

Decentralization and Community Participation in Dealing with Fluorosis in Lampang Province, Thailand

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SUMMARY: Mottled enamel or dental fluorosis is an abnormality due to excessive fluoride intake mainly from drinking water. The provincial survey carried out in 1995 showed that 10 % of children, age of 12, suffered from dental fluorosis. Changing sources of drinking water or improving the quality of water are two ways to prevent fluorosis. This needs high budget and is time consuming, especially if the projects are carried out by the central government. With the concept of decentralisation, according to Thailand's new constitution, Lampang Provincial Health Office launched a pilot project in 3 areas (communities). Conceptualising the government officers was the starting point of the project. The government officers were only technical supporters of the communities while the people in the communities were the decision-makers. Once they had made their own decisions they themselves implemented it. Government officers only provided them with technical information. This pilot project showed the potential of the communities in solving their own problems. Nevertheless, it will be a long time before the results are seen in dental health.

Key words: Dental fluorosis, water quality, Lampang, Thailand, fluorosis control, case study.

INTRODUCTION

Lampang is a province in the northern part of Thailand. It has geological character of mountains and forests with plenty of mineral resources such as lignite, kaolinite, tin and, of course, fluoride. Lampang Provincial Health Office surveyed the fluoride in drinking water in 1998. The survey showed that 20 % of the drinking water sources contained more than 0.5 mgF/L. A dental health survey from 1995 showed that about 10 % of children aged 12 had dental fluorosis. The problem has been known for many years, but with the old bureaucratic model of country management, all community problems should be dealt with through the central government. The feasibility of solving the fluorosis problem was very poor. Due to budget constraints, the fluorosis problem was given very low priority. The awareness and community concern were increased with the higher literacy rate of the population, so the Provincial Health Office raised this problem to reconsider it in 1997.

CONCEPTS

Lampang Provincial Health Office, Thailand.

After the economic crisis in 1997, the World Bank and the International Monetary Fund, IMF, suggested several methods to the Royal Thai Government to improve the socio-economic and political situation of the country. The new constitution in 1997 induced the concept of reformation in both the government and private sectors. In the governmental sectors, decentralisation is the main concept in the reformation process. Local administration was giving more autonomy. Accordingly, the Ministry of Public Health, MOPH, changed their role from implementer to supporter, downsized the ministry sectors and allocated more budget to the local administration. MOPH followed the concept of the new constitution, that consider health human rights as follows:

- The right to choose the kind of service.
- The right to receive correct information.
- The right to receive health promotion.

In agreement with the old concept of solving the dental fluorosis problem, the community did nothing but wait for the government officers to solve the problem for them. The community expected construction of water supply systems or rainwater harvesting tanks, activities that demand high budget and time if all target areas are to be covered. This model lacked community involvement and participation. In the long run, there would be no maintenance. After problem analysis was done with assistance from the Dental Health Division in Bangkok, Lampang Provincial Health Office found new vision to solve the problem, as follows:

- Allow the community to participate in solving their own problems.
- Equip the community with all essential information
- Leave the decision-making process to the community

PROCEDURES

According to the concepts mentioned above, Lampang Provincial Health Office, LP.P.H.O., formulated the following strategies:

1. To select the target areas by prevalence and severity of the fluorosis problems.
2. To define the role and responsibilities of all related government health personnel.
3. To gather and analyse all essential information.
4. To present the information and alternatives to the communities.
5. To leave the decision making and the implementation of the same to the communities.
6. To monitor and support the communities actions.

1. Target areas. The data of fluoride level in drinking water from 1998 LP.P.H.O. Survey showed that there were 116 areas with excess fluoride level, i.e. more than 0.5 mg/L. However, the fluoride drinking water concentrations that causes moderate to severe fluorosis were believed to be more than 1.5 mg/L. LP.P.H.O set the areas with fluoride levels of more than 1.5 mg/L as target areas in the 2-year project, 2000-2001. Thus only 27 areas in 9 out of 13 districts of Lampang were set as target areas. A pilot

project was launched to include 3 areas, with the hope that the experience gained from the this project would benefit the implementation in the other areas.

2. Responsibilities. As a new concept project, LP.P.H.O. had to define a clear coordination and a line of command of the whole project. It was done as follows:

2.1 Sub- district level. Roles of health personnel in health stations who are directly responsible for the health of the people in the community are:

- mediators,
- data collectors,
- essential information providers and
- community supporters.

2.2 District level. The personnel at this level are dental personnel, dentists and dental nurses, in the district hospital and the district health officers who are responsible for the quality of community drinking water. Their roles are;

technical consultants for the Sub-district level and
coordination within and between Districts

2.3 Provincial level The personnel in this level are sanitarians who are responsible for providing safe water and dental personnel. Their roles are:

- project manager.
- technical supporter to all levels.
- organiser of the workshop for exchanging experience.

3. Essential information. In making a good decision, the community need correct, complete and up to date information. The needed information is as follows:

- number and location of water sources,
- fluoride concentration and other water quality
- prevalence and severity of dental fluorosis in the community.

Personnel at the provincial level technically supported by technocrat from the Ministry of Public Health in Bangkok to make questionnaires, survey forms and calibrated the district and sub-district survey teams. District health personnel under the supervision of provincial personnel were responsible for the analysis of all data.

4. Presentation of options. District health personnel presented all information to the community in order to increase community awareness and recognition. This process also motivated the community to solve their own problems. The district health personnel also proposed alternatives in problem solving which included the information of cost-benefit, advantage-disadvantage of each alternative to the communities.

5. Community decision and implementation. After receiving all information, the community discussed their solutions in their groups with technical assistants from the health workers until they found their own way to solve the problem based on

available resources, and social acceptance. The decisions were made without the interference of the health workers.

6. Monitoring and support. After final decisions, the sub district health personnel assisted the community closely because by that time the community was not strong enough to carry out all the activities without any assistance. At the same time, periodically supervision by health personnel at district level and provincial level would be given in order to provide technical advice. A seminar was conducted every 6 months. All involved representatives from all levels participated in the seminar. Each team gave information regarding the problem solving method and the progress of the process. This process also gave a chance for the participants to share their experience.

RESULT

LP.P.H.O. organised the first seminar in December 1999. All participants were involved in the project. The objectives of the seminar were to familiarise them with the aetiology of fluorosis, the strategies in solving the problem according to the decentralisation concept, the plan of action, the new roles and the alternatives in solving the problem. The Dental Health Division, Department of Health, provided the information and speakers for the workshop.

Sub-district and district health officers in 3 pilot project areas implemented the project as planned, under close supervision from provincial health officers periodically.

6 months later LP.P.H.O. organised a second meeting in order to demonstrate concrete examples of the implementation to the 9 other areas of the project which had not yet been implemented. The results of the 3 pilot projects are as follows:

1) Ban Mai Samakki, Mu 6, Mae suk sub district, Jae hom district

The data of the fluoride level of drinking water showed that before the construction of the pipe water system in the village, the villagers used dug well as their water sources that had a low fluoride content. Fluoride level in the first pipe water system was 5.2 mg/L. 40 % of villagers used this water source for drinking including children in the primary school. The new pipe water system that has just constructed recently has a fluoride concentration below 0.5 mg/L. Only 10 % of villagers drink from this source of water. The prevalence of dental fluorosis in the 12-year-old group is 20 %.

With this clear information, the community decided to close the first pipe water source, leaving only the second water source as the main source of water supply for the whole community. For the school, the local administration provided a budget to connect the pipe from the new source of water to the school.

2) Ban Mae Tern, Mu 3, Mae tod sub district, Thern district.

Data of fluoride level in drinking water show that almost all water sources have a fluoride level above the standard level. The prevalence of dental fluorosis in 12-year-old children is according to the table below:

	Number	Severity of dental fluorosis (degree)
	4	2 (very mild)
	4	3 (mild)
	2	4 (moderate)
	3	5 (severe)
Total	12	Mean = 3.5

When the community realised the problem, they made their decision by changing water source from the old sources to rain water. The local administration agreed to support the idea by giving a budget to provide 2000 litres water butts for each household to store rainwater for drinking year round.

Mae San Sub- district, Hang chat district.

The problem of this Sub-district is the most serious. 3 out of 7 villages have high fluoride content in every source of water. The dental fluorosis prevalence is 55 % at age 12.

These communities realised the problem before the projects began. They tried to solve the problem themselves but the information provided was incomplete. After the project was launched, the health personnel were able to give them all the information needed. Finally the communities chose to solve the problem by constructing a big rainwater container for each household. The local administration agreed to subsidise 1/3 of the whole expense for each household and the villager had to pay the rest themselves .

CONCLUSION/ DISCUSSION

This project is based on a new concept of change in the government official health personnel's role from the provider to the facilitator and a clear line of co-ordination and distribution of responsibilities related to each level. It was launched only 6 months ago, yet its success is already seen. Further project activities are still going on. It is hoped that the final evaluation will prove the value of concept utilised.

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