

PEOPLE-CENTRED APPROACHES TO WATER AND ENVIRONMENTAL SANITATION

Application of a household water storage chlorination project in the RWSS Programme of Lao PDR

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A household water storage chlorination initiative is underway in the Lao People's Democratic Republic (Lao PDR) by the National Centre for Environmental Health and Water Supply (commonly known as Nam Saat) under the Ministry of Health (MoH). A number of laboratory tests and field trials are on-going, supported by the World Health Organization (WHO) in collaboration with other External Support Agencies and NGOs. This household water storage chlorination has been organized under the National Action Plan for the control of cholera, prepared by the Ministry of Health. The test projects for household water storage chlorination are being piloted in five provinces and the capital city. This paper briefly highlights the initiatives and the learning on household water storage chlorination undertaken by Nam Saat in Lao PDR.

Background

Lao People's Democratic Republic (Lao PDR) is a landlocked country situated in the Mekong Region and has a population of 5.5 million with the majority of the population (around 78%) living in the rural areas.

Lao PDR is blessed with an abundance of water. The Mekong River that flows from north to south has many tributaries. The country also has high yielding alluvial groundwater aquifers. Rainwater is used as a supplementary source in some more mountainous areas where there is a scarcity of surface or groundwater.

Rural water supply, sanitation and health in Lao PDR

The National Centre for Environmental Health and Water Supply (commonly known as Nam Saat) under the Ministry of Health (MoH) is responsible to oversee the rural water supply and sanitation (RWSS) sector in Lao PDR. Nam Saat collaborates with various line ministries and agencies, external support agencies, non-government organizations and the private sector in the delivery of improved RWSS services in rural and remote villages in Lao PDR.

Rural water supply services are provided from a combination of groundwater and surface water. Where surface water is plentiful, piped systems have been installed. However, it has been noted that the majority of these systems encounter difficulties with increased turbidity during periods of high rainfall. For gravity-flow systems, the water is supplied mainly through taps at communal standposts. In areas with insufficient surface water, boreholes, wells, and springs are used to take water from the groundwater aquifers.

In the area of sanitation, the focus so far has been mainly on excreta disposal systems by constructing on-site latrines.

Box 1. Highest incidence diseases in Lao PDR

Water and excreta-related diseases:

- diarrhoea/ cholera
- malaria
- dengue
- typhoid fever
- parasitic infections

Other diseases:

- acute respiratory infections
- micro-nutrient deficiencies

The current coverage for latrines is around 36%, though the effective use of these latrines is much less. Hygiene and health promotion is progressively receiving attention in the RWSS Programme, and various hygiene promotional modules (or options) have been prepared and are currently being piloted in many provinces.

However, despite the provision of improved water supply, sanitation facilities and hygiene awareness, water and excreta-related diseases are usually the most frequently occurring diseases in Lao PDR (refer Box 1).

In addition, during the years 1999–2000, Lao PDR faced a series of cholera outbreaks in many provinces, mostly located in remote areas. That triggered an immediate need for a fresh look towards RWSS service provisions in Lao PDR. The Ministry of Health urgently called for a National Action Plan (NAP) to prevent the outbreak of cholera. The implementation of the NAP is led by Nam Saat in collaboration with Department of Hygiene and Disease Prevention (DHDP) and support from the World Health Organization (WHO) and other sector partners.

One of the major outputs of this NAP is the preparation and start-up of a pilot project on household water storage

chlorination in Lao PDR.

Household water storage chlorination in Lao PDR

The Household Water Storage Chlorination Pilot Project was developed by Nam Saat, focusing on five provinces and the capital city (refer Figure 1). This is where the highest occurrence of outbreaks of cholera had taken place in year 2000. The project sites are as follows:

- Vientiane Capital City
- Vientiane Province
- Luang Prabang
- Sekong
- Huaphan
- Savannakhet

The main activities of the household water storage chlorination pilot project are:

- to develop an inter-ministerial and inter-agency task force to oversee the pilot project.
- to establish an inter-sectoral working group to manage day-to-day planning and implementation of the pilot project.
- to develop guidelines and training modules for the technical teams on household water storage chlorination.
- to develop information, education and communication materials for communities and local partners for effective use of household water storage chlorination at the grassroots level.

- to provide training to district and provincial staff including village volunteers, on household water storage chlorination.
- To monitor the implementation and effectiveness of the project in pilot areas.

The pilot project was initiated in year 2000 and is currently on-going. The plan is to integrate this pilot initiative with the overall Nam Saat Programme in due course.

Results from the pilot project

The results from the Pilot Project during 2001 – 2003 on Household water storage Chlorination are summarized as:-

Establishing an Institutional Framework

Nam Saat established an institutional framework for planning and implementation of the pilot project. This inter-ministerial and inter-agency task force consisted of members from the following organizations:

- Ministry of Health:
 - Nam Saat
 - Department of Hygiene and Disease Prevention (DHDP)
 - Department of Food and Drug Control (DFDC)
 - National Institute for Hygiene and Epidemiology
- Lao Women’s Union (LWU)
- Lao Youth Union (LYU)
- World Health Organization (WHO)
- Swedish International Development Cooperation Agency (Sida)
- United Nations Children’s Fund (UNICEF)

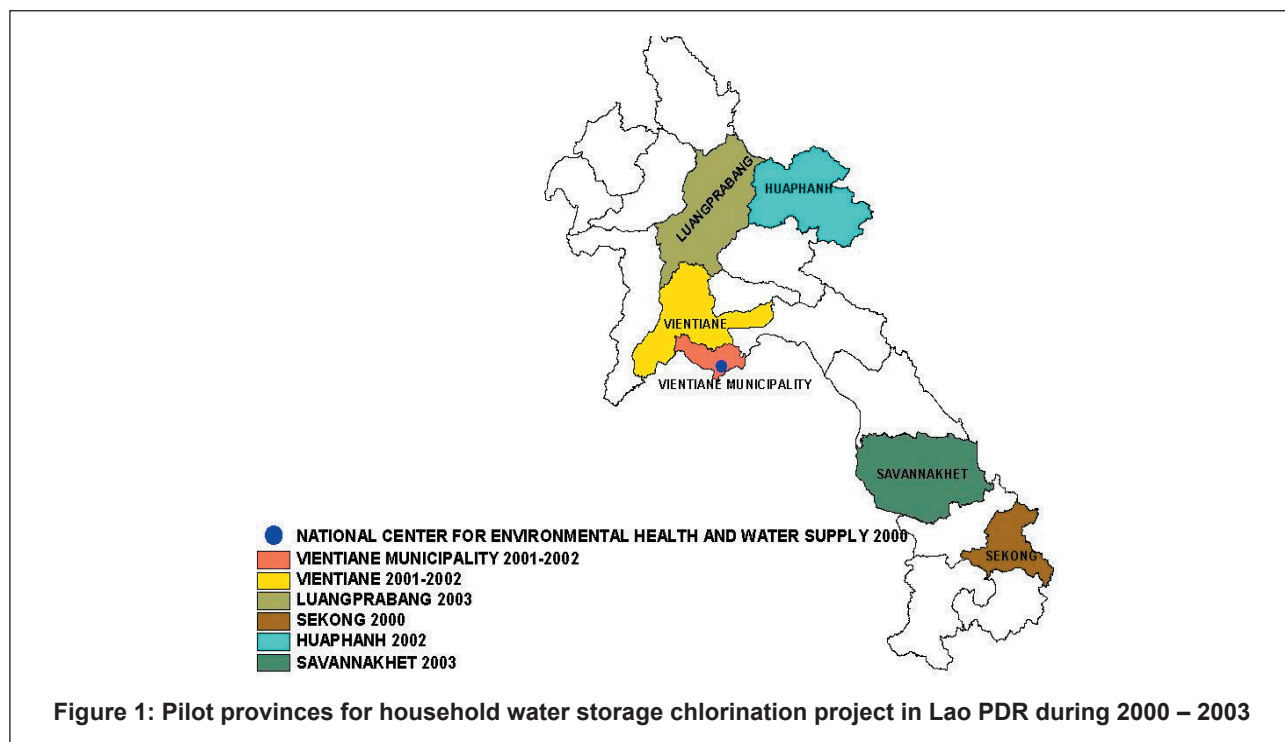


Figure 1: Pilot provinces for household water storage chlorination project in Lao PDR during 2000 – 2003

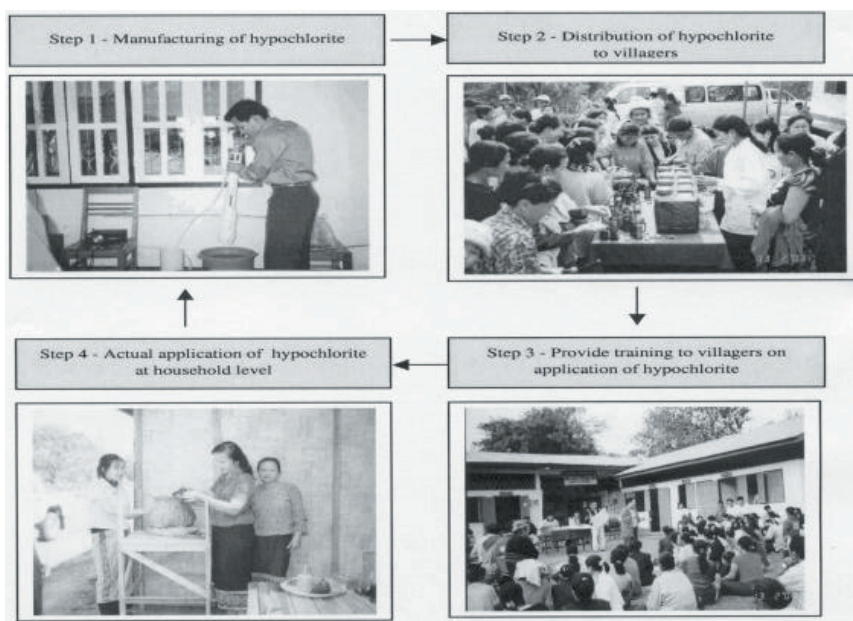


Figure 2. Household chlorination application steps in pilot provinces

- World Bank's Water and Sanitation Program (WSP)
- Public Service International (PSI)
- Non-Government Organizations (NGOs)

In addition, Nam Saat developed a working team consisting of members from Nam Saat, DHDP and WHO to plan and run the project effectively. This working team provides regular technical support to the provinces undertaking the pilot activities as per the joint action plans that are developed by each province.

Establishing guidelines and conducting training

Nam Saat developed guidelines for planners and implementers of the Project. The major steps are as follows (refer Figure 2):

- Step 1: Manufacturing of hypochlorite.
- Step 2: Distribution of hypochlorite to villagers.
- Step 3: Provide training to villagers on the application on hypochlorite.
- Step 4: Application of hypochlorite at household water storage level.

Prior to starting the application of hypochlorite to water storage containers at village level, Nam Saat spent almost nine months to make laboratory trials and develop standards for the production of hypochlorite in Lao PDR. A manual was also prepared both in Lao and English languages to explain the detailed procedures for production of hypochlorite and

the necessary precautions that need to be undertaken during its production and use.

Reduction in incidences of cholera

The Project has been implemented since 2001 and is in the initial stage of its application. However, the preliminary results and learning from this household project are very encouraging and positive. Figure 3 shows a fast decline in the incidence of cholera and its mortality rates in the pilot provinces and Vientiane Capital City since 2000. This is leading to further interest for household water storage chlorination development in Lao PDR to integrate the activity in the regular Nam Saat Programme.

Learning from the Pilot

The overall learning from the pilot project to date is:-

- Household water storage chlorination has been well accepted by users. However, it requires time for people to understand this new concept, its application process and also to become accustomed with the smell of chlorine. Therefore, it is important to monitor pilot activities carefully, to see the results and the impacts at the village level.
- This activity requires adequate resources, financial support, as well as the technical support and human resources to run the activities effectively. Therefore, developing clear roles and responsibilities from village to central level are essential to sustain the application.
- Advocacy plays a crucial role in this household water storage chlorination project. An effective communication strategy for advocacy is required to make the application effective and successful for scaling-up the activity.

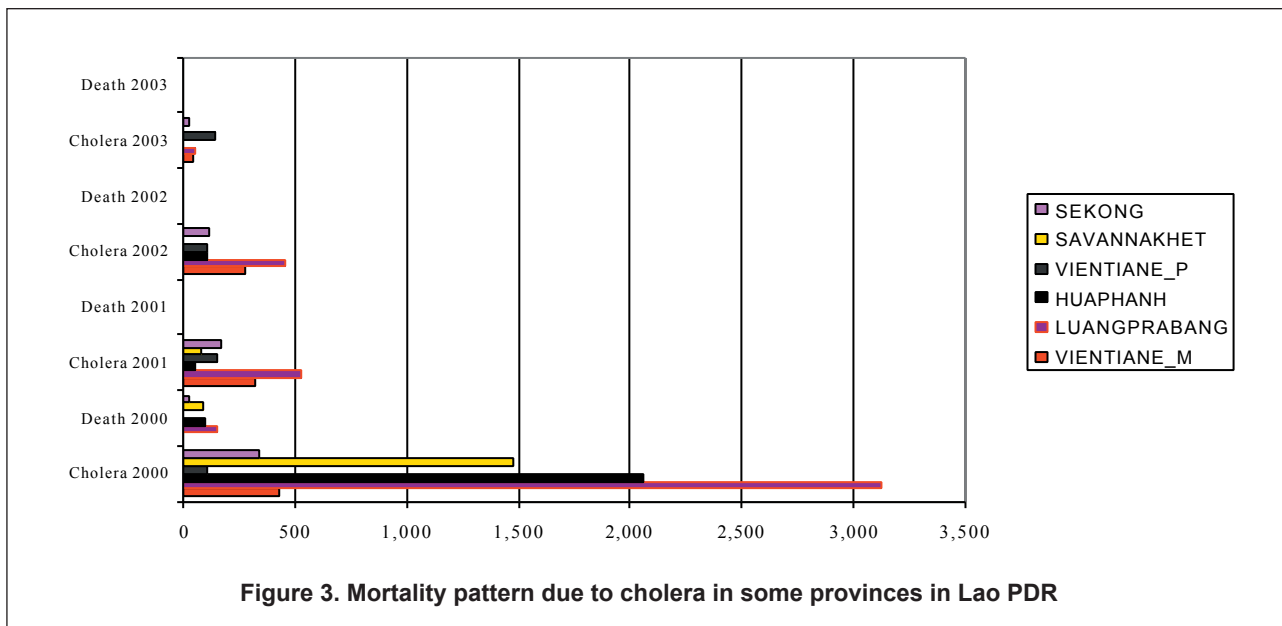


Figure 3. Mortality pattern due to cholera in some provinces in Lao PDR

Concluding Remarks

The initiative of the Household Water Storage Chlorination Pilot Project and its results clearly show the importance of integrating this activity within the overall Nam Saat Programme. Nam Saat, in collaboration with partners, has already initiated a dialogue for integration of household water storage chlorination in all provinces.

In this overall process, the actual users of the water supply systems are playing a pivotal role and therefore, Nam Saat is hoping these activities can be also integrated within various poverty reduction projects in Lao PDR to provide safe water to all by 2020 in line with the National Growth and Poverty Eradication Strategy (NGPES).

References

Nam Saat (2003), Presentation for Round-table Review Meeting on Household water storage Chlorination: Vientiane, Lao PDR.

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