

TITLE: Trekking for Smallpox in Nepal  
AUTHOR: Jay Friedman  
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ROLE: Outbreak investigation

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## FOREWORD

In Nepal, as is well-known, the mountainous terrain made for many logistical and administrative difficulties in smallpox eradication. Conversely, from 1972 onward Nepal Smallpox Eradication Program (SEP) staff were present in all 75 districts of the country, which helped ensure that surveillance and containment of the few outbreaks that occurred in some of the mountainous areas would be well done.

One of the best examples of this was an outbreak in Jurali Village, Latamandu Panchayat, Doti District, Seti Zone in early 1973. (At the time Nepal was divided into four Regions, 14 Zones (“Anchal” in Nepali), 75 districts and, within each district, a number of "panchayats", which in turn are sub-divided into nine wards and a number of villages.) A total of 13 days were spent going to and returning from the outbreak area by Dr. Benu Bahadur Karki, several members of a surveillance team and me. The story is as follows:

## THE TALE

The SEP office in Kathmandu was notified of the outbreak via a telegram from our district office in the town of Silgadi Doti. Because Doti District is in the remote western hills of Nepal and difficult to reach from Kathmandu, my boss, Dr. M. Sathianathan (known to one and all as Sathy), persuaded his boss, the WHO Representative Dr. Peter Kim, to charter an airplane to transport us there.

On March 20, 1973, at 12.30 PM, Dr. Karki, the surveillance team and I left for Doti in a Pilatus Porter of Royal Nepal Airlines. The Pilatus is a Swiss-made, single-engine, turbo-prop STOL or Short Takeoff and Landing aircraft, holding 9 passengers. It is eminently suited to conditions in Nepal, where airstrips in the hills are frequently short and unpaved. We flew the 300 odd miles west in 2½ hours and at 3 PM landed at Dipali, a valley lying at an altitude of about 2000 feet. The town of Silgadi Doti was a 3 hour trek to the east up a steep hill. As an honored foreign guest I was given a horse to ride up, while my Nepali colleagues had to walk. We arrived as it was getting dark and were lodged at the hospital. Silgadi is the largest market town in the area and is beautifully situated on the crest of the hill at 4,500 feet, though apart from an airplane to the valley of Dipali or chartering an expensive helicopter, in 1973 the only way to get there was on foot.

During the evening Dr. Karki, the District Supervisor Mr. Prajapati and I made arrangements to hire two porters for the 1½ days walk west to the outbreak area at Jurali Village. Normally only one porter would

be needed, but I was heavily laden with essential supplies needed for a long trek, including a case of beer.

We set out the next morning at 6 AM. The three hour trek up to Silgadi the day before was only 45 minutes going down. We stopped at the airstrip at Dipali and made breakfast. As we were eating, a huge British transport plane flew in over the field and began dropping bags out the back hatch. This reminded us that Doti, along with other western hill districts of Nepal, was a food-deficit area. The Nepal government had requested the British government to fly in US-supplied grain, as the only alternative was to have an army of porters carry it in on their backs. Also, since the harvest was bad that year, time was of the essence. Moreover, we realized that we would have difficulty buying food ourselves, so it was fortunate we brought most of our own with us.

After breakfast we continued walking, up a hill again, with the circling British plane constantly overhead. Each time it passed over me at a low altitudes I exchanged "victory" signs with the clearly visible crew. By noon we had crested the low hill and descended to a large river, the Seti, after which the zone is named. We walked along the river, crossed it further on by ferry and camped for the night in a tea shop.

Just at nightfall a man appeared on the opposite bank of the river with a large fish. This was perfect for dinner, but how were we to get our hands on it, as the river was at least 100 feet wide and too swiftly flowing to swim? By shouting we bargained back and forth over the price, all the while thinking of methods to ferry the fish across. We finally settled on a price of five rupees (about 50 US cents or 30 UK pence), and obtained our prize by throwing a rock across with a cord attached and a plastic bag containing the money. We then used the cord to drag the fish back through the water.

The next morning, the third day out from Kathmandu, we awoke early and, leaving the Seti River behind, started climbing straight up to the south. It was a 3 hour trek to Jurali Village in Latamandu Panchayat where the outbreak occurred. (There is a separate technical report.) We spent the entire day and the following night there. All people susceptible to smallpox in Jurali and surrounding villages had been vaccinated. Since there had been no new cases for 18 days and the source of infection had been determined, we decided there was nothing more for us to do. The containment was very well done, which was noteworthy since this was the district staff's first experience with a smallpox out-break.

The following morning the district supervisor, Mr. Prajapati, left us, while the surveillance team stayed behind to check surrounding areas. Meanwhile Dr. Benu Karki, the porters and I set out to the west, as we decided to visit the Baitadi and Dandeldhura district offices in Mahakali Zone. From Jurali we walked down to the river over a different trail. At about 10 AM we stopped at a small health post in the village of Silikot for tea and a bath. Dr. Karki and I were very pleased to see the smallpox recognition poster with a picture of a mother and child pinned up on the wall in this very remote place.

We engaged the health post messenger (or "peeyoon" in Nepali) to guide us further down the hill. After 2 hours we arrived again at the Seti River in a small valley, but farther west than where we had left it the day before. We stopped for a break in a tea shop where we purchased a bag of rice for a very high price. The scenery was beautiful and the day was warm and sunny, so we spent an hour sitting in the sun and wading in a small stream emptying into the river.

Before setting off again we hired a guide, as our porters were now in unfamiliar country. At 3 PM we resumed walking and soon crossed into Baitadi District, Mahakali Zone. The Seti River was now flowing from the north into a narrow steep valley. The trail along the hilly west bank rose and fell steeply from river level up to 100 feet or more and back. We walked to almost nightfall without seeing a single village or even another person walking along the trail. This was unlike the thickly populated central and eastern hills of Nepal where travellers are frequently met along walking trails and there are many villages and towns.

We finally came to a small village where a house owner gave us a place to stay in the loft of a cow-shed. The porters cooked some of the rice we had brought and we went to sleep. In the middle of the night I was awakened-by a loud snorting noise below me. I pointed my flashlight down and saw that a water buffalo was now sleeping directly under me in the cow shed; the snorting was its normal breathing. In the morning I asked the house owner why he kept the buffalo indoors. His reply was rather unsettling: "To protect it from tigers who roam about at night".

The next day we again started early and soon began climbing steeply up from the river to the west. After 3 hours we reached the village of Siror. The plan was to eat lunch, after which Dr. Karki was to take another trail to the north toward the district headquarters of Baitadi, while I would continue west to Dandeldhura District. When we asked in Siror if anyone would cook lunch for us using our own rice, we were refused. We next asked for water. Again refusal. Finally we found a woman living alone in a rather run-down looking house who agreed to cook for us. However, she said she was a Brahman and would not cook for me or even let me set foot in her house, since as a foreign beef-eater I was ritually unclean. Dr. Karki thought this episode extremely amusing and he assured the woman that he was very high caste himself and also very hungry. Meanwhile, I fried an egg for myself outside.

After lunch we separated; I took one porter and Dr. Karki the other. I walked for 6 or 7 hours along a ridge through a beautiful forest. There were neither climbs nor descents, which made for a perfect afternoon. That night I camped in a tea-shop whose owner had previously been a cook for a British family in Bombay. He not only spoke English, but made me a good Western-style meal.

On Sunday, March 25, I again started walking and after 3 or 4 hours was told in a tea-shop that there were Americans living further ahead. I only half believed this, but continued asking people about them as I walked. The story became more plausible when I was informed the Americans ran a mission hospital. By now I had crossed into Dandeldhura District and at 2 PM arrived at The Evangelical Alliance Mission (TEAM) Hospital run by Dr. Maynard Seaman and his wife Dorothy, who is a nurse. I was just in time for lunch and was immediately invited to sit down to a meal of roast buffalo steak, mashed potatoes and home-made ice cream, followed by a hot shower. Suffice it to say that the Seamans' hospitality was wonderful and just what I needed.

The rest of that Sunday was spent relaxing, socializing and visiting their hospital. The TEAM hospital specialized in leprosy cases and saw hundreds of out-patients every day, in addition to having a small number of beds. Dandeldhura District is one of the most remote and least developed areas of the western hills of Nepal, so all materials have to be carried there by porters from the "terai" (plain bordering India), five day's trek distant. Nevertheless, the facilities are good and well-maintained by Dr. Seaman's deputy, Peter Hanks, an Australian mechanical engineer.

Early the next morning I said good-bye to the Seamans and set off for the terai with Mr. Hanks, who coincidentally was traveling over the same route as me on his way to India. Accompanying us were two porters who were lepers resident at the hospital. In spite of their disability, these men are very strong and can easily carry over 100 lbs. Besides the necessities, the Seamans were thus able to have a small piano and a washing machine in their house. On the other hand the porter's services were very expensive, so the mission spent large sums on transport.

We planned to walk 1½ days to the construction camp of an unfinished new road to this area where Mr. Hanks kept a Jeep. From there we would drive down the road to Dhangadi, Kailali District, in the terai. There I planned to visit the SEP district office and take a commercial flight back to Kathmandu. After 2 hours walk from the hospital we came to the town of Dandeldhura, the district headquarters. We stopped for 3 hours while I visited the SEP district office. The District Supervisor told me that in the year since the office was opened no cases of smallpox had been detected in the district. (There were outbreaks in Dandeldhura District later in 1973 and early 1974.)

At 1 PM Mr. Hanks and I resumed walking. From Dandeldhura town at 5000 feet we descended into a beautiful valley, crossed it and climbed up the hills on the other side. We walked through a thick forest for four hours and then along a ridge. Late in the afternoon we arrived in a forest clearing at 7000 feet, where we spent the night.

The clearing was an idyllic scene, as if taken from the pages of a nature story. Tall trees surrounded a small meadow perhaps 50 meters across. At one end of the clearing was a small stone hut known as a "dharmashala", built by the government for the use of travelers such as ourselves. At the other end of the clearing was a clear, cold mountain spring which formed a small pool. I put a can of beer into the water, which turned it ice cold in a few minutes. While drinking it I thought of the tourists who spent huge amounts to escape from the hectic pace of the western world by vacationing in Nepal. Here was I, in a peaceful setting, at peace with the world, and being paid to do it.

The western hills get less rainfall than eastern Nepal, so rice does not grow as readily. Instead the staple is wheat. So the dinner our two porters made for us consisted of a flat type of bread similar to American pancakes. I added a tin of tuna fish which made for a perfect meal. Because of the altitude, it turned very cold after sundown, so we bedded down in sleeping bags shortly after dinner.

Since it was too cold the next morning to start early, we leisurely warmed ourselves up with coffee and breakfast. We then began walking, mostly down-hill. By 3 PM, for the first time in more than a week, I could hear the distant noise of an internal combustion engine, which sounded very alien in these quiet hills. These were bulldozers being used to construct the USAID-financed Dhangadi-Dandeldhura Road. After another hour we came to the road construction camp where Mr. Hanks and I waited two hours more for our porters to catch up. Then we all set off in Mr. Hanks' Jeep as darkness fell.

The road meandered south through the mountains. After 3 hours in the dark night the road began descending through switchbacks to the terai plains, with the temperature rising by the minute. At the foot of this last hill the road straightened out and we abruptly came upon a modern looking bridge. Crossing it, we entered the small town of Godavari and drove to the house of the USAID chief engineer. His cook told us he was away in Kathmandu, but we were permitted us to stay in the house nevertheless. We ate supper, took hot showers and went to sleep.

The next morning I awoke literally bathed in sweat. In the hot western terai of Nepal day time temperatures can be as high as 47 Celsius (116 degrees F.) in April and May. At the back of the house was a thermometer. Although it was 6 AM the temperature was already 38 degrees C. (95 degrees F.)

Mr. Hanks and I ate breakfast and then drove 15 miles south to the town of Dhangadi, the district headquarters. We went to the Royal Nepal Airlines office where I found that the telegram I had sent from Dandeldhura had arrived garbled, so my reservation was for the following week and not the next day, March 29. The airline agent suggested I see the Commissioner of Seti Zone who could authorize me to use one of the two seats reserved on every flight for government officials. We met with this gentleman, who agreed to give me one of those seats. When we left the office Mr. Hanks said good-bye as he was driving to the town of Bareilly in India, where he was to spend several days.

I then walked over to our SEP district office. Kailali District had been endemic for smallpox when the District Supervisor, Mr. Hira Prasad Tiwari, opened the office in late 1971. Through his efforts, along with WHO and Kathmandu headquarters staff, the district was now smallpox free. The endemic area of the district had been 40 miles east of Dhangadi and very remote. Partially in recognition of his hard work, Mr. Tiwari was awarded a WHO Fellowship trip to India and Afghanistan.

Mr. Tiwari thought my arrival a good excuse to do some active surveillance. He called the manager of the local bank who agreed to lend us his jeep. We filled up the tank and spent the afternoon visiting 4 or 5 villages in the area inquiring about smallpox. None was found. That night I slept in Mr. Tiwari's house, which he shared with the very same bank manager.

The next morning, after breakfast, we crossed the road to the grass strip which is Dhangadi Airport. The plane was due to arrive at 11.00 and leave at 11.30. While we were waiting Mr. Tiwari told me of a field trip which he had made some weeks before on foot to a remote forest area of the district. When returning he came upon a tiger in the forest who had just made a kill. Although he had heard tigers would not attack while feeding, discretion dictated that he stay up in a tree for 6 hours before the tiger slowly walked off.

We waited for the plane. Eleven and then 12 o'clock passed. By 4 PM it was obvious the plane was not coming. Since there was no control tower or radio communication, there was no way to know this for sure, but beyond this hour the plane would not have sufficient time to reach Kathmandu before night fall. (At the time the Kathmandu runway had no landing lights for night flights.). Since this was a once-a-week flight, I was stranded! In 1973 there was no road through Nepal from Dhangadi to Kathmandu. The only way was via India. (Today there is a road to Dhangadi through Nepal and Kathmandu Airport has night operations.)

At this point I noticed a rather distinguished looking Nepali gentleman sitting in a Land Rover with two foreigners like myself. We struck up a conversation and I learned he was a general in the Nepali Army who had been in the area on a hunting trip. He was equally as anxious as I to return to Kathmandu. We decided the best way was to drive to the Indian city of Lucknow, from where there are jet flights to Kathmandu. I offered to share the fuel expenses for the seven hour drive, but he refused anything of the sort and said I was his guest. And so I went, along with the two other foreigners, who were also American.

We spent an hour preparing: changing Nepali currency to Indian; getting a permit for the vehicle from the Chief District Officer; and cashing in our plane tickets. At 5.30 PM we left.

Dhangadi is only 1 kilometer from the border, where we arrived a few minutes later. From previous experience I knew it was important to have my passport stamped by Indian authorities when entering the country, otherwise I would not be permitted to leave at the airport. There was no immigration post on the Nepal side of the border, but Mr. Hanks had mentioned there was one on the Indian side. None of the Nepalese in our vehicle knew where it was located, since Nepalis and Indians are not required to have a passport or visa to enter each other's country.

Immediately over the border in India was Gauri Phanta, a village with a railway station. Here would be the logical place for an Indian immigration post, but none was in sight, nor did anyone we asked know anything about its existence. One man volunteered the information that it was in Polia, a town 30 miles further on. We drove there in an hour.

At Polia we went to a building that said "Immigration Checkpost" in faded letters. An officer there told us that this had indeed been the check-post until the previous week, when it was moved to Gauri Phanta from where we had just arrived! We replied that we were not able to find it there and would he please stamp our passports here. He said he no longer had the "power". This went on for an hour; we even considered, and rejected, the idea of a generous bribe.

So back to Gauri Phanta it was, where after much searching we found a small hut on the other side of the railway tracks from the road, which had a sign on it with the English words "Check Post" written in small Hindi letters. We wondered why it was so far from the railway station and road. It also seemed illogical that it advertised itself in the Devanagiri script used in the Hindi and Nepali languages, when the only persons required to utilize its services were neither Nepali nor Indian. But these, the bureaucratic ways of India, were beyond fathoming by us innocents.

The Immigration Officer courteously received us by the light of a kerosene lamp, as it was now 8 PM. It was so dark I only noticed the next day the passport stamp, written in English, was upside down from his signature over it. We arrived back at Polia at 9 PM, had dinner and were off to Lucknow at 10 PM.

Since none of us knew the way, we became lost several times. Although there are many roads and road signs in northern Uttar Pradesh, none seemed to indicate the way to any place more than a few kilometers distant. It was only when we were 50 kilometers from Lucknow that the road signs acknowledged its presence ahead. Shortly thereafter we came upon two equally large roads branching off in a "Y" fashion in front of us with no sign and no people nearby to indicate the way. (It seemed to be the very situation where "when you come to a fork in the road, take it".) Looking up at the stars we auspiciously took the right hand path. We were lucky and soon came to Lucknow.

Now we found ourselves in another quandary, as Lucknow is a large city and none of us knew where a good hotel could be found. Finally, after much aimless wandering, we came to the Hotel Gulmarg, which was thankfully air-conditioned. I fell into bed at 4:45 am.

At 6 am on March 30 I got up to say good-bye to the General, who was taking a 9 AM flight to Patna and then Kathmandu. As for myself, I thought it would be useful to visit with the WHO and Uttar Pradesh state smallpox staff. I wanted to report on the source of infection in that state of the outbreak in

Nepal and to have a general exchange of information. I also thought I deserved both a day of rest and a chance to see Lucknow. So, after breakfast I went to the Indian Airlines office in a rickshaw and booked a flight to Kathmandu via Benares for the following day.

Not having the slightest idea as to where the smallpox office was located, to find out I went to the telephone exchange from where I called Dr. Nicole Grasset, the chief of smallpox eradication at the WHO Regional Office in New Delhi. It was fortunate that I did, as Dr. Grasset told me that Dr. Slava Moukhopod, the WHO epidemiologist for Uttar Pradesh, was at that moment in her office and would not return to Lucknow until the following morning. She therefore asked me to stay in Lucknow one more day.

I then went back to Indian Airlines and, after paying a cancellation fee, rebooked my flight for Saturday, April 1. I spent the rest of the day seeing the few sights of Lucknow, including the botanical gardens, and then wandered through the main shopping area. At 4 PM I returned to the hotel and, after an early dinner, went to sleep, as I had not yet recovered from the drive of the night before.

At 8 AM the next day, Friday, I telephoned Dr. Moukhopod, who invited me to stay at his house and gave me directions to get there. I piled my belongings into a rickshaw and reached there 15 minutes later. I was given a hearty welcome by Slava and his family. We then sat down to a typical Ukrainian breakfast.

Naturally, as with all pox people, we were soon talking shop and exchanging anecdotes. Uttar Pradesh at the time was experiencing a major smallpox epidemic, of which the few outbreaks in western Nepal were an insignificant spillover. As the only WHO smallpox staff member assigned to the state, Slava's job was enormous. In Nepal, with a smaller problem, we were three WHOers! (Later in 1974 many WHO staff members were assigned to Uttar Pradesh and elsewhere in India.)

After breakfast we drove to Slava's office in the center of the city. The office was in an old Indian-style building with large open doorways covered with rattan screens to keep out the heat. There Slava introduced me to Dr. Dube, the Deputy Director of Health (Smallpox), with whom we discussed the outbreak in Nepal. Slava and Dr. Dube agreed that the outbreak's source of infection was most probably in Uttar Pradesh, as the town in question was heavily infected. I was then presented to Dr. Dube's boss, the Additional Director of Health, for a courtesy call. Late in the afternoon we returned to Slava's house for an evening drink and dinner. I went to bed early (as usual), since I had to report to the airport at 6 AM.

The next morning, April 1, I awoke, was taken to the airport, emplaned, got off at Benaras, had a beer, went through customs and immigration, emplaned again, got off at Kathmandu, went through customs and immigration again, arrived home to a warm welcome from my family and again had a beer. It was 1 PM. I had been gone 13 days and traveled some 1000 miles by air, road and, most notably, on foot.

## AFTERWORD

Based on the experience of this trip, the Nepal SEP was able to persuade WHO to provide us with funds for chartering helicopters to investigate smallpox outbreaks in the remote hill areas of Nepal. Later outbreaks in Doti, Dandeldhura, Mugu, Bajhang, Kailali and Kanchanpur Districts were investigated

with helicopters in one or two days, rather than two weeks. This later proved to be a necessity rather than a luxury, since in 1974 the number of outbreaks imported into the eastern terai of Nepal became so great that to spend 13 days on one outbreak would have meant neglecting many others elsewhere. On the other hand, it wasn't nearly so much fun and adventure.