the residents of New Mexico, as the impoverished state became the centre of the nation's plutonium economy.

### **The Manhattan Project - 'a lesson for all time'**

The secretive detonation in 1945 was the culmination of three years of research that took place 200 miles north of the blast site on the remote Pajarito Plateau in the Jemez mountains in New Mexico. The clandestine operation, code-named the Manhattan Project, brought together the world's top scientists and in a short time turned the stuff of science fiction into reality, weaponising the atom and producing the bombs dropped on Hiroshima and Nagasaki.

"I pray no man will have to witness that sight again," said Theodore Van Kirk, [Enola Gay navigator and captain](#). "I pray that we have learned a lesson for all time. But I'm not sure that we have," added Kirk, as the unparalleled power of this new weapon propelled an arms race that [reached its height in 1986](#) when the atomic states had compiled 64,000 nuclear warheads, the majority belonging to the US and Russia.

"I recognised early on that these were weapons that represented our ability to gain the power to destroy ourselves through our own knowledge," says James Lawson, a pastor and civil rights leader, speaking to Al Jazeera in Los Alamos last summer as activists and residents gathered for the 70th anniversary of the bombing of Hiroshima and Nagasaki to commemorate the dead and protest against the nationwide [nuclear modernisation campaign](#) that is taking place in the country today.

"It is here where one of the major changes in human history occurred," says Lawson, speaking at very spot where the first bombs were conceived and constructed. "This continues here today," he adds, referring to the centrality of New Mexico in the nuclear complex. The country's two pre-eminent nuclear design facilities - [Sandia National Laboratories](#) in Albuquerque and [Los Alamos National Laboratories](#) - are located in the state.

"And here in Los Alamos business is still booming," Lawson says from the [Vigil for Peace and Nuclear Disarmament](#), which he helped organise.

"We're standing on the ground, literally on the ground, where the bombs dropped on Hiroshima and Nagasaki were actually built," says John Dear, a pastor, author and non-violent activist recently nominated for the Nobel Peace Prize by Desmond Tutu.

### **Then and now**

Following the "success" of the Manhattan Project, Los Alamos Labs continued its work as the country's pre-eminent nuclear weapons design lab. Sandia Labs - located 100 miles south in Albuquerque - became the engineering wing of the nuclear weapons complex, building most of the non-nuclear components of the bombs. "Sandia has had a hand in [all] the weapons in the nuclear arsenal from the beginning," say Sue Holmes, a media relations spokeswoman for the company.

After the fall of the Soviet Union, the US and Russia began drastically reducing their stockpiles. In the 1990s alone, the US dismantled 11,000 to 12,000 nuclear warheads, according to Hans Kristensen, a leading expert in estimating the world's nuclear stockpile and director of the Federation of American Scientists, an organisation that monitors weapons programmes around the world.

"The priority has shifted from dismantlement to refurbishment and life-extension of nuclear warheads," says Kristensen, speaking to Al Jazeera about the slowdown in nuclear weapons dismantlement that has occurred in recent years. "There is no visible plan to bring it to zero. Nuclear weapons states are looking long-term to have a credible nuclear deterrent throughout this century. In the US, New Mexico is central to this because of the location of these facilities."

Today, Los Alamos Labs has design responsibility for four warheads in the [enduring nuclear stockpile](#) (B61-12, W88-1, W76-1, W78) that are currently undergoing or are planned to undergo life-extension or alteration, [according](#) to the [National Nuclear Security Administration](#). Sandia, which is responsible for most of the non-nuclear components in American nuclear weapons, is involved in the current B61-12 life-extension programme and the W88 alteration, according to Holmes.

"These life-extension programmes tend to be hugely expensive," says Kristensen, noting the increased spending under the Obama administration.

One example, the B61-12 life-extension programme, headed by Los Alamos, will cost the US \$10bn, modifying the gravity bomb with a guided tail-kit that will increase its accuracy - and potentially its deadliness.

Some argue that projects such as these contradict the rhetoric of the [Obama administration](#), which has made disarmament a [primary tenet](#) of American defence policy.

"This is a violation of the Non-Proliferation Treaty," says Madea Benjamin, the cofounder of the anti-war group [Code Pink](#). "Obama and the US government are increasing the power of its arsenal. Billions upon billions of dollars and no one is paying attention."

These programmes, according to Hans Kristensen, will cost the US roughly \$2 trillion over the next 30 years. "It's a paradox," he says. "Ironically, we're spending more on nuclear weapons today than we were at the end of the Cold War."

This increased spending has been welcomed by some in New Mexico who see the labs as an indispensable form of capital and jobs for [one of the poorest states](#) in the nation.

"The nuclear age has been a boon for the state of New Mexico," says David Hoover, a historian for the National Atomic History and Science Museum, in Albuquerque, speaking about the impact of both weapons research and the nuclear energy industry. "These have provided huge amounts of money for this poor state."

Others, like Beata Tsosie-Pena, an indigenous activist from the Santa Clara Pueblo, an indigenous community in northern New Mexico, lying just below Los Alamos Labs, argue that these benefits have not been felt by most New Mexicans.

"There have been no benefits for our people. All we are left with is a legacy of contamination that continues today," says Tsosie-Pena, referring to the damage to health from the [nuclear fuel cycle](#), from uranium mining to weapons making and testing, and nuclear waste storage at the Waste Isolation Pilot Plant (WIPP) site in southern New Mexico - the nation's only long-term nuclear waste storage facility.

"More than 70 years ago the US government chose New Mexico, and since then we have paid a huge price," Tsosie-Pena adds.

### **A toxic legacy**

This somewhat unlikely choice of locales made by Oppenheimer 73 years ago cemented the relationship between this impoverished state and the nuclear economy for the better part of a century.

"New Mexico is the place where uranium mining happens, where nuclear weapons testing and design has happened historically, where the largest cache of nuclear warheads exists [2,000 to 3,000 beneath Kirtland air force base in Albuquerque, according to Hans Kristensen] and where nuclear waste storage exists via the WIPP site," says Professor Joseph Masco, of the University of Chicago.

"New Mexico has the whole circuit, which is unusual not just in the States but anywhere," says Masco, the author of *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico*.

This history has left a [toxic mark](#) on many areas of the state, particularly the Navajo reservation that provided much of the raw material for the burgeoning US nuclear weapon and energy complex.

During the Cold War, [four million tonnes of uranium](#) were pulled from Navajo lands in New Mexico, Arizona and Utah, severely [affecting the health](#) of thousands of Navajo miners and their families.

Today, on the eastern portion of the Navajo reservation in New Mexico, hundreds of [abandoned uranium mines](#), mills and tailing piles continue to contaminate water, soil, livestock and housing, exposing residents to harmful radiation.

"There are thousands of Uranium mines in the west and on Navajo lands that have not been cleaned up by the government," says Leona Morgan, a Navajo activist from the [Dine No Nukes](#) organisation, whose family grew up on the reservation during the uranium boom.

To date, the federal government has done little to remedy this situation, and an absence of health studies or environmental monitoring have led to a poor understanding of the effects of the uranium legacy on the Navajo Nation.

"We sacrificed our lands and health for this country, and were given nothing in return," says Morgan, who believes that New Mexico's marginal position in the US means that it has been exploited by corporate and federal interests. "New Mexico is constantly at the tail end of the economic and education spectrum here in the United States. This leads to folks getting taken advantage of and outright getting used."

For those southern New Mexicans unintentionally present at the dawn of the nuclear age, this sentiment is strongly felt.

"We were the first Americans affected by the Bomb," says Daryl Gilmore, a resident of Tularosa, a rural and predominantly Hispanic town near the test site who has seen much of his community and family afflicted by cancer. "We have been dying and still no apology, no nothing."

## **Ground zero**

On July 16, 1945, Gilmore was driving down State Road 380 on his way from the University of New Mexico to his family home in southern New Mexico. "It was 9:00-9:30am at the latest. I stopped the car on the side of the road to take a leak and check the tyres," Gilmore says.

He was completely unaware that the first atomic bomb had been tested just four hours earlier and less than eight miles away from where he had stopped.

After he got back in the car, Gilmore met an army convoy that was evacuating ranchers. "I didn't think much of it at the time," he says.

When he reached his family home, he had what looked like "severe sunburn" all over his arms, face and chest. "My mother asked me how I got it and I said I had no idea," he remembers. "It lasted for 10 days."

A few days later "we heard on the news that a large ammunition dump had exploded," Gilmore says, referring to the government ruse published by the Associated Press days after the blast. "Not long after, the US dropped the bombs on Hiroshima and Nagasaki."

"It took years to ... [realise] that I had gotten a radiation burn."

Two years later, his father died of cancer, followed soon after by his mother and sister.

"I was diagnosed with cancer, which I beat," Gilmore says, adding that he now suffers from pre-cancerous skin problems. "It's on my arms, my face, my chest and back."

"I know where it came from," he concludes.

"These are the problems we've been left to live with," says Tina Cordova, speaking about the thousands of downwinders - people exposed to the nuclear fallout - like herself, who have never received compensation or an apology from the federal government.

"People don't live to be old and there's nothing golden about the golden years with us. In the years when people should be enjoying retirement and stability they're plunged into having health problems and battling health issues, to say nothing of the financial burden it places on families," adds Cordova, who heads the Tularosa Basin Downwinders, a consortium that conducts health surveys and compiles data on those affected.

As Hans Kristensen explains: "In the early years when testing began, some of the immediate consequences were felt by those downwind of the massive blasts. These people are still affected to this day. It has been, without exception, very hard to get the government to accept responsibility."

"The government has never acknowledged what happened to us let alone apologised," says Cordova, who was diagnosed with thyroid cancer 17 years ago. "We have never been compensated. Only the people living downwind of the Nevada test site have received compensation, although we were the first downwinders."

In 2014, the National Cancer Institute began the [first study](#) on the possible health effects of the Trinity detonation on downwinders. The results have yet to be published but many in the region are sceptical that it will have an impact.

"It's a little late, don't you think?" asks Daryl Gilmore, who doubts the study will lead to compensation or even an apology from the government. "This is strictly about politics, and we don't have a big enough voice. We don't have the power to get even an apology."

"The labs provide 80 percent of all the federal money that comes into this state," says Bob Keller. "They are not going to rock the boat by issuing an apology. Nothing is going to change."

And today, as the US moves to modernise its arsenal, New Mexico remains at the centre.

"We forget how this technology has changed all of our lives, has changed all of us," says James Lawson, the man who was once described by Martin Luther King Jr as the greatest single teacher of non-violence. "This here is ground zero. This is where it began, and where it needs to end."

Source: Al Jazeera