

Sustainable Approaches for Drinking Water in Rural Area, Mea Moh District, Lampang Province, Thailand

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Short Summary

The Electricity Generating Authority of Thailand (EGAT) was established over 30 years ago. A Power Plant and Mae Moh mine, 13 Stream Power Plants, use lignite as fuel for electricity generation, causing air and water pollution and adverse effects on the health of nearby populations.

Water resource problems for community consumption in terms of quality and quantity are important obstacles for quality of life in nearby communities. The project took place in the upper zone of Ban Dong Sub-District, Mea Moh District, Lampang Province of Northern Thailand. The main objectives were: to co-investigate the current situation of water problems for consumers in terms of quality and quantity; to develop mechanisms to supply drinking water through community participation and to design an appropriate model for sustainable water management. At present villagers face not only water shortages but also water quality-related problems. The water shortage is rather caused by the lack of effective community participation to manage integrated solutions from the raw water preparation and to distribute water throughout the community. These problems are lessened where the community in upper zone has been mindful about forest preservation and regulation around the Mae Moh water basin. The pilot projects were launched to initiate the working group, which assembled volunteers led by the village leader and representatives. The result helped the community to understand the issues and self-created solutions for reducing costs and improving sustainability, including developing the use of a slow sand filtering system for drinking water and maintaining the village water supply system. Participatory activities could be passed on to other villages around Mae Moh District so that villagers can develop sustainability mainly through their own self-supported work.

Key words:

Universal and equitable access to drinking water ; Safe drinking water; Affordable drinking water; Adequate and equitable access to sanitation for all ; Consider needs of women and girls in access to sanitation ; Consider vulnerable groups in access to sanitation ; Combat water borne diseases

Issues addressed:

WASH (inequalities, schools, health centres, refugee camps, women and girls)

1) Insufficient quality of drinking water.

Rural villagers have insufficient access to purified drinking water due to impacts of low income, technical solutions, community internal management, water contamination from agricultural chemicals, industries, and waste disposal.

2) Lack of sustainable development of drinking water.

Villagers cannot develop sustainability of their drinking water. Instead, they solve the problem by buying bottled water which it is the wrong solution.

Water resources management (water-use efficiency, integrated water resources management, transboundary cooperation, sustainable extraction and supply of freshwater)

1) There is high opportunity of own producing drinking water for villagers through action and participatory community as a mechanism in water management.

2) When villagers buy plastic bottled water for daily consumption. Increase daily expense which it is opposite the concept of appropriate sustainability as well as the more problem of waste disposal management/ It is likely to increase at local level and it shall begin with the ecological balance.

Water quality (pollution, dumping of toxic materials, wastewater management, recycling, reuse, restore ecosystems and aquifers)

1) Up-stream, middle stream, down-stream parts of water logistics should be used to value, both quality and quantity, for high economic benefit of a community. In overall, productivity in term of agriculture and industry reflects poor health and less access to qualified water supply because, on the contrary, the increase in buying number of water bottles.

2) Community sustainability development can be seen from the natural water restoration and forest preservation in the local and upstream area.

Risks (mortality, economic losses caused by natural and human-induced disasters)

Drought and flood in community are naturally reality. However, to bring local for solving the risk of water shortage is related to techniques and social support and risk management.

Tools for implementation:

Technology: Technology transferred slow sand filter (SSF) process

Capacity development: Knowledge sharing on sustainable development for solving a threat of drinking water in rural area shall be delivered through participatory community in term of holistic approaches along with the principle of self sufficiency economy which it emphasizing on the ecological balance, preservation of raw water for drinking water which could be very clean through the simple process of slow sand filter and establishment of Water Management Committee in good practice.

Lessons Learned:

Triggers: Local conditions are exposed to supply-demand and economical pressure to local people and environmental deterioration.

Drivers: The needs of solution to make good quality drinking water without buying water bottles for their daily consumption. Local villagers and youths in participatory actions with universities, local governmental organizations in district and sub-district level, private sectors, including The Electricity Generating Authority of Thailand (EGAT)

Barriers: Time arrangement and based line of action to understand the environmental integrated problems.

What has worked well? Local government organisation, community leaders, supportive resources and management facilities. Also, villagers can learn and build SSF by themselves.

What could be improved? Meeting and participatory roles can be the model to cope and develop other local community problems and solutions for other related local contents for socio-economic sustainable development.

The way forward: One of the main way forwards is to transfer such technical solution to access good quality drinking water at their local site to other neighbouring sites.

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http://www.research.northcm.ac.th/?display=gallery&id_album=88