



Contesting Medical Treatment

Lead-Pollution and the Karen of Klity Creek (Kanchanaburi, Thailand)

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Abstract. – Since the mid-1970s the forested area of Klity Creek, northwest of Bangkok, suffered from one of the worst cases of industrial pollution in Thailand caused by a floating lead mine that operated in the area. Toxic waste found its way into the stream, used for daily food and water consumption by the local (Pwo-) speaking Karen villagers. After an NGO came to their aid, introducing the Karen villagers to the environmental justice movement of Thailand, the villagers came to seek redress. They demanded pharmacological intervention from the Ministry of Public Health. The intervention they received was “health surveillance,” which led them to reject the treatment offered. This article focuses on the protest as well as the gap between medical intervention and the experiential needs of people suffering from environmental illness as well as the role of civic activism in framing the issue of illness. [*Thai Karen, indigenous peoples, industrial lead pollution, environmental illness, health activism*]

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Since the latter half of the 20th century there have been numerous cases of civil activists from local communities protesting the contamination of their environment by corporate companies and taking up legal action in search of justice. In these battles the individual activists come to interpret the community’s illnesses in relation to industrial pollution as they seek confirmatory aid from medical science which is not always forthcoming (Kroll-Smith and Hugh Floyd 2000; Boudia and Jas 2014). What the members of the community seek from the medical establishment, in what amounts to both a civic protest as well as a legal contestation, is both confirmation that the illnesses experienced are related to the environmental pollution as well as remedies for it. Brown reminds us that people suffering from environmental illness first and foremost want remedies (1992: 365). But when activists approach physicians for environmental health issues they innocently are asking them to enter public health action as well and to do their civic duty with political and economic overtones (Brown and Kelley 2000: 46). Thus approached, the medical establishment cautiously manages the community’s environmental and health predicament through objective epidemiological studies that reduce the phenomena of possible contamination-related illnesses to an abstract statistical relationship on a chart (Brown 1992; Wing 2000). Authors have pointed out that such objective epidemiological studies are limited in that they do not take into account the history and cultural differences of the effected population as well as the life experiences of individuals and for sure not the subjective

knowledge of the sufferers living within a polluted environment – it ignores the subjectivity of suffering (Kroll-Smith, Brown, and Gunter 2000; Trostle 2005). Further, physicians do not treat the patients as part of an effected community but only on an individual basis (Brown and Kelley 2000: 47). Dissatisfied with such an approach certain members of an effected community try to wrestle with the scientific establishment for the control of the representation and management of their illnesses. During the process of contestation, activist/sufferers redefine their illnesses in terms of environmental justice, as they gain a sense of “cognitive liberation” over an understanding of their environmental situation as well as their bodies (Auyero and Swistun 2007: 130). This provides activists with a point of reference through which they can make sense – morally, legally, and scientifically – of their illnesses and sufferings. In order to speak to the various agencies as well as the scientists, members of the community take on the language of medical science and develop their own epidemiology within the environmental justice frame. Authors have called this method “popular epidemiology” or “citizen science.”¹ Although this epidemiology utilizes science for its aims, it finds it difficult to combine the objective scientific approach and immediate subjective experience and can generate communicative gaps between the parties (Tesh and Williams 1996: 289).

With communities who in one international discourse are referred to as “indigenous peoples” the gulf between the objective methods of medical science and the environmentally-submerged subjectivity of the community may be even greater. Shkilnyk, writing on an Ojibwa community of Canada, argued that the mercury contamination of their environment was ultimately caused by the government’s development plans for the area in which the native community were relocated to live by the road. The Ojibwa community was already suffering other social problems such as poverty and crime due to forced re-settlement in the name of development (Shkilnyk 1985: 237). Their exposure to mercury was the last misfortune that its members had to endure. The contamination was part of a situation of total social and economic suffering caused by environmental inequality as well as “structural violence” (Farmer 1992; Tester et al. 2012). For indigenous communities, that have specifically socially-embedded relationships with their natural environment, environmental degradation is experienced as total community degradation. For such commu-

nities, whose members have no control over the decisions made by government but nevertheless have to suffer the consequences (Kafarowski 2006), illness and particularly environmental illness can and does also imply socio-economic distress; a Joabian state of “illth.” For these communities, it is the illth caused by industry that has to be remedied as well.

In this article, we would like to present an ethnographic case study of an “exposure experience” (Adam et al. 2011: 180) of an upland-dwelling Pwo (-speaking) Karen community living in Central Thailand. With the help of external NGOs they became “enlightened” to the origin of their 20 years of environmental suffering caused by a floating lead mine company that failed to prevent the discharge of toxic waste into the local stream which provided them with water and riverine sustenance. As members of this community came to seek environmental justice in the courts, they also became embroiled in a dispute with the Thai medical establishment over the correct treatment that should be given to them.

The Karen of Klity Creek and the Floating Lead Mine

During the premodern period, Tai-speaking peoples (of whom the Thai are one group) saw the Karenic-speaking upland-dwelling peoples to be a *kha* or serf people, hence the exonym Kha-riang (in Thai) (Buerger 2003; McKinnon 2003). This exonym was given to some upland communities who attached themselves to a local lord and who gave them permission to live in the adjacent upland area to the valley within their jurisdiction in return for certain tributary and ritual services (Hinton 1983). In the modern Thai imagination the Kariang (in Thai) people are one of the ethnic minorities of numerous upland-dwelling people living in the central and northern part of the country. They are ideologically perceived to be one of the “stranger” ethnic groups within the Thai geo-body of the nation and a somewhat quaint community of unassuming hillbillies (Thongchai 2000; Laungaramsri 2003). In the modern nation state of Thailand those communities who entered the kingdom before the 1940s have Thai citizenship and are legally treated as Thai in every respect. Successive Thai governments since the 1960s have seen it as the state’s responsibility to provide them with development but within their paternalistic ideology (Vaddhanaphuti 2005). The development of the Karen communities in relation to the greater Thai communities is uneven. Whereas elders may not be able to speak Thai, the younger generations are more Thai in modern outlook due to state educa-

¹ Brown (1992: 269), Phillimore et al. (2000: 219), Brown et al. (2012).

tion and migration to towns for work as well exposure to Thai public and commercial media.

The small Karen community this article is about lives in Kanchanaburi province, approximately 200 kilometers northwest of Bangkok. Their village is situated in the Tung Yai Naresuan Wildlife Sanctuary in an area called Klity Ta. The Karen of both upstream and downstream Klity Creek entered the area that is their present home in 1897. Today (turn of the millennium) the Karen of upstream Klity numbered 500 souls or 100 families. The inhabitants of downstream Klity Creek, investigated in this article, numbered approximately 269 residents or 53 households. Until the 1960s, the decade when the Thai government started promoting development projects, the Karen economy was relatively self-sufficient; based on dry rice-farming, raising livestock such as buffaloes, while using the forest and its waterways for food as well as for the basic necessities of life. Although their area became a forest reserve in 1964 (and later a world natural heritage site), at the time the government gave mining concessions to the first floating lead mine company of Thailand which started functioning in the area of Klity Creek in 1967. The mine was located in between the two Karen settlements about 2 kilometers downstream from the upper settlement and 8 kilometers upstream from the lower one. Six kilometers north-east to the mine was a second mine owned by the same company.

Early on, the mine established good relations with local Karen groups, improving the transport and communication services to and from the area and allowing villagers to use its grocery shop and medical services. The management also donated large sums of money to the village health service and temple in the upstream Karen settlement. Villagers did not work for the mine but found an economic benefit in the miners (who came from other Thai provinces) to whom they would sell their forest produce. The upstream Karen settlement was unaffected by the mine's activities and good relations persisted throughout its functioning period (1967–1998). However, as the floating mining company was carrying out its benevolent and meritorious deeds for the community, it failed to secure its toxic-waste from entering the Klity stream.

Two Decades of Lead Pollution

During the mid-1970s, villagers from the downstream settlement started noticing that the stream was now muddier and murkier in color and that there was a recurring stench coming from it. Fish

and other riverine life were also frequently seen floating dead on the water's surface. People also experienced symptoms such as itchy rashes, headaches, fever, dizziness diarrhea, conjunctivitis, and pain in the limbs. A number of women also went blind. It also seemed to villagers that more children were suffering from stomachaches, asthma, and upper respiratory problems. Some children were born with complications or with physical deformity. For example, one child was born with six toes and fingers, another with genital deformity, and another was so mentally disturbed that he was kept chained to a post. There were also deaths preceded by physical symptoms, which elders claimed they had never seen before. Socially, people felt apathetic and depressed, and women would sometimes break down and cry for no apparent reason. Some individuals also claimed to suffer from insomnia and others from memory loss. By the mid-1990s, another calamity would befall the village. Their livestock of buffaloes and ducks were dying. Village autopsies on the dead animals found that the internal organs were dry in texture and darker in color. The loss of buffaloes was a loss of a potential income, as they were reared to be sold to other villages.

Making the Environmental Pollution a Public Issue

By the 1990s, the Thai officialdom knew that the area was contaminated, but there was a general attitude of indifference. During the years 1990–1993, a general survey was conducted by the Natural Resources Department after there was some concern raised that the upland streams connecting to the Srinakarin dam, which provided Bangkok with its water supplies, could be polluted due to mining activities. The environment, surface water, and water sediment from the streams that flowed into the dam were studied. The project found that the area around the Klity Floating Lead Mine, as well as the area immediately south of it where the downstream Karen lived, had a high level of lead circulating on the surface water. The northern area of the mine where the other Karen settlement was situated was not contaminated. The project confirmed that the mining operation was causing an increase in the lead levels in the environment around the dam as well. However, as the mining area was at a distance of 20 kilometers from the dam much of the lead dissolved before reaching it; Bangkok was safe!

In 1995, the director of the Karen Studies and Development Centre, an NGO concerned with Thai-

Karen affairs and culture, visited the village to make a cultural study of the settlement. The director was not expecting a community suffering from industrial pollution. Being well versed in the Thai civil rights procedures he took up their environmental and medical complaints that were falling on deaf ears and turned them into a public protest. His NGO raised public awareness by starting a letter campaign for them, which, at first, people thought would prove to be not successful. The NGO targeted the main newspapers of Thailand inviting journalists who were interested in a good story to cover the Karen case; a story that would appeal to intellectuals, students, and other environmental activists during a period when Thailand was moving towards a more democratically aware and politically conscious and engaged civil society. The NGO gave the villagers, who were not proficient in the Thai speech registers (if they could speak Thai), a Thai public voice to cross over social boundaries and to express their grievance and seek environmental justice. As the forest-based Karen of Klity Creek made a sudden and unexpectant leap into Thai civil society, they were also innocently heading on a collision course with the Thai medical establishment over the medically dicey issue of environmental illness.

Surveys and Health Surveillance and the First Blood Screening

Shortly after the newspapers started giving the contamination problem of down-stream Klity Creek some coverage, the Environmental Health Division of Ratchaburi province decided to look into the situation. It conducted the first health survey in April 1998. But this survey only confirmed what was already known, that the lead levels in the environment were higher than the standard levels deemed acceptable by the Pollution Control Department. As the similar previous and later studies, this study showed that the water upstream to the mine was not polluted by lead, but the water downstream from the mine was above the average mean. The report suggested that strict measures should be enforced to prevent the Srinakarin dam that supplies water to Bangkok from being contaminated. The team could not properly determine the villagers' blood lead levels as they had started using water from a newly available mountain source that was set up for them. The report only recommended that the Ministry of Public Health (MOPH) should start monitoring their health. Another cross-sectional epidemiological study of nine villages including Klity Creek was taken by the Provincial Health Office of Kanchana-

buri, which came up with similar results. Downstream Klity Creek was for sure polluted with lead, but the villager's plight was again given secondary importance and no curative action was taken.

In 1998, the mine was officially closed down for good and the Public Health Department set up a committee to study the mine's impact on the community's health, but took a further year before a team was sent out to the village to take the first blood samples (*Krungthep Kurakiy* 1999). The results of the first blood tests found that all of the children between 0–6 had a blood lead level (BLL) higher than 10 µg/dl (micrograms of lead in a tenth of a liter of blood), and the adults' BLL reached between 30 to 50 µg/dl. A second round of blood tests was conducted again in March 2000, which showed slightly higher results. The intervention threshold was put at 25µg/dl for children and 50–60 µg/dl for adults, which compared to the lead threshold level in the US around the same time (10 µg/dl) would have been a cause for alarm and immediate intervention.² Hence, the Provincial Health Service, that held jurisdiction over Klity Creek, concluded that their illnesses were caused by general diseases, that had nothing to do with lead poisoning (*Matichon* July 6, 1999). The villagers were advised to adjust their behavior towards water consumption and keep to basic hygiene and blood tests should be taken regularly. As a benign gesture, the villagers were also given free flip-flops to wear so that their feet would avoid contact with the soil. They were also advised to change some of their cooking habits and preferably relocate elsewhere.

The Beginning of Resistance

After the second blood test the villagers began to “drag foot” by becoming uncooperative with the medical teams who were only giving them analgesic drugs for their pain and behavioral advice. The number of villagers presenting themselves to the medical team gradually dwindled from 119 in the first test to less than 50 in the later tests. The blood screening did not take into consideration that drawing blood from their bodies could also have certain symbolic overtones for a forest-based “tribal” minority community. Further, the hospital did not disclose the results of the third and fourth tests, which also angered the villagers who did respond to the blood screening.

2 Since then it has been further reduced in the U.S. to 5 µg/dl. Different countries vary on this.

“L” recalled:

The health team from the Provincial Health Service had frequently visited our village for medical checks and they only gave out analgesic drugs. They did not mention the lead or chelating drugs. The result of my first lead blood level test was 40 µg/dl and the second 44 µg/dl. The first and second blood tests were done by the same group of health personnel. I received the results of those tests from them, but they wouldn't tell me the outcome of the third and fourth tests. Most of the doctors informed the villagers that they had come to examine the lead level. We did not refuse the tests at first, but later the villagers started rejecting them because no one received the desired drugs. Some of them felt bad about losing their blood, and some of them felt that the doctor drew too much blood which caused them to faint.

“S” revealed her own predicament:

They drew a lot of blood, ... a lot. My body does not have enough blood for their tests. I gave myself to be tested three times. No result, no treatment for me. They were quiet. I decide I will not test my blood again. I feel a lot of pain because my body doesn't have much blood left in it.

The villagers were expecting curative treatment and could not understand why this was not forthcoming and instead were receiving the usual drugs. As far as the Karen were concerned and as the blood tests were already taken with the proven result that their bodies were contaminated, all that what was needed now was to be given the appropriate curative medicine and not analgesic drugs for their pain. They wanted their bodies to be cleansed of this poison.

In their support of the villagers, the NGO demanded that the Public Health Department provide pharmacological intervention to all the villagers and particularly to the children. The NGO made the point that the villager's exposure was taken place for over twenty years and many individuals were born into this community during this period. Blood lead level testing only shows the BLL at the time the tests are taken and not the possible concentration of lead in the brain, bones, and nervous system of people who have experienced long-term exposure. This concentration could at any time leach back into the blood circulation. It was further argued that the young have a high lead absorption rate and a blood lead level of more than 10 µg/dl, which might have impacts on the nervous system (*Krungthep Turakij* of May 13, 1999). The NGO was doing its citizen research for the community and began to publically speak the language of medicine while conveying to the villagers this medical knowledge about their bodies as well.

Entering the “Environmental Justice Frame” of Civic Action and Seeking Medical Treatment

During the first half of the year 2000, three sudden deaths at Klity Creek were brought to the attention of the public with the suggestion that the deceased were victims of long-term exposure to lead poisoning (*Matichon* of August 5th 2000; *Bangkok Post* of August 3rd 2000). In the meantime, another NGO calling itself a “Network for Solving the Health and Environmental Problems Caused by Lead Poisoning in the Upper Mekong River” organized a seminar in September 2000, bringing a number of villagers to this conference.³ The Karen village representatives, who participated in the meeting, left the seminar with a 6-point-proposal to the government:

1. The government should urgently treat all of the villagers who were showing abnormal symptoms.
2. The government should reduce the blood lead levels of all the villagers and not just a risk group.
3. The treatment should encompass the whole community and not just individuals.
4. Medical research should be conducted on the villagers' illnesses.
5. The government should put up billboards warning the villagers about contamination.
6. The government should set up a fund for treatment that can employ medical specialists who can provide the villagers with appropriate medical treatment.

The seminar brought the Karen villagers' health into the “environmental justice frame” (Čapek 1993).⁴ Their diverse symptoms were redefined in terms of “environmental illnesses caused by industry.” The villagers were demanding total pharmacological intervention as their right to health. The media disseminated the proposal to the general public and the Karen of Klity Creek were now being supported by members of an empathetic Thai public.

In October 2000, the NGO that was representing the villagers collected some money to finance the visit of eight individuals to Bangkok where they

3 One notable speaker proposed that the Law Society of Thailand should file a legal suite against Lead Concentrates (Thailand). His suggestion was promptly taken up and villagers since then have been filing court cases that have ruled in their favor.

4 Čapek (1993: 7) tells us that the environmental justice frame is based on the concept of rights and is related to the social justice and civil rights movement. The latter provides a master frame that validates the struggle for the rights of various disenfranchised groups. In this frame of action, antitoxin activists who see themselves as having been disenfranchised can claim full rights from the wider community from respectful public treatment to legal protection and compensation.

were placed under the medical care of Dr. O. of the Occupational Medicine and Environment Institute of R--- Hospital. Using a much lower intervention-threshold level, Dr. O. revealed that the eight had high blood lead levels and six of them were suffering from chronic lead pollution. Dr. O. put them under careful chelation therapy for five days. The eight claimed to feel better and that they were cured of their troubling ailments. This prompted the villagers to write letters to the MOPH demanding that all villagers should receive the same medicine and treatment which the “Bangkok Eight” received (*Matichon* of March 22, 2001; *ThaiPost* of March 29, 2001).

Under public pressure the MOPH decided to come half way by authorizing the regional Kanchanaburi Provincial Health Service to admit only high risk individuals for chelating drug treatment (*Bangkok Post* Sept. 28, 2000). Although 41 children were diagnosed as high risk the provincial hospital could only admit five children at a time. Only 18 children were actually admitted between the months of October 2000 and January 2001. They were treated with Ethylenediaminetetraacetic acid (EDTA) and seven children with succima. However, because this treatment was highly selective in its definition of a risk group basing it on a high lead threshold level, the villagers concluded that the treatment given to the “Bangkok Eight” was more appropriated to their needs than the treatment given to the “Kanchanaburi Select.”

Then, three more people with a high BLL were publically announced to have died (*Bangkok Post* of Dec. 19, 2000; *The Nation* of March 16, 2001). The concerned civil society as well as the media was connecting the deaths to lead poisoning, and in a political climate in which demands were being made for the reform of the Thai public health system, it was raising the question “why was the MOPH not doing anything about this?”

The MOPH Response and the Acceleration of Protest

At this point the MOPH could not remain silent. Amidst growing public pressure the MOPH held a public seminar in August 2001 in which its participants, all medical professionals, argued that the deaths at Klity Creek were not related to lead poisoning and made a public announcement to this effect. The seminar’s conclusions supported the MOPH’s contention that the approach it was taking, that of epidemiological health surveillance, was the most suitable approach to the problem. Al-

though the seminar was public neither the villagers nor the NGO supporting them were present, a fact that did not go unnoticed by the MOPH (*Matichon* Aug. 7, 2001; *The Information and Publics Office MOPH* Aug. 3, 2001). The announcement also subtly accused the NGOs of misguiding the villagers in believing that their ailments were caused by lead poisoning and thus interfering with the appropriate course of medical action (*Matichon* of Aug. 7, 2001). The MOPH also accused the director of the supporting NGO of going back on his promise by not attending the event. The director, who became aware of the accusation much later and through indirect sources, claimed that he was not listed as a panelist on the invitation letter and, therefore, thought he was not invited (*Khaosod* of Nov. 15, 2001; *Matichon* of Aug. 17, 2001). The seminar organizers, so it would seem, wanted the villagers and the supporting NGO to be present but not have an equal voice in the scientific seminar. Rather than seeing the seminar as an open forum for debate, the aim of the seminar was to scientifically lecture them as to why their illnesses were not lead related.

The villagers as well as the Karen NGO did not accept the conclusions of the seminar’s announcement and instead started to accelerate their demand for total pharmacological intervention. Exasperated, in August 2001, the villagers wrote a letter addressed not to the MOPH but to the Thai people, for help. The move was a rhetorical device calling on Thais as an ethnic “other” to live up to their ideal values of empathy and kindness toward them. The villagers also decided to publically delegitimize the local health authorities by displaying a big placard outside their village claiming that the local doctors have shares in the mine and, therefore, were preventing a proper medical solution to the Klity village problem. They also demanded that the results of the third and fourth tests should be disclosed to them. The commotion prompted the MOPH to arrange a visit with the villagers and the supporting NGOs. During the visit, the MOPH representatives first tried to persuade the villagers to move elsewhere. The villagers rejected this proposal outright as Klity Creek was their home. Instead, they demanded that they be given chelating drugs. It was concluded that as long as the villagers understood that they can suffer from severe side effects they would be given the drugs they requested. After a ministerial meeting in September, authorization was given to dispense the drugs to the villagers. This was followed by the publication of a manual in October 1st, 2001, titled “The Standard of Care for People Who Are Exposed to Lead.” The following are the opening lines of the preamble:

The Medical Department has provided care to downstream Klity villagers in Kanchanaburi province for more than one year. The medical team which visited the village provided a different treatment and care to that given by the doctor at the hospital in Bangkok. The different practices have caused the rejection of one treatment, and the request of another. In turn this has caused confusion in the type of medical treatment that should be given in the case of lead exposure.

The MOPH was stating that the problem had to do with the lack of uniformity in the treatment given by the physicians. The manual laid down a curative intervention threshold level that only children between the ages 0–15, with a blood lead level between 49–69 µg/dl, will receive chelation therapy. Below this they will only be placed under medical surveillance and receive blood screening tests. The manual also stressed that none of the children at Klity Creek had such a high BLL as the mine had been closed since 1998 and, therefore, they had no chance for further exposure. The aim of the manual was to detail the official policy for treatment of lead poisoning and of providing unity within the Thai medical practice. It was also hoped that the manual would silence the villagers' protesting voice, as now the treatment was made official and government policy.

Treatment Based on Misunderstanding and Disregard

The MOPH did finally dispense the drug D-Penicillamine to the villages via the director of the Karen NGO who it believed was behind the protest, letters, and demands. The pills that were dispensed were limited in number and there were insufficient courses of pills for all the families. According to the prescription, the recipient had to take a pill a day but refrain from taking them if they suffered from side effects. The villagers now had the drug they needed but there was no one to supervise them.

One villager explained:

We tried to learn about the drug by trial and error. Initially, I suggested that they (the villagers) try only one pill per day for 5 days. If there were no side effects, they could carry on taking them. But if something went wrong, they should stop at once. My wife fainted after taking the drug, so I stopped giving it to her. Y. asked for a bottle of the drug because his wife was showing symptoms. She went mad when she took them and could not control herself. There have been a lot of women in this village like her such as P., M., B., and S.

Some individuals did suffer from side effects so stopped taking the pills. Villagers did not take them

regularly but tried to preserve them for as long as possible. Sometimes symptoms were compared and drugs were shared with others who would complain of having similar ailments to the “Bangkok Eight.” By dispensing the drugs to the villagers via the NGO rather than providing their patients with supervised chelation therapy, the people concerned allowed the villagers to use the drugs in line with their own cultural understanding of medicine that was more suited to village herbal remedies rather than heavy biomedical drugs of this nature. It also showed that the MOPH was not going to change its policy directives and the prescription was more of a gesture under public pressure to compromise the supporting NGO than a therapeutic act.

The villagers' request for the disclosure of the results of their third and fourth blood level tests was also granted. It transpired that there were irregularities on the result sheet which were not dated. In one entry an adult was given the age of four years old, and another test respondent had the blood lead level number deleted. These errors suggested to the villagers that their illnesses as related to lead poisoning were not taken seriously by the local health establishment. Their claims that they were suffering from illnesses due to lead pollution were never taken seriously even during later years.

In 2005, one of the authors (Malee Sitthikriengkrai) was present when a female villager was complaining about her pain to a visiting doctor of the mobile clinic who was interviewing her about her symptoms. M. S. captured the followed interchange:

Villager: It occurs suddenly.

Doctor: When does it occur? Is it when you are changing position or going to the toilet ... or when you are working?

Villager: When it occurs it occurs. I cannot tell you when that is.

Doctor: You faint, is that right? (in a tone of disbelief)

Villager: I get tired (interrupting the doctor).

Doctor: You are also tired. Can you work normally? Did you work regularly this month?

Villager: No, I felt unwell.

Doctor: How did you feel? What was wrong?

Villager: When it occurs I cannot do anything.

Doctor: How about when the feeling is absent?

Villager: Then I can work.

Before the medical interview is over a nurse interrupts the conversation with a loud voice.

Nurse: Doctor! Do not take this seriously ... prescribe her with MTV and Bco. It will be fine.

Another villager recalls his medical interchange with a doctor:

The doctor said to me that if my arms and legs are weak and drop, it is a sign of lead poisoning. If they don't drop,

it meant that I am healthy. My god, the symptoms of lead poisoning is when the foot drops. If we have to wait until our limbs drop, wouldn't we all be dead by then?

Such an explanation could be read as reflecting a certain professional distancing and a patronizing callous disregard for the subjective fears of the patient who connected their illness to the lead poisoning, which the medical professionals resisted in doing. But neither could members of the visiting health teams understand that their contaminated bodies also affected their very livelihood as it debilitated their ability to work.

During one meeting with visiting health officials in 2005, standard behavioral health advice was being given on how to live in contaminated areas as well as a justificatory explanation of the surveillance treatment given. The villagers were told, that under situations like these villagers were advised not to eat or drink anything from the environment. As she was talking, the villager B. interrupted her to ask a simple question: "If we do not eat our vegetables and drink water, as you have said, where are we to find the resources to replace our produce dependent on the Klity stream?" The health official seemed not to understand her question. The researcher (M. S.) intervened and rephrased the villager's question. "Your health advise is a good one, but what B. is asking is this: as this area is contaminated with lead and yet the villagers have to grow rice and vegetables here to survive but are now advised by you not to eat food produced within this environment what would be their alternative?" To which the health official replied: "Do you remember the flip-flops we distributed when we first came here to promote health advice to the village? Nobody then knew where the lead was, so we suggested a few behavioral rules which you should still follow. First of all, you wear flip-flops so your feet do not touch the earth. Secondly, when you prepare rice you stir it many times before boiling it. This will wash away any possible lead contamination. Thirdly, you wash your home-grown vegetables many times to get rid of the leaded soil. Fourthly, as the Department of Pollution Control suggested, when you get water from the stream you first let it silt in alum before using it." The health official's reply was standard behavioral advice that was more suited for a general situation of environmental pollution, but as an answer to a question about economic survival it flew past the specificity of the villager's question and concern.

In one interview a villager who starts in the first person singular but ends in the first person plural put it as follows:

The doctor did not know the pain I was feeling. How could he know because he has never had pain like the pain we experience? When we are sick we cannot work our farm. What are we to do? If the doctor is sick, he can stop working and rest for a while and still he will receive his salary. If we rest, we cannot harvest in time because nature doesn't wait for anybody. We will have no rice to eat. At this moment we have no fish for food. Please do not let us lose our rice (staple) as well.

Whereas health officials are not development workers and cannot be expected to respond to such a concern for the villagers this was a major part of their predicament. Contaminated bodies provided debilitating illnesses that weakened people and prevented them from pursuing their livelihood, which is tied in with their total socio-economic existence. For them suffering from environmental illness meant not just physical ill health but total illth, and this had to be remedied and the first step for them was the immediate remedying of their bodies.

Being Labelled "The NGO Community"

The 1990s and immediate post-millennium years is the period when Thailand experienced the most democratic development of its civil society in its modern history. One issue of debate was a civic call for reforms in public health, which culminated in the Public Health Act of 2002. The goal was to create a health system that was civically focused and which incorporated the general public (Komatra 2008). Health agencies were encouraged to engage in dialogue and deliberation with the public to create a consensus of what is good for the individual as well for collective health (2008: 18). As Komatra explains, prior to this period the various health agencies worked with the principle of primary health care, which circled around the idea of public cooperation in the state health ideology rather than allowing the public to contribute to how health predicaments should be interpreted and addressed (2008: 55). The social suffering at Klity Creek was easily brought into the larger Thai national civil-societal developments and was easily made into a public issue. But Komatra also warns that the inclusions of civil society into the health reform affairs could also be perceived as a threat as well by the agencies concerned (2008: 65), and it would seem that the Karen claims of suffering from environmental illness and their civic activism did take the MOPH by surprise. It is unlikely that the Karen of Klity Creek could have carried out their public "sling-shot" at the medical establishment in earlier authoritarian decades and neither could they have done so

without the help of the supporting NGOs. Whereas authors writing about environmental justice movements usually focus on cases of industrial pollution occurring in nations with progressive civil societies (see Brown 2007), the Klity Creek case highlights the importance of civil society in the development of an understanding of environmental illness (Boudia and Jas 2014: 13). In civil society, people organize around an issue of concern through voluntary association. In environmental justice/environmental illness, members of the effected community voluntarily pool their illnesses within the public moral domain to expose the environmental wrong doings they have encountered. Symptoms become interpretable signs within a moral semiosis of illnesses within “the rhetoric of exposure” (Schwarze 2003: 315). People present their illness to the public in a rhetorical outcry stating “look at what industry has done to us!” But civil society is a discursive society in which people have to have a shared language and certain values through which to promote their issues of concern to others. The Karen community needed the NGOs to help them make the crossover into civil society in order to be heard by translating their voice into the formal Thai civic discourse. Guiding the activism (with true sincerity and concern) the NGOs and media connected every illness and death to lead poisoning without medical evidence. The villagers’ ailments and deaths became extracted as signs in their “rhetoric of exposure” for contesting the medical establishment’s approach to their illnesses as well as for evidence in legal court proceedings. The victims’ bodies thus became a contested site within the public domain (Das 2000: 274). But the commotion also caused the Karen villagers, whose voices were never really heard as the NGO always spoke for them, a sense of impending anxiety. This was particularly the case when the sudden deaths at Klity Creek were connected to lead poisoning and the NGOs were using them to in effect call out “murder.”

The contestation led the MOPH to go on the defensive strategy and hold a seminar with the aim of scientifically resolving the issue once and for all but failed to do so. Kelleher and Leavey (2004) remind us that there is a specific correlation between health and identity through public labeling. Whereas an illness can redefine a person who is afflicted with it, an awkward relationship with the doctor can also provide an identity as well in the medical interaction. The Karen community of Klity Creek/cum activists came to be sensationally labeled “the lead-contaminated community” and this also drew the general public to empathize with them. On the other hand, the MOPH and its representatives saw

their ailing patients through a mirage of civil activism. For the medics the villagers’ political and civic action was defined as an intrusion into their professional “ownership” (to take a term from Brown 2000: 369) of the problem which made them a community of problematic patients who did not want to accept the treatment offered. This led the Karen community to also be labeled the “NGO community” who followed the advice of non-specialists rather than follow the professional advice given to them by the government health agencies.

The Particularities of the Karen Environmental-Justice Activism

According to Brown (2000: 367), environmental illness activism follows eight general procedures:

- 1) A group of people in a contaminated community notice the effects of pollutants in their environment.
- 2) These residents hypothesis something out of the ordinary typically in connection with health effects and pollutants.
- 3) Community residents come to share a common interest.
- 4) Community residents now a cohesive group read about and/or ask around and talk to government officials about their health effects and the contaminants.
- 5) Residents organize groups to pursue their investigation.
- 6) Government agencies conduct official studies in response to community groups pressure.
- 7) Community groups engage in litigation and confrontation.
- 8) Community groups seek corroborations of findings by experts.

Although the Klity Creek case has all the “socio-medical symptoms” characteristic of environmental illness, it has its own specificities as well as those that might be shared with other indigenous peoples suffering from similar environmental predicaments. In Thailand, villagers in the countryside would view members of the medical profession as modern social elites whose authority cannot be challenged (Pylypa 2007). In the Karen case, the social parity between themselves and the city-dwelling medical professionals has the added ethnic factor. Although Thai citizens, the Karen villagers generally view Thai society as another people’s society that encapsulates them and which is now responsible for them. If we consider Warren’s contention (2000: 7) on lead pollution in America as being “a plague of our own creation,” for the Karen community it was a plague of Thai creation.

A second difference relates to their “people’s epidemiology.” In environmental justice/environmental illness activism, civil-societal engagement is extended to science and medicine by trying to bring these into the contesting spheres of political action. NGOs are moral and political formations not scientific or medical ones. But to speak to science and challenge its practitioners’ medical control over an issue, activists have to be able to speak to them in its language or a language approximating it. A “people’s epidemiology” is in effect a “civically-discursive epidemiology” by which to cross over into the well-guarded ivory tower of science in an attempt to challenge or persuade its obstructive practitioners in cases of scientific and medical uncertainties within the civic frame of activism. The Karen villagers did not develop a rigorous researched-based epidemiology of the type discussed by authors writing about antitoxic activism in “progressive civil societies.” But they did develop an “epidemiology” based on local common sense and understanding of their environment through direct engagement with it as well as an examination of their experiences of illnesses and suffering in comparison with other factors, such as the health experience of upstream Karen who were unaffected by the pollution. To this was added the information that was being relayed to them by the NGOs as well as the various empathetic experts whom they met with, and which is a common feature in illnesses contestation (Brown et al. 2000: 17; Altman et al. 2008: 420). They raised common sense-grounded cynical questions among themselves and sensitized others to / made the others aware of the decisions made by people in authority. Nevertheless, their epidemiology was viewed by medical practitioners as being “too culturally local” and it could not bridge their concerns with medical knowledge.

Another important factor is that people here did not want to be removed from Klity Creek. It is generally accepted, that the first health action for people suffering from industrial pollution is to relocate the effected community and particularly the children if the source of contamination cannot be extracted (Cohen and Amon 2012: 75). In the Klity Creek case the Karen resisted this plan. For a hundred years, the community embedded the lives of its members in Klity Creek. Relocation was risky as they did not know what type of land they would be given or what type of neighbors. For the Karen, as well as for other indigenous peoples suffering with similar predicaments caused by industrial pollution, movement from their natal territory entails them to make a choice for the loss of their cultural way of life (and values) that is embedded within

that territory (Roe 2003). Instead, the Karen saw it as the government’s responsibility to cure them or “redevelop” their health back to normal as well as restore their stream to being lead-free through technological means.⁵

Conclusion – The Problem of Threshold Tolerance

Although it is possible for outside observers to applaud the MOPH’s medical action (the organizing of a visiting clinic, providing free blood screening financed for a high-risk group of children to receive treatment, organizing a public seminar, providing free health advise, granting free though limited chelation drugs, and, not least, handing out free flip-flops), the surveillance and blood testing were performed without a detailed study into how medicine could really help the villagers to overcome lead poisoning and improve their health. It would seem that the medical issue really circled around the accepted threshold-level for lead, which internationally has always been a political issue.⁶ Lead companies have maintained that there is a human threshold for lead tolerance and they have also assumed it to be rather high (Millstone 1997: 22). On the other hand, Dr. O. in Bangkok was working with a no threshold-level policy. In an interview for a film made by Human Rights Watch (2014), Dr. O. stressed her dissenting position. “The optimum level of lead in the body or in the blood is zero. The lead level of the eight people that came from lower Klity for both kids and adults was about 20–48 micrograms per deciliter of blood. They were poisoned and we treated them. They were poisoned by lead.” The MOPH health professionals were nevertheless using a threshold level for types of intervention that would have still been accepted in many countries during this period. It designed the treatment around this threshold level. As medical personnel treated the villagers through health surveillance and behavioral advise, government health agencies were not interested in probing further into the villagers’ human suffering as they were not willing to connect the suffering of illness to lead poisoning. They merely saw their patients in mechanical terms and surmised that the lead would decrease in the villagers’ body with time as long as

5 In 2013, a number of villagers won a civil court case against the Pollution Control Department. One of the legal requirements was for the department to draw up a rehabilitation plan for Klity Creek. Although this was done, the Karen are still waiting for the plan to be put into action (*The Nation* of October 2014).

6 Ziem and Castleman (2000), Berney (2000), Widener (2000).

they kept to the behavioral advice given to them. Neither did the MOPH and other medically-related government agencies take up the six-point request devised for the villagers during the environmental seminar. This would have given the relevant government agencies an excellent opportunity for scientific research with willing participants on the effects of lead pollution in exposed rural communities. What the villagers needed and wanted was supervised chelation therapy. What they received at the time was a treatment that failed them precisely because it could not bridge the gaps created by medical uncertainties over environmental illnesses, misunderstandings of minority social and economic realities as well as the novel momentum in Thailand of health-related civic activism.

Field data is based on Malee Sitthikriengkrai's PhD thesis titled "Suffering, Healing, and the Contestation of Power and Knowledge. A Case Study of Lead Contamination in Klity Lang Village, Kanchanaburi province," Mahidol University, 2007, and a subsequent visit to the village in 2010.

References Cited

- Adams, Crystal, Phil Brown, Rachel Morello-Frosch, Julia Green Brody, Ruthann Rudel, Ami Zota, Sarah Dunagan, Jessica Tovar, and Sharyle Patton**
2011 Disentangling the Exposure Experience. The Roles of Community Context and Report-Back of Environmental Exposure Data. *Journal of Health and Social Behavior* 52/2: 180–196.
- Altman, Rebecca Gasior, Rachel Morello-Frosch, Julia Green Brody, Ruthann Rudel, Phil Brown, and Mara Averick**
2008 Pollution Comes Home and Gets Personal. Women's Experience of Household Chemical Exposure. *Journal of Health and Social Behavior* 49/4: 417–435.
- Auyero, Javier, and Debora Swistun**
2007 Confused Because Exposed. Towards an Ethnography of Environmental Suffering. *Ethnography* 8/2: 123–144.
- Berney, Barbara**
2000 Round and Round It Goes. The Epidemiology of Childhood Lead Poisoning 1950–1990. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 235–257.
- Boudia, Soraya, and Nathalie Jas**
2014 Introduction. The Greatness and Misery of Science in a Toxic World. In: S. Boudia and N. Jas (eds.), *Powerless Science? Science and Politics in a Toxic World*; pp. 1–28. New York: Berghahn Books. (The Environment in History, 2)
- Brown, Phil**
1992 Popular Epidemiology and Toxic Waste Contamination. Lay and Professional Ways of Knowing. *Journal of Health and Social Behavior* 33/3: 267–281.
- 2000 Popular Epidemiology and Toxic Waste Contamination. Lay and Professional Ways of Knowing. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 364–383.
- 2007 Toxic Exposures. Contested Illnesses and the Environmental Health Movement. New York: Columbia University Press.
- Brown, Phil, and Judith Kirwan Kelley**
2000 Physicians' Knowledge, Attitudes, and Practice Regarding Environmental Health Hazards. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 46–71.
- Brown, Phil, Steve Kroll-Smith, and Valerie J. Gunter**
2000 Knowledge, Citizens, and Organizations. An Overview of Environments, Diseases, and Social Conflict. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 9–28.
- Brown, Phil, Rachel Morello-Frosch, Stephan Zavestoski, and the Contested Illnesses Research Group**
2012 Contested Illnesses. Citizens, Science, and Health Social Movements. Berkeley: University California Press.
- Buergin, Reiner**
2003 Trapped in Environmental Discourses and Politics of Exclusion. Karen in the Thung Yai Naresuan Wildlife Sanctuary in the Context of Forest and Hill Tribe Policies in Thailand. In: C. O. Delang (ed.), *Living at the Edge of Thai Society. The Karen in the Highlands of Northern Thailand*; pp. 43–63. London: RoutledgeCurzon. (RoutledgeCurzon Research on Southeast Asia, 6)
- Čapek, Stella M.**
1993 The "Environmental Justice" Frame. A Conceptual Discussion and an Application. *Social Problems* 40/1: 5–24.
- Cohen, Jane E., and Joseph J. Amon**
2012 Lead Poisoning in China. A Health and Human Rights Crisis. *Health and Human Rights* 14/2: 74–86.
- Das, Veena**
2000 Suffering, Legitimacy, and Healing. The Bhopal Case, Critical Events. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 270–286.
- Farmer, Paul**
1992 AIDS and Accusation. Haiti and the Geography of Blame. Berkeley: University California Press.
- Hinton, Peter**
1983 Do the Karen Really Exist? In: J. McKinnon, and W. Bhruksasri (eds.), *Highlanders of Thailand*; pp. 155–168. Kuala Lumpur: Oxford University Press.
- Kafarowski, Joanna**
2006 Gendered Dimensions of Environmental Health Contaminants, and Global Change in Nunavik. *Études/Inuit/Studies* 30/1: 31–49.
- Kelleher, David, and Gerard Leavey (eds.)**
2004 Identity and Health. London: Routledge.
- Komatra Chuengsatiansup (ed.)**
2008 Deliberative Action. Civil Society and Health Systems Reform in Thailand. Nonthaburi: National Health Commission Office. <<https://de.scribd.com/document/220916296/Deliberative-Action-Civil-Society-and-Health-Systems-Reform-in-Thailand>> [29. 11. 2017]
- Kroll-Smith, J. Steve, and H. Hugh Floyd**
2000 Environmental Illness as a Practical Epistemology and a Source of Professional Confusion. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 72–93.

Kroll-Smith, J. Steve, Phil Brown, and Valerie J. Gunter (eds.)
2000 *Illness and the Environment. A Reader in Contested Medicine*. New York: New York University Press.

Laungaramsri, Pinkaew

2003 Constructing Marginality. The “Hill Tribe” Karen and Their Shifting Locations within Thai State and Public Perspectives. In: Claudio O. Delang (ed.), *Living at the Edge of Thai Society. The Karen in the Highlands of Northern Thailand*; pp. 21–42. London: RoutledgeCurzon. (RoutledgeCurzon Research on Southeast Asia, 6)

McKinnon, John

2003 Community Culture. Strengthening Persistence to Empower Resistance. In: Claudio O. Delang (ed.), *Living at the Edge of Thai Society. The Karen in the Highlands of Northern Thailand*; pp. 64–85. London: RoutledgeCurzon. (RoutledgeCurzon Research on Southeast Asia, 6)

Millstone, Erik

1997 *Lead and Public Health. The Dangers for Children*. Washington: Taylor and Francis.

Phillimore, Peter, Suzanne Moffatt, Eve Hudson, and Dawn Downey

2000 Pollution, Politics, and Uncertainty. Environmental Epidemiology in North-East England. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 217–234.

Pylypa, Jen

2007 Healing Herbs and Dangerous Doctors. “Fruit Fever” and Community Conflicts with Biomedical Care in Northeast Thailand. *Medical Anthropology Quarterly* 21/4: 349–368.

Roe, Amy

2003 Fishing for Identity. Mercury Contamination and Fish Consumption among Indigenous Groups in the United States. *Bulletin of Science, Technology, & Society* 23/5: 368–375.

Schwarze, Steve

2003 Juxtaposition in Environmental Health Rhetoric. Exposing Asbestos Contamination in Libby, Montana. *Rhetoric and Public Affairs* 6/2: 313–335.

Shkilnyk, Anastasia M.

1985 *A Poison Stronger than Love. The Destruction of an Ojibwa Community*. New Haven: Yale University Press.

Tesh, Sylvia N., and Bruce A. Williams

1996 Identity Politics, Disinterested Politics and Environmental Justice. *Polity* 28/3: 285–305.

Tester, Frank James, Paule McNicoll, and Quyen Tran

2012 Structural Violence and the 1962–1963 Tuberculosis Epidemic in Eskimo Point, N. W. T. *Études/Inuit/Studies* 36/2: 165–185.

Thongchai Winichakul

2000 The Quest for “Siwilai.” A Geographical Discourse of Civilizational Thinking in the Late Nineteenth Century and Early Twentieth-Century Siam. *The Journal of Asian Studies* 59/3: 528–549.

Trostle, James A.

2005 *Epidemiology and Culture*. Cambridge: Cambridge University Press.

Vaddhanaphuti, Chayan

2005 The Thai State and Ethnic Minorities. From Assimilation to Selective Integration. In: K. Snitwongse and W. S. Thompson (eds.), *Ethnic Conflicts in Southeast Asia*; pp. 151–166. Singapore: ISEAS.

Warren, Christian

2000 *Brush with Death. A Social History of Lead Poisoning*. Baltimore: Johns Hopkins University Press.

Widener, Patricia

2000 Lead Contamination in the 1990s and Beyond. A Follow Up. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 258–269.

Wing, Steve

2000 Limits of Epidemiology. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 29–45.

Ziem, Grace E., and Barry I. Castleman

2000 Threshold Limit Values. Historical Perspectives and Current Practice. In: S. Kroll-Smith, P. Brown, and V. J. Gunter (eds.); pp. 120–134.