

Contents lists available at [ScienceDirect](#)

## Kasetsart Journal of Social Sciences

journal homepage: <http://www.elsevier.com/locate/kjss>

# Community public policy process for solving cadmium contamination problems in the environment: A case study of Mae Sod district, Tak province

Worayuth Nak-ai <sup>a, \*</sup>, Uthaithip Jiawiwatkul <sup>b</sup>, Lakkhana Temsirikulchia <sup>c</sup>,  
Kitipat Nontapattamadul <sup>d</sup>

<sup>a</sup> Department of Diseases Control, Ministry of Public Health, Nonthaburi 10100, Thailand

<sup>b</sup> Department of Education, Faculty of Social Sciences and Humanities, Mahidol University, Nakhon Pathom 73170, Thailand

<sup>c</sup> Department of Health Education and Health Promotion, Faculty of Public Health, Mahidol University, Bangkok 10400, Thailand

<sup>d</sup> Department of Social Work, Faculty of Social Administration, Thammasat University, Bangkok 10200, Thailand

## ARTICLE INFO

## Article history:

Received 22 March 2016

Received in revised form 11 August 2016

Accepted 26 August 2016

Available online xxxx

## Keywords:

cadmium contamination,  
environmental impact,  
policy process,  
public policy

## ABSTRACT

The aim of this qualitative research was to study the community public policy process for solving environmental problems that affect the lifestyle of community members. Mae Sod district, Tak province, Thailand was selected to be a case study. The research question was what public policy process does the community have for solving cadmium contamination problems in the environment? Qualitative research methods were applied among 14 network members and stakeholders on policy movement. Data were collected for this study using the snowball sampling technique, in-depth interviews, and nonparticipating observations. The data selection method and content analysis were applied.

The result of this study showed the community had processes to drive public policy in solving environmental problems involving cadmium contamination through using legal action. The five steps were: forming groups of affected people, issuing plans and procedures for the movement, searching for networks, communicating and expanding knowledge, and issuing public policy proposals through the administrative court. The community public policy process was successful as the administrative court declaration resulted in the affected area being placed under environmental protection, and the related administrative agencies were required to resolve the problems causing the adverse effects on the community and its lifestyle. Therefore, the application of the policy or the direction of development by the Government should consider the after effects including the environment, society, and health of the people. An assessment must be made of a policy's effect before a decision is made to go forward with the policy. Therefore, good public policy should derive its developmental basis from the community or its members as it will sustain the policy impact on the community.

© 2017 Kasetsart University. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Introduction

## Community Contexts

The Mae Tao Canal area before it converges with the Meuy River is an important factor in the lifestyle of those

\* Corresponding author.

E-mail address: [thongpua@hotmail.com](mailto:thongpua@hotmail.com) (W. Nak-ai).

Peer review under responsibility of Kasetsart University.

<https://doi.org/10.1016/j.kjss.2017.11.006>

2452-3151/© 2017 Kasetsart University. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Please cite this article in press as: Nak-ai, W., et al., Community public policy process for solving cadmium contamination problems in the environment: A case study of Mae Sod district, Tak province, Kasetsart Journal of Social Sciences (2017), <https://doi.org/10.1016/j.kjss.2017.11.006>

people living in Mae Tao, Mae Guu, and Pra Tat Phadang subdistricts. In the past, the Karen were the first group of people to settle in the area with their own beliefs and history. Later, Thai Northern Natives migrated from Teon District, Lampang province to escape the drought, resulting in two ethnicities, namely, the Karen and the Thai Northern Natives. They settled in the Mae Tao area because of the richness of the watershed area and started rice farming and animal husbandry as their main sources of income.

Changes in the Mae Tao watershed area started December 23, 1980 when the Ministerial Council approved the establishment of a private enterprise for the concession of zinc mining with the core distribution in Thailand and the residual production exported. The company was registered April 10, 1981 with an initial investment capital of THB 20 million and a 25-year zinc mining concession at Moo 5, Phra Tat Padang sub-district, Mae Sod district, Tak province, covering an area of 40 ha with an estimated zinc silicate reserve of 4.5 million t. It maintained an average output of approximately 28% pure zinc to provide to smelters with a capacity to continuously produce 60,000 t of zinc bars yearly for 16 years (Padang Industry Company Limited, 1978).

#### *Problem Origin: Destiny of Mae Tao People*

In 2003, cadmium contamination was reported in the newspaper and became a concern for people living in the Mae Tao watershed area. EMI, a non-government environmental organization, reported the environmental situation in the Mae Tao agricultural area where soil and water contaminated with cadmium was having adverse effects on farm produce and the local food chain (Inmoung, 2008). Freshwater animals were contaminated at a high rate of cadmium that was harmful to health, and consumption was prohibited. People did not know what cadmium was or even how the contamination affected them. The change in the environment became noticeable from the change in the water color. With the concession area being upstream, rain would wash mining sediments into the river. The effect became even more noticeable when available water became unusable even to the Karen people in the village located upstream. The people affected by the private enterprise formed a group called, "Farmers and Users of Mae Tao Water", under the assumption that their environment had been changed by the zinc mine.

The private sector detected cadmium contamination in the environment and the pollution was reported in the newspaper. Local government and civil society were alerted to solve the problem affecting the people and the community based on two parameters: 1) solving the health and environmental impact issues among the farmers; and 2) ceasing rice farming and other crop cultivation in the watershed area and as compensation for the loss of this profitable crop, the government would support sugar cane, rubber and teak trees and *Jatropha curcas*, to produce ethanol. In 2004, the government ordered the burning of all rice and crops produced in that farming season, and compensated the farmers for their economic loss continuously for 4 years (2004–2007) (Janya, 2008).

In 2004, the Health Department conducted a health survey and screened people living in the Mae Tao and Mae

Guu subdistricts. Urine and blood tests on people aged 15 years and older were conducted to screen for cadmium contamination. Individuals, with higher than standard levels (0.5 mg) of cadmium in their urine, were enrolled in a cadmium patient group in the Cadmium Clinic at Mae Sod Hospital. They were classified using a patient green card for checkup treatment and follow-ups. Symptoms in patients became more noticeable and included arthralgia, ostalgia and other conditions. The mortality rate increased among green card patients and etiologic agents were suspected among those patients. When the number of cadmium patients continued to increase, a representative was sent to request assistance from private enterprise. Health care funding for cadmium-affected people was then offered. The offer was accepted in the form of a Health Savings Fund managed by the Health Department with community participation in the management and processing of the funds. However, the Fund did not really address the problem.

The problem with compensation for farmers started to appear in 2007. A resolution and an announcement from the government to cancel the compensation to the group of farmers created more confusion within the group because no answer was provided as to the safety from cadmium contaminant in the environment. At the same time, profitable crops introduced by the government created more debt for the farmers causing them to form a group to demand compensation and effective solutions to the problem caused by private enterprise.

Some of the group members, the Karen or PgaZK'Nyau, the ethnic group from Phratatpadaeng subdistrict, Mae Sod district, Tak province, had been affected by the copper mining industry. Cadmium contaminates, found in soil, rice and other crops in amounts toxic to the body, affected the health of people in the ethnic communities. As a consequence, claims were made to compensate for the impact and management of the environment. Ultimately, this created the development of a substantial healthy public policy in this area by considering the effect on the environment and importance of health. The group was able to negotiate with government agencies to deal with the problem and the impact caused by the state developmental policy by giving more attention to the impact on lifestyle and health resulting in compensation to those affected by the impact of the developmental process.

This time, public demonstrations were used to put pressure on the government. This had no success nor did it cause any change but rather, created further division among farmers. One group supported cost-effective crop cultivation while others advocated rice farming as before. When the government stopped assisting without providing any clarification regarding the issue of cadmium contamination, the farmers were left to fend for themselves. A group of those affected by cadmium contamination was created to demand the right to live safely using the social movement to drive change in the government policy and to let the government solve the issue of cadmium contamination in the environment (National Human Rights Commission of Thailand, 2006).

Public policy involves a social process or has its origin in the foundation of the community and the community's social networking. It drives procedures for the learning

Download English Version:

<https://daneshyari.com/en/article/6843966>

Download Persian Version:

<https://daneshyari.com/article/6843966>

[Daneshyari.com](https://daneshyari.com)