Asia-Pacific Social Science Review 19(2) 2019, pp. 142–154

RESEARCH ARTICLE

Dengue Fever and the Discourse of Blame: An Ethnographic Study in a Thai Village That Produces "Lucky Bamboo"

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Abstract: This paper aims to investigate the dengue fever discourse and discursive practices in a Thai village that produces lucky bamboo in terms of the source of poor sanitary, vector breeding, site of transmission, and responses of those in the village. In particular, villagers who produce lucky bamboo have been blamed for the risk for dengue emergence in the community, despite having no cases of dengue fever. The study included 14 months of participant observation, ethnographic interviews with 19 lucky bamboo farmers, in-depth interviews with 69 villagers, semi-structured interviews with 10 local government officials, and a discourse analysis on international guidelines, research articles, policy texts, official reports, and project documents. The critical discourse analysis framework inspired the inquiry and analytical procedure. The key findings of this study were as follows: (1) the dengue fever discourse was produced through expert communication events consisting of an entomological approach and by the epidemiological triangle model, which has formed the basic conceptual framework that has been used by both international health agencies and public health interventions in many countries; (2) entomological surveillance, a dengue risk map and red flag labels were used as legitimate strategies for influencing people and the community; and (3) the response of the community included questioning the blame, and acceptance of the dominant discourse or sublimation. This study demonstrates that expert knowledge and practice were factors in naming and blaming the people even in periods without infection.

Keywords: blame, critical discourse analysis, dengue fever, ethnography, lucky bamboo village

"The major causes of the program's failure of dengue vector control are the community is unaware of the need to remove unused containers in and around their houses. Therefore, these containers should be regulated by health officials to promote dengue prevention awareness" (Bannasor Health promoting Hospital, 2011)

During the dengue fever epidemic in Thailand, stories of emergence and distribution caused (such as the text above) by potential breeding sites of *Aedes aegypti* which arose from a lack of community awareness spread throughout the media and public perception. This social representation legitimatized health authorities to mention that the manifestation of

dengue fever in the community is commonly caused by poor sanitation, poverty and positive domestic containers (containers infested with *Aedes aegypti*) (Artwanichakul, Thiengkamol., & Thiengkamol, 2012, p. 485). Control efforts in Thailand have only focused on controlling mosquito vectors and establishing vector surveillance strategies (Kittayapong, Chansang, Chansang, & Bhumiratana, 2006). All communities and all households have experienced heightened campaigns of dengue fever prevention. However, the emphasis on community involvement has been considered critical in the success of the campaign if the messages were not relevant or did not match the community context (Pérez et al., 2013).

Over three decades, Thailand's focus on preventing or reducing dengue virus transmission depended entirely on controlling mosquito vectors by insecticide sprays and destroying breeding containers to interrupt human–vector contact. Most Thai health officials were frightened if domestic containers with standing water were present in their communities. The presence of these containers is not desirable and is considered a risk associated with dengue fever transmission, as reflected by the Director of the Health-Promoting Hospital, who is responsible to villages that grow lucky bamboo in standing water said:

> Dengue fever infections are occurring annually in this community and are caused by a houseplant, lucky bamboo, which grows in standing water and produces a mosquito-breeding area. We collaborated with the community to address this problem and asked the villagers with these houseplants to use nets to cover their lucky bamboo nurseries to stop the dengue fever transmission cycle. [my translation from Thai].

Although having no dengue cases for five years (2014–2017), two years during the first author was staying in a village and three years for monitoring the dengue new case, the villagers growing lucky bamboo were still being blamed as people who create an ideal environment for mosquito breeding that could lead to dengue fever emergence in their community.

The linguistic expression in text and talk, as indicated in the quotations above, not only involves management of how knowledge is presupposed but also involves who the knowledge authorities are. This includes the negative representation of individuals/communities and the attribution of negative qualities to their actions allow speakers/authorities to create two sides of a given story/event, in which speaker/authorities and audience are in the "us-group," and the individuals/communities depicted negatively constitute the "them-group." It is an account for political implicatures by the "Referential Strategies or Nomination Strategies" used for the construction and representation of social actors (Reyes, 2011)

The representation of these lucky bamboo farmers caused social suffering, namely, humiliation, social stigma, and rejection as well as a considerable decrease in business and business loss. These individuals had become infected with an endemic of discourse and representation, not an endemic of dengue fever. It is interesting to investigate how the community members of lucky bamboo growers respond to the dominant dengue fever transmission and the blame discourse. As Foucault (1978) stated, "where there is power, there is resistance" (p. 95). To study the community members' responses to the blame discourse can help us understand the human agency which exists, and the knowledge on this issue can provide useful data to guide our development of health policy and planning which calls for a more humanistic-based approach. This led to the following paper's objectives: firstly, to explain the dengue fever discourse and discursive practices in a Thai village that grows lucky bamboo in terms of being the source of vector breeding and the site of transmission, and secondly, to describe how community members that grows lucky bamboo respond to the blame discourse.

Power, Knowledge, and Discourse

According to Foucault (1978, p. 92–97), power is not the sovereignty of the state, institutions, and mechanisms that ensure citizen compliance. Power is neither a form of the law, a rule contrasting with violence, or general system of domination of one group over others pervading the social body. Power is many immanent force relations; the processes which organize, support, and isolate force relations; and the strategies these force relations embedded in the state, law, medicine, and social hegemonies. The condition of possibility of power is in mobile unequal force relations. Power is the complex strategical situation and many times is in the form of knowledge and discourses from health practitioners in society. Power, then, should

be analyzed in terms of discursive practices or, in other words, relations between forces and the strategies immanent in those relations. Knowledge has always inseparably embroiled in the relation of power, and works through discourses and discursive practices to regulate and control society and individuals' conduct.

Discourse and Resistance

Foucault's (1978, p. 95) concept of discourse and resistance is that discourse is both the means of oppressing and the means of resistance. As he stated that where there is power, there is resistance, a plurality of points enter into power as it relates to the roles of target, adversary, support, or handle. Resistances arise from within the power relations that individuals become the smallest unit of productive power, and simultaneously the micro-level of society identifiable site from which resistance can emerge. Resistances are multiple positive forces, not mere reactions but it produces divisions, breaks, and regroupings. Resistance often cuts across individuals, rather than being localized within them.

Sublimation

According to Lacan (1992, p. 85) sublimation is the construction of positive self-representation as the effect of disciplinary power and various social forces imposed on an individual. Sublimation deals with an individual's focus on ethical thought, moral conscience, and spiritual elevation.

Critical Discourse Analysis

From Foucault's concept of power/knowledge and discourse originated Van Dijk's (2015) concept of critical discourse analysis, which is a special approach to discourse analysis that focuses on the discursive conditions, components, and consequences of power abuse by dominant (elite) groups and institutions. This approach examines patterns of access and control over contexts, genres, text, and words; their properties; the discursive strategies of mind control; and the discourse of resistance against such domination.

Methods

Between October 2014 and December 2015, the first author carried out an ethnographic study of one village that is often described as the greatest source of lucky bamboo in northern Thailand since 1985, and labeled as the origin of dengue fever transmission in their community. The first author conducted participant observations of dengue fever prevention activities between May 2015 and October 2015, ethnographic interviews, in-depth, and semi-structured interviews. The research method included critical discourse analysis with dengue fever prevention and control guidelines produced by an international health agency and implemented by the Thailand Ministry of Health (MOH), a scholarly research article and a communication event as textual sources.

Study Site

To examine the blame discourse and impacts of the dengue vector control program in Thailand, the first author started at the local level—the rural village. This research chose the most local level for this study as a review of the literature showed conflicting finding of the effectiveness of the vector-control operations at this level in Thailand. Among the rural villages that exemplified this situation in Thailand is the lucky bamboo village. The lucky bamboo village is located 10 kilometers from the Thailand-Myanmar border point in Chiangrai province, in the north of Thailand. This village is often described as the greatest source of lucky bamboo in Thailand where more than one in four areas of the village provides rich harvests all year round. Meanwhile, the lucky bamboo growth sites were identified by a team from the district public health office and Director of the health office as a major cause of dengue fever transmission in the community. This makes the lucky bamboo village a suitable site for this research and opens windows onto the larger picture of blame discourse and dengue fever vector control policy and practice in Thailand.

Data Collection

The account that is presented in this article is mainly based on the experience of the first author, ethnographic interviews and participatory observation during the 14 months of medical anthropology fieldwork in the lucky bamboo village. The first author lived in the village, working closely with lucky bamboo farmers, and community health volunteers. The first author participated as much as possible in local social life, leisure time, everyday activities, and dengue fever prevention campaign implementation period to record situation, consequences, and meaning of each

event. Field notes were taken during the first author's participation in all these activities.

Ethnographic interviews were conducted with the lucky bamboo farmers who were identified as the source of dengue fever transmission (n=19). The purpose of the interview was to gain important details of their vector-control practices as they were practiced within the research setting. Participants were observed in their environments while performing their tasks and asked them about what, how, and why they are performed in that way.

In-depth interviews with villagers focused on their perceptions of dengue fever and the etiology in their community as well as their attitudes on dengue vector control activities (n=69 household). Respondents were selected through an accidental sampling technique. In addition, the first author also conducted semi-structured interviews with 10 local government officials.

The concept and assumptions written into the policy texts, project document, official reports, academic article, billboard, and website that related to dengue fever control and prevention activities were also examined.

Participants

The first author identified three groups of key informants (19 lucky bamboo farmers, 69 villagers, and 10 local government officials). The lucky bamboo farmer must have at least one year of lucky bamboo production experience before the interview date to qualify as a participant. There were a total of 19 participants. Nine were males, and 10 were females. The average age of participants was 45.5 years (male=44.2, female=46.1). All participants were married, and 18 participants graduated from primary school. According to the experience in lucky bamboo production, mean year of lucky bamboo farming was 15 years, (min=1 year, max=32 years).

Sixty-nine villagers were recruited based on the duration of living in the villages (at least five years before the interview date). Ten local government officials were purposively selected which consisted of five community health volunteers, three public health officials who worked in a health-promoting hospital, one sub-district administrative organization committee member, and one epidemiologist who had experience and specialized in surveillance concepts and infectious disease control.

Data Analysis

All taped interviews were transcribed by the first author and checked for errors. They were reviewed before analysis and extracting into the thematic form by NviVo program. A thematic analysis was used to construct the results from the interviews by NviVo program (Version 11, 2015). Afterward, the critical discourse analysis was conducted (Van Dijk, 2015) for interpreting the text and talk in dengue fever prevention and control documents for both manifestation and latent content.

Ethical Consideration

All research tools and procedures were approved by the Ethics Research Committee of the Faculty of Graduate Studies, Mahidol University, Thailand (COA.No MU-SSIRB 2014/287.2110). All participants were informed of the details of the study; the process of consent, identification, privacy protection, and confidentiality; and the right to refuse to answer any question and withdraw from the research project. For confidentiality, pseudonyms were applied to all research participants and key informants. Both hard copies and electronic files of data were destroyed after developing the conclusion.

Results

Economic and Social Contexts of the Village Producing Lucky Bamboo

Most villagers producing lucky bamboo were landless farmers who paid rent to the landowners for more than three decades. Some of the farmers had filed for bankruptcy because of the failing agricultural production market. These conditions forced the farmers to obtain bank loans, and the need to repay debts forced the farmers to increase production, forcing further borrowing for more inputs. Poverty and debt cycles have a long history in this village, as a 48-year old lucky bamboo farmer said:

> *"*We can only take loans. If we produced during the wet season, then we need a loan to produce during the dry season. If we produced during the dry season, then we need a loan to produce during the wet season. I've been living here and rice farming for over 30 years. We only have debt, will never be able to own any pieces of land, and only take loans to rent the field;

after paying the rent, we've got nothing." [my translation from Thai].

In 1984, the ability of this village to produce agriculture started to change because new crops arrived at the village. An orchid investor loaned the villagers US$6,000 per family to produce lucky bamboo, which was in high demand in the international markets. The import of new crops released the villagers from debt within a year, and they became wealthier. A 45-yer old lucky bamboo farmer remarked that "Canada transferred US$600,000 each time. If we did not have deals with Canada that day, we would not be in this situation today." [my translation from Thai].

Figure 1. Spiral lucky bamboo exported to international markets.

Unfortunately, in 2004, the export of lucky bamboo was prohibited due to strict regulations. Finally, the customers canceled all orders, and the orchid investor stopped production and withdrew the investment. Twenty-seven farmers shut down their business. When all the orders were canceled but the lucky bamboos in the plantations were ready to be sold, all production turned to the domestic market.

The lucky bamboo was processed by cutting it into small pieces, which were cultivated in water until they sprouted roots and shoots. This type of bamboo is called "Budding lucky bamboo." The production process of this type of bamboo was matched with the needs of customers and with the mosquito breeding environment concept of public health officials.

Figure 2. Budding lucky bamboo traded in the domestic market.

Dengue Fever and Global Hegemonic Discourse

Considering international guideline and research articles as a genre, understanding the nature of dengue fever is essential to understand the way dengue fevers are reported, represented, covered, and analyzed by different media outlets. Most research articles consider dengue fever reporting as a mosquito-borne viral disease (Mairuhu, Wagenaar, Brandjes, & van Gorp, 2004; Messina et al., 2014; World Health Organization [WHO], 2015). These genericization processes identify mosquito/larvae as provenance presented in dengue fever transmission cycle. In addition, the causes and distribution of the disease by the epidemiologic triangle model, which includes the host, agent, and environment this model forms the basic conceptual framework and implies who is allowed or obliged to participate in power and control over the discourse.

Outbreaks of dengue fever in the 1950s and 1960s in many countries of the Asia-Pacific Region led to the organization of a bi-regional seminar in 1964 in Bangkok, Thailand, and a bi-regional meeting in 1974 in Manila, Philippines. Following these meetings, guidelines for the diagnosis, treatment and control of dengue fever were developed by the World Health

Organization (WHO) in 1975 (WHO, 2011, p. vii).

These international guidelines were revised in 1980, 1986, 1995, 2008 and 2011, and the manual was drafted by entomologists, epidemiologists, experts in tropical medicine, vector biologists, doctors, and high-level government representatives of Thailand and the Philippines. According to their impact, those guidelines have been used by both international health agencies and public health officials in many countries as guide for diagnosis, treatment, prevention, and disease control.

The voices of the experts were legitimate strategies to show the audience that experts in a specific field are backing the politician's proposal with their knowledgeable statements. This legitimization refers to the "authorization" that a speaker/expertise brings to the immediate context of the current speech to strengthen his/her position. Authorization is also displayed by the fact that expertise stands as authoritative sources, presenting information in a formal context, produce official and institutional discourse (Rojo & Van Dijk, 1997, p. 530).

Entomological approach and epidemiological triangle model: The planning and setting of dengue fever communication events. Entomology and the epidemiological triangle model served as a cooperative framework in communication events that define the mode of transmission of dengue fever: "It is induced in a human (the host) by means of a puncture bite with which the dengue protozoa (the agent) is transferred from infected *Aedes* mosquitoes (WHO, 1986, p. 4, 1995, p. 334, 1997, p. 7, 2009, p. 16; WHO & UNICEF, 2012, p. 16) and the mosquito vector and responsible viruses were spread because the mosquito used the stored water as a breeding site and maintain the transmission cycle" (Arunachalam et al., 2010, p. 173). This process of experts knowledge construction resulted in the naming and framing of every activity related to water containers and disease spread as "public knowledge/collective memory." This communication event opens windows to the Thailand Ministry of Health and of vertically organized programs developed by public health officials at the community level to set the standards for establishing the origin of disease transmission. In their attempt to persuade their audience that their characterization of dengue fever is accurate, the experts convey specific representations of the lucky bamboo farmers.

Public health practices use the classic epidemiologic triangle: interventions focused on breaking at least one of the sides of the triangle; disrupting the connection between the environment, the host, and the agent; and stopping the continuation of disease. The construction of the model resulted in the definition of every activity, in particular, activities involving decorative plants which are associated with standing water that is considered the cause of dengue fever transmission. Images of breeding containers symbolically encouraged awareness of dengue fever and these pictures of breeding containers were internalized. Repeated images showed lucky bamboo in water-holding containers and suggested that those containers were increasing the risk and potential of spreading dengue fever. Most health officials were frightened and pulled into the cycle of the traditional epidemiologic triad (the host, agent, and environment) automatically.

Dengue Prevention Campaign: Operationalization in the Local Context

Historically, efforts to control dengue vectors in the Southeast Asia Region has paid particular interests on eliminating or managing larval habitats, larviciding with insecticides using biological agents and applying adulticides come along with global communication events. In Singapore, the Philippines, and Thailand (Chan, Ho, & Chan, 1971), a vector control system and dengue prevention based on entomologic/vector surveillance and larval source reduction were first implemented in the 1960s. This program assumed that mosquito breeding site reduction precedes disease transmission and that controlling the vector population before the disease is detected would reduce transmission (Ooi, Goh, & Gubler, 2006).

In 2001, the Thai Ministry of Health, as the national health authority of the Department of Disease Control, introduced the WHO's manual on practical entomology for guiding dengue vector prevention and control, entomological surveillance, and larval source reduction (i.e., reducing the availability of *Aedes* larval habitats). The Thai Ministry of Health trusts that this technique is the most effective method of monitoring and evaluating control programs. Thailand provides a system of monitoring the vector population and predicting dengue outbreak that focuses on the house index (HI = % of houses with larvae and/or pupae),

container index (CI = % of water-holding containers with larvae or pupae), and Breteau index (BI = number of positive containers per 100 houses inspected). The communities were identified as high-risk areas of dengue outbreak if they obtained HI, CI, and BI scores, as shown in Table 1. The Thai Ministry of Health classifies the risk area levels of dengue outbreak into low risk (a home index of less than 1%) and high-risk area (a home index of greater 10%).

In political discourse, legitimization often occurs through a time frame or timeline connecting our past, present, and future. Authorities represent the present as a time that requires making crucial decisions about taking necessary actions. Such actions are necessarily related to causes that occurred in the past and consequences that may occur in the future. Hypothetical future problems are linguistically constructed mainly by the use of conditional structures of the type: "(protasis) If + past → (apodosis) would + Infinitive without to" (Reyes, 2011, p. 786). For example, if we were to fail in *Aedes* larvae control, the dengue fever would follow, or if we obtain a Container Index of 5% or a Breteau Index of 50%, we will have *Aedes* threshold values for DENV transmission. The risk level of dengue transmission based on larvae/entomological indices is an example of how authorities attempt to achieve their goals by legitimizing actions through a hypothetical future, employing very specific linguistic choices. The future, then, constitutes "an ideologically significant site in which dominant actors and institutions can exert power and control" (Dunmire, 2007, p. 23).

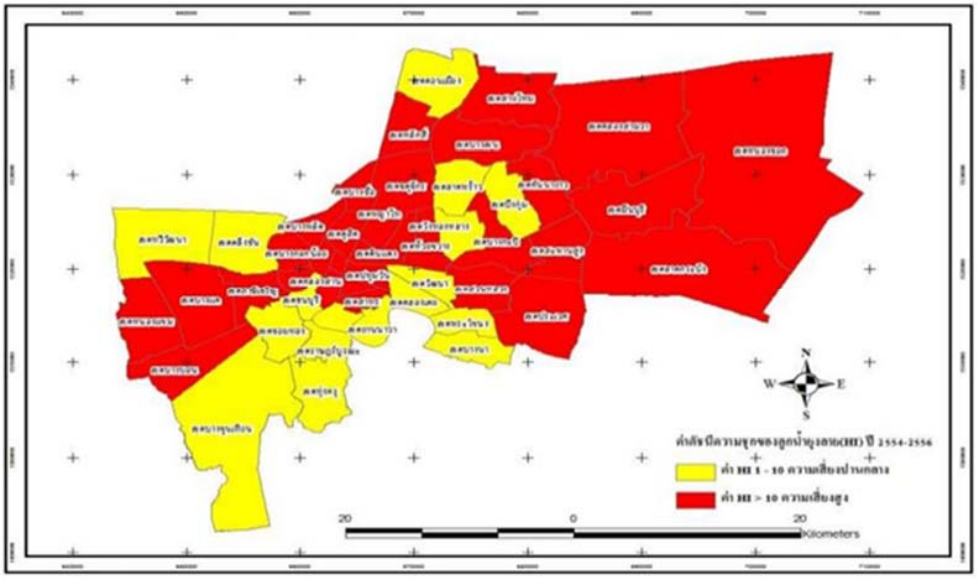
Table 1

Risk Level of Dengue Transmission Based on Larvae/ Entomological Indices

Entomological Indices	Risk Level
HI > 10, CI > 5, BI > 50	High-risk area of dengue outbreak
HI <1, CI < 1, BI < 5	Low-risk area of dengue outbreak

Source: Department of Disease Control, Ministry of Health, Thailand (2015)

Areas identified as having a risk of dengue outbreak by entomological parameters were used to create a GIS dengue risk map, with marked points classified by color. This map is an instrument for the public health officials to exert their power on precisely identified location with high of larvae/entomological indices, easily notice and predict dengue outbreak with the same standard referencing. This tool was accepted as an effective measurement in reducing the number of dengue fever cases (Pessanha, 2012).



Source: Noisukserm (2016)

Figure 3. The locations with high indices of mosquito infestation, Bangkok, Thailand (2011–2013).

As mentioned earlier, the risk levels of dengue transmission based on larvae/entomological indices have been integrated into healthcare services at the provincial and community levels. To prevent dengue outbreak in communities, Thai health officials are intensifying larvae surveying and identifying who the risk makers are, even though larval indices are a poor indication of adult mosquito production. Following the classification of red markers on the GIS map down to the community of a village producing lucky bamboo, red flags were applied to label and identify the houses with the presence of water-holding containers with larvae. Public health officials, as local health authorities, preferred the red flags as a practical innovation to alert and improve community participation. A health volunteer in the lucky bamboo producing village said that

> "the village health volunteer will put up the red flag at the fence of a house with the presence of mosquito larvae for seven days, and no one is allowed to remove the flag except officials. If any house is labeled with three red flags, everyone will be informed through the village broadcasting tower." [my translation from Thai].

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Community Perspectives on Professional Practices

Community perspective on the etiology of dengue fever transmission. When village members explained the etiology of dengue fever emergence, based on the diversity of their experience and perspective, a significant percentage (30.44%) believed that individuals who worked and went outside the village regularly, such as teachers, students, and merchants, were responsible for the spread of the disease. Moreover, they thought that dengue fever transmission did not occur within their village. A 52-year old representative of the subdistrict administration organization, commented that "mostly, there was no infection in the village, but individuals who went to work outside the village were becoming infected. For the last 4–5 years, the teacher who works outside the village has been infected." [my translation from Thai].

In addition, they believed that dengue fever originated from travelers who came across the border of Thailand and Myanmar; besides, their village housed many foreigners. A considerable percentage (26.08%) believed that dengue fever emergence was associated with mosquito/larvae bites and a lack of mosquito nets while sleeping. These villagers thought that mosquito/larvae could emerge everywhere if people are not careful. They knew that some mosquitos are infected with the dengue virus and that the life cycle of the virus was approximately 7–10 days. A fair number of rice farmers (21.73%) believed that dengue fever was associated with lucky bamboo farming, and the lucky bamboo farmers were at risk of dengue fever. A substantial number (15.95%) believed that contributing factors to dengue fever transmission were breeding source in natural containers, double crop year-round in paddy fields, rainfall intensity, and the wind direction. A small percentage (5.80%) believed that dengue fever transmission was related to the ineffectiveness of control and management programs for the mosquito vector.

The first author surveyed on the villagers' attitudes toward using insecticides and destroying breeding sites. Most of them preferred the insecticide method because they placed more importance on stopping the life cycle of adult mosquitoes than the breeding source and larvae, in that it differs from the focus carried out by public health professionals. A 44-year old female lucky bamboo farmer believed that

> "Insecticide fogging would make adult mosquitoes sterile, and they could not lay their eggs. Finally, the mosquitoes would die. While there was a campaign to turn over containers, this would be an ineffective practice because the water sources in public places are difficult to manage. Moreover, turning containers over cannot destroy the adult mosquitos." [my translation from Thai].

Other individuals did not believe in the effectiveness of the monthly entomological surveillance campaign for the early detection of outbreaks by public health officials and village health volunteers. During one of the interview with lucky bamboo growers, a 47-year old female said:

> "The other village health volunteers had come to our village once a month and asked, "How many households are there? What are their home addresses? How many people are there in your house? Did you have any water containers? Did you ever turn the containers over?" They conducted rapid interview but did not check any containers. We did not see any benefit from this campaign." [my translation from Thai].

The response of villagers demonstrated an unclear understanding of local health authorities in the surveillance objectives and the availability of larvae and pupae sampling skills. Another villager opined that the feedback data of larvae and pupae survey were not available to guide and engage the village in order to participate in action activities, which led to the limited usefulness of early warning and surveillance quality.

Experiencing the blame among lucky bamboo farmers. When a villager narrated the impact of the blame on lucky bamboo farmers, the story of Khan was of central consideration: the rumor was regarding the first lucky bamboo farmer who had supposedly been punished by being labeled with a red flag in front of her house. The Khan story spread all over the lucky bamboo village and to the next community by word-of-mouth. The effect of blame and its economic impact is best described by a 33-year old lucky bamboo farmer:

> "Khan's house was the only one that had the red flag as a punishment for breaking the rule and had a penalty charge of US$3 per positive container… US$450 in total. She was the first villager who introduced lucky bamboo from Chiang-tung in Myanmar to our village. Thirty-two years in this business, but now, she has given up and demolished the house plant nursery." [my translation from Thai].

This was supported by Khan:

> "Nowadays, less and less farmers in our village, including me, were producing lucky bamboo because of many prohibitions. While, more and more other villages, especially lucky bamboo plant manufacturing companies, steps to become a lucky bamboo producer and more wealthier than our village." [my translation from Thai].

After the lucky bamboo villagers were exposed to the blame, we focused specifically on how the lucky bamboo villagers understood and responded to this message.

Questioning the blame. For some informants who questioned the blame, they denied that they have ever been any infected with dengue fever, despite living with lucky bamboo and containers with standing water for 25 years. According to a 48-year old female lucky bamboo farmer,

> "I asked how many people with lucky bamboo businesses were infected and why others without these businesses were infected? They said that they were infected because of lucky bamboo farmers breeding mosquitoes. If they do, why have they never been infected in spite of living with it. In the case of my son, he has a plant nursery in his house from the 1st-3rd floors with water-holding containers. He has never been infected with dengue fever." [my translation from Thai].

In the case of lucky bamboo farmers with higher education, they chose to challenge and question the authority of health professional knowledge. A 42-year old female bamboo farmer remarked:

> "Assuming what they said… that the mosquito came from the water-holding containers that we used to nourish the plants. The question arise, is it related to mosquitoes…? Some mosquitoes were infected, and some were not. It was not certain… some mosquitoes did not even bite... their life was just a few days. Mosquitoes are everywhere, not only from lucky bamboo nurseries. It is not correct to blame others. If larvae are present in the house, it means they breed inside that house." [my translation from Thai].

Some informants question why the health professional never surveyed the lucky bamboo plant manufacturing companies that are located near their village.

Acceptance of the dominant discourse as a source of larvae breeding. Not all participants were united in questioning the blame. When the first author tried to interview the young lucky bamboo farmers who

had been in this business for 1–5 years, they said they were attempting to improve the environment around their houses. The fear of blame occurred in this group. One 31-year old informant described how blame shaped his behavior: "We put Temefos in every water container. We must change the water often. We do not want it to be the cause of transmission. We are also afraid that if we become infected, it will be difficult; we will not be able to work and will have to stay at the hospital." [my translation from Thai].

Some demonstrated their cooperation with larvae and pupae prevention campaign by presenting the lucky bamboo water holding container with local fish species, which eat mosquito larvae, in front of their house. In the case of lucky bamboo farmers who were nurturing"Budding lucky bamboo," they informed everyone that they moved all of the water holding containers to their paddy fields, which were as far as 10 miles from the village.

Sublimation as blame-negotiation. Farmers with a long history of lucky bamboo business, 25–32 years, tended to develop sublimation in order to negotiate the tension between their position and self. The following quotes highlight how oppressed people negotiate the blame for mainstream discourse that undermines their self:

> "We had a debt problem and the bank will take our house. It is a lot of obstacles. Our turning point came when planting lucky bamboo and everything continuously get better. Now, I am a land owner. If you do lucky bamboo, you must be diligent and honest. I am not much rich and I just graduated primary school, but my two sons obtained the bachelor's degree." (a 49-year-old female lucky bamboo farmer) [my translation from Thai].

> "Lucky bamboo is a sacred plant. Farmers who do lucky bamboo must be meritorious, honest, and diligent persons. If you do not believe… see that house… he was bankrupt because of cheating, but to be honest you can survive. Wherever I see lucky bamboo, I always pay respect. In the past, I was a laborer, but nowadays, I have 72 acres of land of my own." (a 53-year-old male lucky bamboo) [my translation from Thai].

> "We support funding for every village activity, as traditional and religious ceremonies include village help volunteer center improvement." (a 52-year-old male lucky bamboo farmer man) [my translation from Thai].

> "We hired our neighbors, especially older adults or disabled, to expand their income. Now, I support two migrant worker families and provide them with accommodation and work. I encourage everyone to try, as it is a good income." (a 47-year old male lucky bamboo farmer) [my translation from Thai].

This was supported by a 65-year old female villager:

> "My mother is disabled, and I am a caregiver. I cannot work outside the village. As a lucky bamboo farmer, they hire unemployed people in our village. We piled and wrapped the plants. If they did not hire me, I would have had nothing. They support the villagers by providing them with work." [my translation from Thai].

These farmers were acknowledged by the other villagers for being meritorious, dependable, patient, and charitable; they could stand up for themselves and provide career opportunities for the villagers. The lucky bamboo farmers tended to value their business survival experiences and develop sublimation as blame-negotiation to protect themselves from worthlessness, alienation, and colonization.

Discussion

Within the main dengue control interventions presently being conducted, under communication event setting as international guideline development based on the entomological control program and the epidemiological triangle model, the Thai government tries to provide surveillance and govern personal conduct and community environment in order to control transmission and influence the active involvement in the popular sector. On the other hand, individual and community unawareness of dengue breeding sites were identified as origins of disease transmission.

Most experts of dengue fever have accepted that it is a complex disease. The problem has multiple root causes, as declared by Gubler (2011) and Wilder-Smith

and Gubler (2008). The reasons for the resurgence of dengue in the tropics and subtropics are complex and include unprecedented urbanization with substandard living conditions, a lack of vector control, virus evolution, and international travel.

More importantly, dengue vector control programs in Thailand make little use of the procedures arising from research, nor have they reduced the upward trend of dengue fever or prevented disease outbreaks (Gratz, 1993). The top-down approach of dengue vector prevention and control policies as part of population and community control (by focusing on preventing dengue vectors that infest water-holding containers) were a challenge, as many scholars have summarized, "This is an inexpensive and simple expedient, but there seems to be synergism of "top-down" policy (Bhumiratana et al., 2014, p. 217) and conscientious execution, especially neglecting in determining leadership and partnership" ((Jain & Sharma, 2017, p. 718). The failures of public health policy were declared by Gubler (2005): "Clearly, the sporadic nature of dengue epidemics and the misguided reliance on adult mosquitoes have prevented most countries from developing and implementing programs that focus on larval mosquito control, which are much more difficult to implement and maintain" (p. 223). Of importance, there was little evidence of quantifiable associations between vector indices and dengue fever transmission that could be reliably used for dengue outbreak prediction (Bowman, Runge-Ranzinger, & McCall, 2014). Consistent with Singapore's annual incidence of dengue fever report from 1966–2005, the dengue incidence has increased despite the low assumptions index (Ooi et al., 2006).

Foucault's (1978) concepts and critical discourse analysis are useful to disclose power/knowledge construction, communication event setting, legitimization, and blame process, which occur concurrently. They allow us to question our generalizations and actively criticize public health statements to avoid misleading discourse and blame. Our study has shown that extensive health surveillance was conducted through technology in health prevention, GIS map, and red flag, which allow for further reconstruct risk factors and risk targets. The practices of self-concept allow us to consider the lucky bamboo farmers who take responsibility for their blame discourse and negotiate the tensions, which are viewed as care for themselves.

Conclusion

The dengue fever discourse was constructed by entomological knowledge and by the epidemiological triangle model, which led public health professionals to practice blaming the lucky bamboo villagers as trouble/risk makers despite having no dengue cases in their community. We need to criticize the neutrality of knowledge, however, public health officials were crucial messengers for reconstructing the discourse. The findings of this study contribute to the review of policy and implementation based on understanding the complexity of infectious diseases. It is also important to acknowledge the local knowledge of the community on the infectious diseases' prevention and transmission and set the policy and programmatic preventive measures based on the local people's knowledge and social context. This is to avoid social impact on social suffering and economic loss of the community members who are owners of the plantations.

Limitation

The study does not compare the findings of other communities with regard to dengue fever transmission. To be certain that the power/knowledge and blame are unique to infectious disease transmission (as dengue fever reproduced by health official practices), public health surveillance technology, and innovation, a further comparative study would have to be carried out.

Acknowledgments

This study was supported by grants from the Thailand National Science and Technology Development Agency (NSTDA). We are grateful to the many people in the lucky bamboo village for sharing their experiences and stories with us.

Ethical clearance:

The study was approved by the institution.

Conflict of interest:

None.

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