

**SUSTAINABILITY INDICATOR PROJECT WORKSHEET**

<b>Country / State:</b>	Thailand / Khon Kaen
<b>Name and address of institution / organisation:</b>	<b>Community Development for Sustainable Environment Association</b> 604/40 Banped Moo 11, Ampure Muang Khon Kaen THAILAND 40000

**Title of project / indicator theme / issue****Community-Based Actions on Watershed Sustainable Development Planning****Brief description of the main problems / challenges ( to be approached by the initiative )**

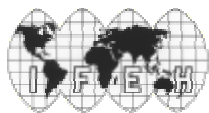
The Lam Nam Pong at Khon Kaen NE plateau Thailand (<http://buffers.kku.ac.th/pub/info/kk02.htm>), the upper part of the Lam Nam Chi watercourse - a tributary of the international Mekong River (see the map; <http://www.mekongriver.org/mapthai.jpg>), has gone under pressure for almost 10 years. Along the Lam Nam Chi, there are many dams build for reserving waters being supplied to industrial, rice farms and domestic consumption. Those dams cause many parts of the waterway logged and thus often made the river waters become poor quality, which eventually effect the local inhabitants.

Not only the dams that cause the water quality changes but the large industries located at the upper part of the Lam Nam Pong was also claimed to be another major sources of water pollution. At Khon Kaen, in particular, the big city located along the Lam Nam Pong River (its population 1.2 millions), where many large industries located, conflicts on land-use and water resources often emerge here between the farmers and industrial sectors. The local farmers claimed that the industry polluted the Lam Nam Pong, as thus made the waters unsuitable for domestic and agricultural uses. The wastewater discharged from the factories also flowed into the village bored wells (via underground penetration), and the local households living nearby cannot use that waters for everyday life. Many locals also got health impacts when exposed to the river waters, especially skin rashes. The industry release evidences that their activities are not likely polluting the river waters, but the agricultural flows would possibly be the case.

**Brief description of the causes to the problem / driving forces**

The past development of NE Irrigation Scheme since 1970s onwards, while focused mainly on building up the dams for reserving waters, and the improperly land-use planning of Lam Nam Pong while allowed the industry to settle down at the Lam Nam Chi upstream (locally called Lam Nam Pong) are the two major causes. The water pollution thus very often occurs then further causing extensive impacts on reduction of aquatic species, water quality changes and community water consumption.

The local villagers at Kudnamsai (a sub-district of Nam Pong District at Khon Kaen), local environmental health officers, local authorities and academia finally have organized many meetings which finally agreed to set up a project activities to monitor water quality changes in the Lam Nam Pong watercourse since 1997 ([www.thai.net/kudnamsai](http://www.thai.net/kudnamsai)). The purpose is to use that water quality changes for identifying the current problems on community health impacts (physical, social, mental and spiritual). While, finally, local regular water quality information ([http://www.thai.net/kudnamsai/index\\_quality.html](http://www.thai.net/kudnamsai/index_quality.html)) become a prime tool for use to resolve the land-use and water resource conflicts between those local farmers and industry. The local industry, farmers, school leaders, local authorities eventually now become partners in watershed planning for protecting the environmental and community health impacts.



### Used Indicators

Water-quality parameter changes. The key parameters used are electrical conductivity (EC), dissolved oxygen (DO), acid-base (pH), nitrate, phosphate, temperature and color. These parameters are monthly collected and measured by local volunteers. Those volunteers were trained to handling water quality analyses, and also interpreting the results. These water quality results are regularly used to reflect the health of the Lam Nam Pong River and communities, and therefore merging any judgement by among local parties, while many immediate and long-term mitigation measures and sustainable planning could be developed.

### Objectives in general

To minimize and resolve the local conflicts on water-use by applying sustainable development planning approach at Lam Nam Pong watershed.

### Objectives in specific

- i) To set up community environment and health information center, expecting that for use by the local parties/stakeholders to organize discussion forums, as well as exchange data and ideas.
- ii) To support the local stakeholders in sustainable sound planning within the Lam Nam Pong watershed.

### Efforts done or planned

- i) Training the local volunteers to test the waters.
- ii) Regularly monitoring water quality changes in Lam Nam Pong by the local volunteers.
- iii) Developing website as a base-line information for local use.
- iv) Organizing regular meetings between stakeholders.

### Graphical presentation of time related progress on selected indicators

Please see <http://www.thai.net/kudnamsai/trendquality.html> (this will be in THAI, as expecting the local Thais could read and use). In summary, the graphs show many water-quality parameters are improving, since the inception of the project.

### How to get further information

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