

Towards an Integrative Approach to Fluorosis Mitigation

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Summary: The paper proposed a ‘roadmap’ for fluorosis mitigation at national level. It was synthesized from the experiences of ICOH in the last two decades. The road map is composed of three tasks. Task I: to equip one’s organization with well-rounded knowledge about fluorosis. Task II: to create, on the basis of the knowledge from Task I, awareness of the community about the cause and effects of fluorosis and some viable ways to reduce or even eradicate it. And Task III: to bring the problem to the attention of people capable of making policy at the top level together with implementing personnel. These tasks perhaps could be understood as an ‘integrative approach’ to fluorosis reduction, which as development strategy could hopefully be extended to other areas of work.

Key words: Fluorosis mitigation, knowledge-base organization, community mobilization, integrative approach, development concept.

INTRODUCTION

Prominent among a large lexicon of concepts from development studies are the questions of *who* and *how*, namely, who is to carry out the work of development, and how to bring it about. As to ‘the who-question’, there is a dichotomy to the answer.

The first undertakers in all great attempts commonly miscarry, and leave the advantages of their losses to those that come after them.

Samuel Butler

Vision is the art of seeing things invisible.

Swift

Which entity between the state or the people should be the prime actor in the work of development? The argument has been at the core of the debate, and as in a debate there are weaknesses and strengths in each position. Hence the middle position, being the well-known concept of ‘people’s participation’ and some other variations on the theme, has been proposed. Regarding ‘the how-question’, the issue revolves around the question of ‘technical-know how’ as distinct from the socio-administrative aspect of ‘the who-question’.

This paper is an attempt to draw a 'road map' of fluorosis reduction. Encouraged by some success at the village level in North Thailand, it is ambitiously aimed at the nationwide scale. The paper has three parts, namely; a) a brief description of the history of fluorosis reduction efforts made by ICOH, b) a proposed 'road map' and c) some thoughts on the question of development strategy.

ICOH FLUOROSIS REDUCTION HISTORY

Often our work does not strictly follow a pre-designed definite policy. Rather they are in response to the demands and needs arising in a particular circumstance. More importantly the significance of actions and the direction they take become clearer after being seen in the general context and with a certain perspective. The organization of events into four phases is current and conceptually formulated with the wisdom of hindsight. For the sake of brevity, the experiment and field experience can be compressed into table 1.

A PROPOSED 'THE ROADMAP'

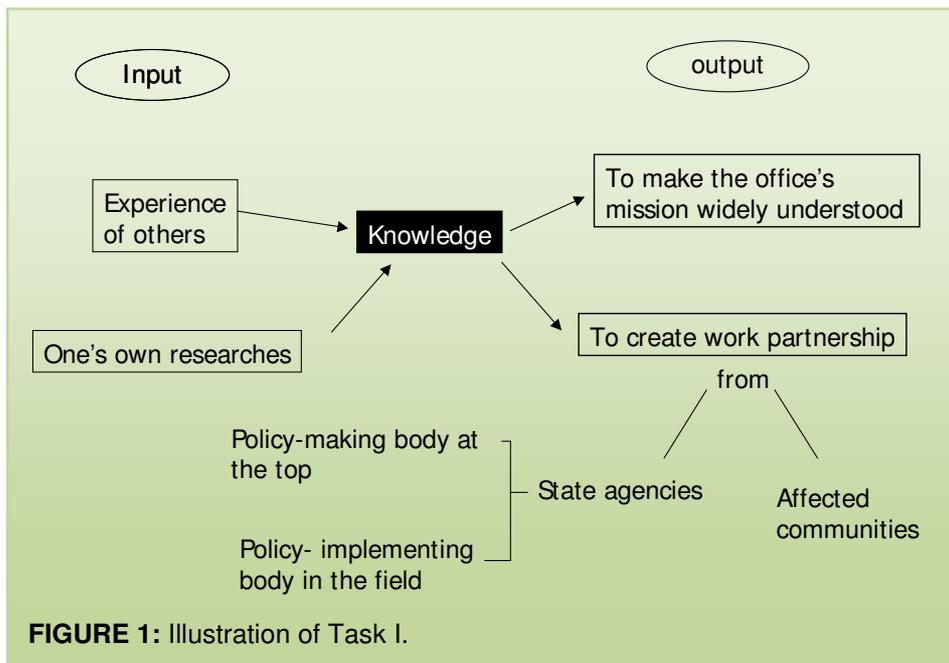
The drawing of the following road map is based on the experience of ICOH, a medium-size organization. Hence the roadmap would bear special characteristics that it is neither a very broad scheme like the national five-year plan from the state bureaucracy, nor it is a specifically limited grass-roots community programme. Basically it is to draw attention of the high-level policy makers and the policy implementers in the field as well as to sustain active interest of the villagers. The road map comprises of substantively three areas of tasks, and temporally three stages.

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| Task/Stage I: | Building up a knowledge-based organisation. |
| Task/Stage II: | Mobilising and supporting the affected community, |
| Task/Stage III: | Gaining attention of policy-making / implementing state agencies. |

Task I: The diagram in figure 1 shows that at the core factor is knowledge which here means the scientific as well as practical aspects of the fluorosis problem. It also includes experience, skills and experience that the office has acquired. The knowledge may be generated through one's own research or gained through experience of other organisations. The knowledge is to be made known to all concerned, both along the organisational and individual basis, as well as from those working in the field of public health to the public and the community at large. The spread of knowledge on fluorosis will lead at least to four desired results:

TABLE1: Delineation of activity orientation at ICOH over the last two decades.

Phase 1: 'The office in command' phase, 1990 – 1992¹	
Events:	ICOH as the sole actor in the planning and the implementation of defluoridation. <ul style="list-style-type: none"> • Designed the domestic ICOH defluoridator using bone char; • Provided ready-made filter columns to villagers; • Monitored and evaluated of the use of the ICOH defluoridator;
Result:	<ul style="list-style-type: none"> • ICOH obtained good responses from villagers; • Highly satisfactory scientific success on technical-know-how.
Phase 2: 'The people in command' phase, 1992 – 1994*	
ICOH acknowledged certain areas of failures: <ul style="list-style-type: none"> • Not being able to continue supply of the filter medium to the users; • Not being able to extend the project to other communities in need; The community showed willingness and initiative to work out its own ways: <ul style="list-style-type: none"> • Some villagers turned to use alternative low-fluoride sources; • Others took precaution in their water consumption. 	
Results :	<ul style="list-style-type: none"> • The ICOH project objective was realized by the people's initiative; • Transferability of the project and dissemination of information were limited; • Radical change of the project was considered necessary.
Phase 3: 'The technology in command' phase, 1995 – 1998.	
ICOH became uncertain about its roles in the field, turned to focus on scientific research: <ul style="list-style-type: none"> • Experimented with the incinerator for bone char production; • ICOH engaged in the problem of the standard setting of fluoride intake; • Acknowledged the importance of technical know-how, but was also aware of its limitation and implementation in the field. 	
Phase 4: 'The Reach-Out' Phase, 1999 – present	
ICOH attempted to: <ul style="list-style-type: none"> • Reach larger numbers of affected villages; • Unify positive experience of people's attempts with ICOH's scientific contributions; • Support the community to work out its own way to reduce fluoride content; • Engage communities with longer experience in consultative discussions with those in need. 	
By means of: <ul style="list-style-type: none"> • Identification of affected communities; • Identification of key actors; • Mobilization of key actors for the purposes of: <ul style="list-style-type: none"> ○ Bringing greater awareness of the nature of the problem of fluorosis; ○ Initiating possible and practical ways to people-based solutions; ○ Exchanging ideas and experience among the community leaders; ○ Learning about successful cases • Organizing a mobile unit for the purposes of: <ul style="list-style-type: none"> ○ Helping the pioneers (the training attendants) in their mission, ○ Deepening the learning and the working-out solutions on community basis. 	



- Creating awareness of the magnitude of the problem.
- Making the office's mission widely understood.
- Opening the office's door wider to offer services and to welcome potential work partners.
- Rallying further actions.

Task II: Having realized that once the communities became aware of the nature of the problem and acquired a conceptual understanding of the situation, their potentials would be put into effective efforts. The aims of Task II are to create awareness of affected communities about the cause and effects of fluorosis and some viable ways to reduce or even eradicate it.

The task began by identifying the affected communities all over the regions of the country from the available database. Then key actors were to be identified, since some members of the community are more active than others. It is important to first recruit those promising ones to carry out a jointly planned project. Subsequently these active members could facilitate the dissemination of the information to targeted communities.

The meeting, organized on a national scale, naturally had a limited number of attendants. Only three community representatives were selected from each community. After the meeting and having gone back to their respective community, they were theoretically to become the pioneers of the community, paving the path of fluorosis prevention/reduction.

The point then is to reach out to the communities at large with the information and knowledge they need. The principle of self-reliance is to be adhered to as far as possible, both in the technical as well as the practical aspect. The means of accomplishing this task was to organize meetings of and training sessions for representatives from local administrative organizations of the affected areas. Additionally a certain group of active representatives formed a network for mutual assistance.

The process of reaching the villagers has been reinforced by another supplementary action programme. That is to form a mobile unit travelling to meet the communities. The idea is to deepen the learning and the working out of solutions on an individual community and even on a household basis. It is also to reach more people with the information. On top of offering the services of water and dental examination, it is to strengthen the action process following the meeting. The mobile unit is to facilitate the representatives and their network in their mission.

Task III: Fluorosis has never been a hot issue. It does not claim people's lives, nor is it an alarming kind of illness. It affects mostly the poor in rural areas. It has never been on the priority list of the country's health problems, and it has never received sufficient attention by any government.

Being motivated by some uplifting works carried out by the community in cooperation with the concerned health work unit, ICOH entertains the idea of how the work on fluorosis prevention/reduction at the community level could be magnified to the regional and even the national level.

To achieve this grand objective, the involved state agency at the macro planning level, and the work unit at the field level, have to be unified. A very effective way to attract attention of policy makers is to put them in touch with the affected communities. Some promising and successful cases from Task II could function as a demonstration example. The visit to the demonstration site is tantamount to seeing the knowledge and the idea in action. The visit has to be followed by a series of discussion afterwards. This is to reach a common understanding among various units at different levels.

The dissemination of information, Task I, is an important initial step for the community and the state agency. Necessary action might not be promptly taken, but at least both are scientifically equipped. Task I will lead to Task II, and if

accomplished, will give impetus to Task III. The coordination of all the tasks could certainly undermine the danger of fluorosis from the local to the national scale.

However, as a saying goes, there is a universal ironic gap between plans and actualities. Two foreseeable accounts could make the road map rough, they are:

- **The misalliance between the community and the work unit.** Co-operation between the community and the official work unit is a new terrain of management for both. The former may have the idea that the latter is responsible for most, if not all, of the works. While the official work unit, on the other hand, could fall into the danger of going to the extreme, i.e., doing too much or too little. In either case it tends to impair the working relationship. Ideally the official work unit must see its role, for active communities, as a technical advisor offering assistance, when requested, and, for less active ones, as catalysts.
- **The conflicting practices of fluoridation and defluoridation.** The concept of the harmful effects of fluoride was not disturbed until the practice of fluoridation (water, milk and fluoride supplement) came to the scene. These two opposite practices are very much at odds, as much for the lay people as for the scientist. The conflicting practices are confusing and the adversely the most victimized in this cloudy issue are the affected community. This paper cannot enter into the argument which demands much longer discussion. Here it is to point out that Task I needs also to be prepared to take up the challenge from a different school of thought.

SOME THOUGHTS ON DEVELOPMENT STRATEGY

Generally one's field of expertise determines one's own outlook. Officials from a state agency see the role of the state as the prime-working unit. Hence comes the concept of people's participation, and not officials' participation. Similarly, the concept of community-based development resonates well with the community and their supporters. In so far as this outlook is observed, the development work is likely to be tilted to the aspect of emphasis. To distance one's self from one's own field of specialization, perhaps one can also see one's own limitation clearer. The parable of the description of an elephant is aptly applicable here. We have seen the shortcomings of the working principles privileging one determinant in the different phases of ICOH experience. They are also indicative of the false dichotomy between the state and non-state entities as the principal actor. For the developmental strategies, we need to synthesize all the components in an integrative fashion. One may come sooner than others, but eventually all need to come together. This is what can be termed "the concept of integrative approach" which is the answer to the question of *who* in development context.

The question of *how* requires further consideration, i.e. two crucial propositions:

- Technical know-how is supremely important.
- Appropriate technology is a matter of dispute.

The technology does not work in a vacuum but in a social context for it is an extension of human hands. In other words the success of technology does not depend exclusively on its work mechanism alone. It is its application that is more decisive. This requires an insight of how people work and live. Social and technological aspects have to go hand in hand.

It can be concluded that developmental strategies need to be carefully designed for each matter and each context depending on the availability of technology in order to reach an integrative approach.

REFERENCE

1. Rajchagool S. and Rajchagool C. Solving the Fluorosis Problem in a developing Country. In: *Proceedings of the 2ndnd International Workshop on Fluorosis and Defluoridation of Water*. p. 170-175. (Ed. E. Dahi & J. M. Nielsen) Int. Soc. Fluoride Res. Auckland 1999.