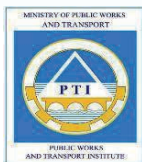


# Let's Learn Water Environment, Hygiene and Sanitation



**(for Primary School and Community)**



**2011**



## Introduction

Up until a few decades ago, the water of the canal flowing through the town in Vientiane was much cleaner than now, and many fish were sailing in it.

Well, what about the situation now?

Let's observe the surrounding canal of your school and community. You will notice that the water of the canal became dirty and muddy black. Not so many fishes can be seen.

What will happen if this situation is left alone?

This book will help you to find out the consequences when the situation is not changing. It is prepared to inform you about present problems on water environment in Vientiane City but also to consider how to live sanitarily and healthily by improving surrounding water environment and life style.

Let's discuss what is written in this book in your school and/or community. Then, let's apply the knowledge you have learnt from this book in order to improve the environmental situation.

First, starting from something you can do leads to improving the water environment of not only your circumstances but also the town in Vientiane little by little.

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## 1 Let's Learn about Water Pollution

### 1) If water is polluted, what will happen?

Water is a source of life. What happens if few lives can survive because of the pollution of canals in Vientiane City?

The surrounding water in ditch or canal become muddy black, bad smell is released, and you cannot bear any longer. You do not want to play in a canal, because dirty germ-laden water might cause sick.



Night soil might leaks underground and pollutes groundwater if toilet has no tank or cracked tank. Polluted germ-laden groundwater may produce disease if you use the groundwater.



Life in water may disappear from canal. Nobody wants such polluted water. That's why you need to get more interested in the pollution of water.

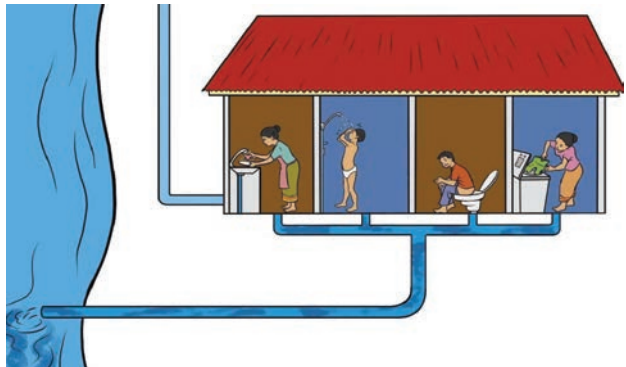
## 1 Let's Learn about Water Pollution

### 2) What is the cause of water pollution?

One of the biggest causes of the water pollution of the canal in Vientiane City is household wastewater. Do you know what kind of household wastewater is drained from your house?

Your house drains wastewater from many places such as kitchen, washing, toilet and bathroom.

The things currently drained unconsciously are polluting the canal, for example:



- If you drain a tablespoon of oil (20 ml) in the canal, you need to add 12,000 plastic bottles of water (6,000 l) to attenuate for fish to live in the water.
- If you use one times of shampoo (4.5 ml), you need 400 bottles of water (200 l) to attenuate.



Source: <http://wiz-blog.jugem.jp/>

## 1 Let's Learn about Water Pollution

### 3) Does only human being use water?

Does only human being use water? No, many living things live in the canals in Vientiane City and they also use water.

Usually, we can find a lot of kind of fish, mussels, clams and insects living in the water. Fishermen are pleased to catch them.



However, once the water is polluted, it becomes difficult for the living things to live in.




























The living things shown in the next page are typical species which can live with each water quality in Vientiane City.

Unfortunately, in Vientiane downtown, you can see only the living things classified into “Very bad” water quality in the canals so far. However, what happens if the water is more polluted in the future?



# 1 Let's Learn about Water Pollution

Water Quality	Living Things You Can Find in Water
<p><b>Very Bad</b></p> 	 Guppy  Mosquitofish  Guppy and Mosquitofish  Bloodworm  Mosquito larvae  Moth fly <p>Only small fish and uncomfortable living things such as mosquito larvae can live.</p>
<p><b>Bad to Fair</b></p> 	 Loach  Nile tilapia  Mekong flying barb  Swamp barb  Croaking gourami  Climbing perch  Redfin rasbora <p>Some fish can live but some cannot. We can catch only limited fishes.</p>
<p><b>Good</b></p> 	 Mussel  Clam  Water scorpion  Dragonfly  Catfish  Catopra  Freshwater garfish  Peacock eel  Butter catfish <p>Various living things can live. Fishermen are happy to catch them!!</p>

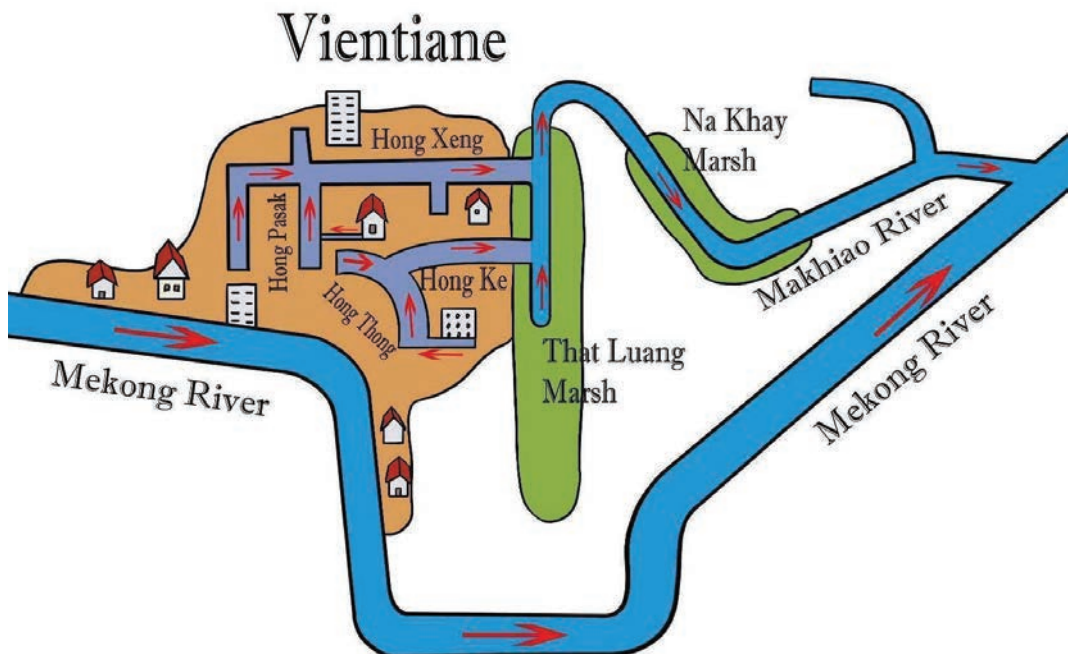


## 1 Let's Learn about Water Pollution

### 4) Where does tap water come from and wastewater go?

The tap water you use is the water of the Mekong River in Vientiane City. The water you used and drained finally flows into the Mekong River again through the following long journey with around 30 km:

- Your house or school → surrounding ditch → small canal like Hong Pasak, Hong Thong → big canal like Hong Ke or Hong Xeng → That Luang Marsh → Makhiao river → The Mekong River



## 2 Let's Learn How to Make Household Wastewater Clean

Let's make efforts not to drain polluted water from your house to clean environment around you and the canal and river downstream. Drain household wastewater after cleaning as much as possible as below:

- Don't pour away oil as it is. (After infiltrating it into paper or old cloth, throw away together with kitchen garbage.)



- Don't drain kitchen garbage (food scraps /leftovers) away.



- Wash unclean plate after wiping off by toilet paper or unnecessary paper.



- Don't use detergent too much in laundry and washing plates. (Washing power will not be raised even if you use it too much.)



- Don't use soap or shampoo to much in taking shower.



- Don't throw away garbage in canal.



### 3 Let's Check around Your School/ Community

#### **1) Let's check where polluted water is around you.**

Come together to explore the surroundings of your school/ community to know where the polluted water with garbage and bad smell is? You may find the polluted water in the places such as ditch, puddle and toilet around you.



Then, come together to make a map of your school/ community to know the location of these polluted water.



After your school/ community map is ready, come together to explain the map you prepared. Then, let's discuss together what we can do to solve the problem of the polluted water.



### 3 Let's Check around Your School/ Community

After going home, let's talk about what you learned through the lecture and the mapping with your family. If you do this, every family member knows what the problem of polluted water is and what we can do to clean the polluted water in daily life.



If you have a chance, let's communicate and cooperate with your neighbors and community on this water pollution problem, too.



### 3 Let's Check around Your School/ Community

#### **2) Let' clean around your school or community together.**

If ditch around your house/ school clogged with garbage and polluted mud, drain water and rain water from households cannot drain out well ending up flooding and remaining puddles. If the puddles remain, you might get sick because the water will become bad and mosquito will boil.

Therefore, let's clean ditch around your house/ school together with your neighbors, schoolmate or community residents. After you clean up ditch, clogged water and rain water start to drain out well.





### 3 Let's Check around Your School/ Community

#### **3) Let's reconfirm proper quantity of detergent in laundry.**

How are you or your mother using detergent when washing? You do not use detergent too much?

Please understand that the omission condition of the dirt of clothes does not become good even if you use detergent too much. Too much detergent will pollute canal and river.

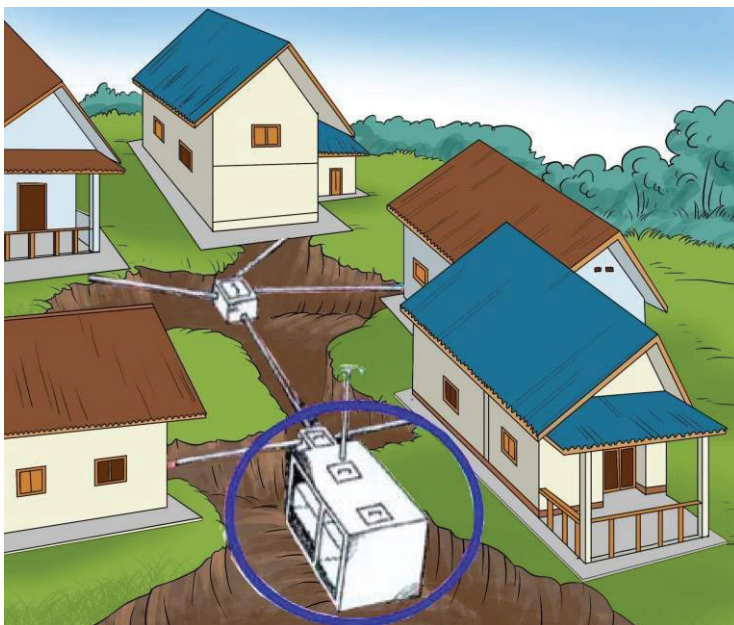
So, let's measure the quantity of detergent exactly! Please use a measuring spoon as often as possible!



### 3 Let's Check around Your School/ Community

#### **4) Let's go to see new facilities to clean wastewater.**

In 2011, two new facilities to clean polluted household wastewater from kitchen, washing, toilet and bathroom were constructed in Khoualuang primary school and Unit 11-13, Thonkhankham village in Chanthaboury district, Vientiane. Those facilities are called “DEWATS” as shown below.



Let's go to see DEWATS. The teacher or community representative there will explain you the outline of the DEWATS.



## 4 Let's Wash Hands with Soap.

### Why do we need to wash our hands with soap?

We use our hands for almost every activity. For example when we shake our hands with someone else to say Hello or Goodbye, to open doors, switching on light, scratching our skin when it feels itchy, taking money and lots of other things, we use our hands.



Many things we touch are also touched by other people and bacteria and germs are transmitted.

### Germs can be sickening!

Germs are tiny and invisible, so they can be hiding on the faucet, doorknob, and other bathroom surfaces.

In the bathroom, you can easily get some germs on your hands and, if you don't wash up properly, you just might take them with you. Those germs could get into your body and make you sick — like if you eat your lunch with those unwashed hands. Or you could make someone else sick — like if you give a new friend a nice handshake with those germy hands and then she goes and eats her lunch!

### Germ Farm



<http://www.1st-in-handwashing.com/>

## 4 Let's Wash Hands with Soap.

We share close contact with other people at school, at work or at home all day, every day. We can bring illnesses home with us and can infect family members. The single most important thing we can do to keep from getting sick and spreading illness to others is to clean our hands.

### We should clean our hands...

- After we use the bathroom/ toilet
- Before we eat
- Before, during and after we prepare food
- When our hands are dirty
- After handling animals or animal waste
- After changing babies' nappies
- More frequently when we, or someone with whom we come in contact, is sick.

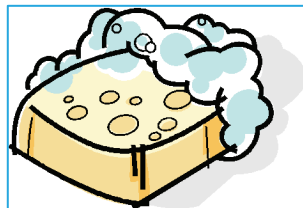


### What happened when we have washed our hands with soap?

Washing hands with soap works by interrupting the transmission of disease.

**Do we have to use soap to wash our hands?**

**'YES!'**



## 4 Let's Wash Hands with Soap.

Using soap works by breaking down the grease and dirt that carry most germs, facilitating the rubbing and friction that dislodge them and leaving hands smelling pleasant.

Along with the isolation and safe disposal of faeces and the provision of adequate amounts of clean water, handwashing with soap is one of the most effective ways to prevent diarrheal diseases; it is also the cheapest way.

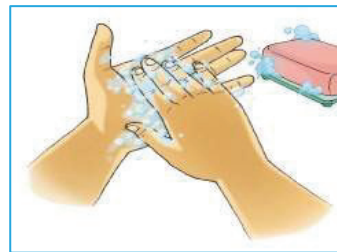
### Let's practice handwashing with soap together.

To remove all the dirt from our hands we should wash our hands like this as shown in the pictures. Our hands will be clean and smell good after that.

1. Wet your hands with water



2. Apply enough soap



3. Rub hands palm to palm, rub the back of the hands



4. Palm to palm with fingers interlaced

#### 4 Let's Wash Hands with Soap.



5. Backs of fingers to opposing palms with fingers interlocked



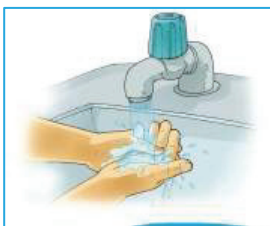
6. Rotational rubbing of left thumb clasped in right palm and vice versa



7. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa



8. Rub each wrist with opposite hand



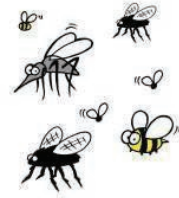
9. Rinse hands with clean water



10. Dry thoroughly with a clean towel and your hands are safe and clean

## 5 Let's Learn Good and Bad Hygiene Behaviors.

Now we want to learn more about good and bad hygienic behaviors to keep our family and us healthy.



**To keep you healthy and clean please follow the good hygienic behaviors:**



Wash and clean your food before cooking (wash vegetables and fruits)



Safe storing of food, cover your cooked food and drinks



Use toilet or pit latrine for defecation.

Whenever possible, use a toilet for bowel movements and not the field or compound. When a toilet is not available, stools should be buried to avoid germs being spread.

## 5 Let's Learn Good and Bad Hygiene Behaviors.



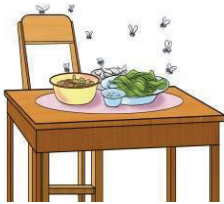
### **Keeping water clean and safe**

- Use only water that comes from a safe source or is purified.
- Boil water until the bubbles appear.
- Use clean containers with lid/cap to store water.
- Use a clean cup for drawing water from the container, making sure your hands are clean too.

## 5 Let's Learn Good and Bad Hygiene Behaviors.



**These are bad hygienic behaviors. Don't do this:**



Don't forget to store your food safely, cover it, when you don't eat it.



Don't defecate in an open space like river or field. One way of spreading germs is by defecating in the field or compound.



Don't eat raw fruits and vegetables without washing.



Don't forget to wash your hands with soap after using the toilet.



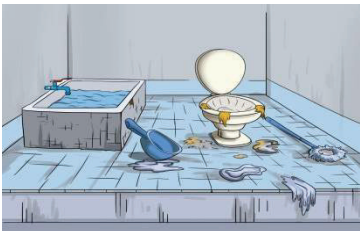
## 6 Let's Keep Clean Environment through Housekeeping

The environment is very important for our life and our health. We feel comfortable and happy in a clean and nice environment. The clean and nice environment keeps us healthy, too.

Therefore it is very important to keep our house and sanitation facilities clean.

Let's learn more about good housekeeping of the sanitation facilities and clean environment!

### **1) Keep your bathroom and toilet clean!**



Clean your bathroom when it gets dirty or at least once a week! It can be very dangerous if the bathroom is dirty. You can get sick and hurt yourself. A dirty and messy bathroom is a good source for bacteria and germs. They can be easily spread and you can get sick. When the floor is wet and dirty you can slip and hurt yourself.

## 6 Let's Keep Clean Environment through Housekeeping

### **2) Keep your environment and surrounding clean!**



Don't throw waste into the river, on fields and compounds. The waste will pollute the environment and make the groundwater dirty; nobody will care about the waste. If possible collect the waste and dispose the waste into waste containers.



To protect our health we have to protect our environment too!

## Afterward

We hope you have learnt a lot from this book. But most of all we do hope you will apply the knowledge you have learnt in your daily life. Always remember how easy it is to keep the environment clean and in return our family and us healthy!

This book was developed within the joint implementation pilot project of community and school based sanitation by PTI-JICA and LIRE-BORDA in “The Study on Improvement of Water Environment in Vientiane City”. If you have further questions about this book, please don’t hesitate to contact us!

### **Contact Information**

#### **Public Works and Transport Institute (PTI), Ministry of Public Works and Transport (MPWT)**

Dongpalane Road, Ban Phonsinuane, Sisattanak District, Vientiane City, Lao PDR, P.O. Box: 5067  
Phone: +856-21-412285, Fax: +856-21-416527

#### **Japan International Cooperation Agency (JICA), Laos Office**

Sihom Commerce Center Building, Luangprabang Road, Ban Sihom, Chanthabouly District, Vientiane City, Lao PDR, P.O. Box: 3933  
Phone: +856-21-241100, Fax: +856-21-241101~2

#### **Bremen Overseas Research and Development Association (BORDA) - Lao Institute for Renewable Energy (LIRE) Cooperation Project**

Unit 16, Ban Watnak, House No. 366, Lao-Thai Friendship Road, Sisattanak District, Vientiane City, Lao PDR, P.O. Box: 8010  
Phone: +856-21-353430, Fax: + 856-21-353897, E-mail: [contact@lao-ire.org](mailto:contact@lao-ire.org)





