

# SCHOOL FLOOD SAFETY PROGRAM

## FLOOD RISK PREPAREDNESS AND REDUCTION



### TEACHER INFORMATION BOOKLET

Second Edition - October 2009

Flood Emergency Management Strengthening  
Component 4 - MRC's Flood Management and Mitigation Program



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## **Introduction**

The School Flood Safety Programme (SFSP) in the Mekong Delta provinces is an innovative flood safety awareness program focussing on school teachers and school children. It involves development of information, education and communication (IEC) materials, improvement of school facilities through understanding flood risk potentially happening at schools, orientation sessions to teachers and students and flood awareness campaigns at schools.

This booklet provides the teachers with basic knowledge on flood, flood hazard, means of protection and what to do before, during and after floods in their school and methods to identify, prepare for and treat diseases caused by flood water. The oriented teachers can use this booklet as a source of knowledge to disseminate to their school children regarding flood safety measures. Moreover, this booklet also provides teaching methods and exercises that can be used to teach students on flood safety measures more effectively.

Together with the booklet, teaching aids such as pictures, posters, VCDs, and Flood booklet have also been provided in the hope to make lessons more visible, practical and also attractive, which helps school children absorb the knowledge more easily.

The purpose of the booklet is to help in reducing disaster risk during the flood season, in terms of protecting children and enhancing public awareness through school activities. Therefore, we would highly appreciate the booklet using widely.

We urge you to take this resource, digest it and disseminate its content to many generations in the hope that the communities of the Mekong Delta will become more resilient and better prepared for the risks that accompany its yearly floods, so that everyone has opportunities to understand better and live in harmony with floods.

This is the second edition of the Booklet. We would appreciate any comments and suggestions sent to us to Ms Doan My Hoa ([doanmyhoa@adpc.net](mailto:doanmyhoa@adpc.net))

# Chapter 1: Flood Hazard in the Mekong River Basin

## 1.1 Mekong River Basin and disaster

The Mekong River is the 10<sup>th</sup> longest river in the world, with a total length of 4,880 km, a drainage area of 795,000 sq km and an average annual runoff of 475,000 million cubic meters. The Mekong flows 2,161 km through Qinghai, Tibet and Yunnan in China, and then travels a further 2,719 km through Myanmar, Thailand, Lao PDR, Cambodia and Vietnam (MRC, 2001). The Lower Mekong Delta includes the floodplains and wetlands of Cambodia, as well as Mekong Delta of Vietnam, which is the most densely populated and the most productive agricultural region in the basin.

The people of the Lower Mekong Basin are extremely diverse comprising more than 70 different ethnic groups. They speak different languages and dialects, have different histories, cultures and customs and they live under different political and economic systems. The distribution of the 55 million people living in the lower Mekong basin varies considerably, with overall population density at 87 people per km<sup>2</sup>. Cambodia and Lao PDR together comprise only about

one-quarter of the basin's population, although 80 percent or more of each country's population lives in the Mekong Delta or the Central highlands. The most populous regions are the Northeast Region of Thailand that represents about 40 percent of the basin population, and the Mekong Delta that represents about 25 percent. The Tonle Sap and Plains Regions of Cambodia each represent 5 – 10 percent of the basin population. The population of the lower Mekong basin is predominately rural. Approximately 80 percent of the population live in rural areas and rely on natural resources for their livelihoods.

Flooding of the Mekong River is a recurrent event. Apart from the annual flood cycle, a number of major floods have occurred in different reaches of the river over the past decades. In Vietnam, the major floods occurred since 1960 were observed in the years 1961, 1966, 1987, 1991, 1994, 1996, 2000, 2001 and 2002.

## 1.2- Floods and their impacts in the Mekong River Delta of Vietnam

Vietnam is located in the monsoon zone of Southeast Asia – the typhoon affected region of the South China Sea.

Most of the disaster in Vietnam are direct or indirectly water related such as storms, floods, inundation, drought, salt water intrusion, storm surge, landslides,



and flash floods. There are three distinctly different regions of the country with different predominant types of water or water-related disasters, and with historically different methods of water disaster mitigation and management.

In the Southern part of the country, the Mekong Delta portion of the Lower Mekong River Basin is shared with four riparian countries. These provinces are susceptible annually to severe and frequent floods due to the coincidence of heavy rains caused by typhoon and monsoon, the flat topography of the Mekong and due to it being located at the southernmost part of the delta. The floodwater from upstream exceeds the capacity of the river in the Delta, affecting the water to flow over the river banks, and about half area of Cuu Long River Delta (around 2 millions ha) is flooded annually. The duration of the flooding lasts from 2 to 4 months and the depth of flooding vary from 0.5 to 4.5m.

In the year 2000, severe flooding of the Mekong River System began very early, at the beginning of July. This became the most severe flood in the last 70 years in an areas, which is the most densely populated, and the largest rice bowl of the country. Over 500 people died due to the floods and a total of 5 million people were affected; 825,000 homes damages or destroyed and 60,000 households needed to be evacuated. Nearly all the summer-autumn rice crop was lost and thousands of kilometers of national and provincial roads were damages. Total loss was estimated at 285 million USD. The Party and the state made prompt decisions to enable the mitigation and management of these floods and other disasters; and to minimize the damage caused.

Similar, but somewhat less severe flooding in the Mekong Delta also occurred in year 2001. The death toll was 230 with 180 of them children. In 2002 severe flooding in the Mekong Delta inundated 280,000 households, affecting 1.4 million people and resulting in the death of at least 170 people. The floodwater covered half of the 13 provinces delta region. About 54,000 houses were flooded with 112,000 people in urgent need of food relief.

When we talk about floods and their impacts, the emphasis is primarily on its destructive nature. The other side of the floods that bring about rich biodiversity, abundance of fish and soil fertility to the flood plain is often forgotten. It is, therefore, crucial to look at both the positive and negative impacts of flood and recognize flooding in river basins as part of the natural process rather than as nature's interference and hindrance for economic development in the basin.

### **1.3 – Flood Impacts to schools and children**

Annual flooding season occurs in Mekong River Delta in five months starting from July to November. Floods occur from lower part of the delta, attributable to Tien river and Hau river, which are linked by a complex system of natural and man-made canals, creating a complicated hydraulic regime.

The historic floods of 2000 and 2001 in the Mekong Delta region resulted in an emergency situation of large scale propotions. Thousands of schools were underwater. Children have been found to



be the most vulnerable during the flood season. It has been observed from the past records that most death during floods were of children.

Floodings occur for over 3 months per year and coincide with the beginning of academic years, suspending regular educational programs. Some schools have to open later than others but have to complete the same curriculum, requiring them to compromise the quality of teachings. Some students have to come a long way to school and floods hinder the transportation means when roads get damaged and endanger their lives. Some schools are constructed without proper flood resilient features, resulting in damaged facilities and life loss when collapsed.

In the efforts to limit the rising death toll after flood 2002, Vietnam authorities at different levels have developed many strategies such as setting up temporary daycare centers (emergency kindergarten) for children whose famer parents must leave home to earn a living or a national program on universalization of swimming skills for children developed to ensure safety of children against flood drowning situations. A new initiative on integration of disaster risk reduction into school curriculum also was raised in the Vietnam National Strategy on Natural Disaster Prevention, Response and Mitigation to 2020 with the focus on enhancing capacity for school teachers and children on disaster preparedness and response measures and further raising public awareness on disaster prevention in general community.

## Chapter 2: Flood Safety Measures at Household Level

This provides an overview of interventions that can be undertaken by the community themselves at the household level to reduce the flood risks

With the community implementing household level flood risk reduction measures, the following benefits can be ensured:

- Protection of lives
- Protection of assets
- Enhancement of self-reliance and resilience
- Quick recovery from the adverse impacts of natural disaster.

### 2.1- Before flood - preparedness

#### Ensurance of warning inform and communication systems

- Regularly listen to radio/ or watch TV or other sources of information to keep yourself and your family informed of daily weather condition and relevant warnings.
- Follow the guidance from the warning information.
- Share information with your neighbors.
- Keep contact information of your relatives and the nearest health-care station and rescue post available.



#### Building capacity and raising awareness

- Learn traditional experience of flood preparedness.
- Always update the experience of flood preparedness.
- Have a plan for emergency situation.
- Regularly build and improve capacity of swimming.
- Ensure all family's members to be aware of warning information.
- Ensure family members to be aware of planned activities.
- Ensure family members to know the locations of identified safe areas, the nearest health centre, and the nearest rescue post.

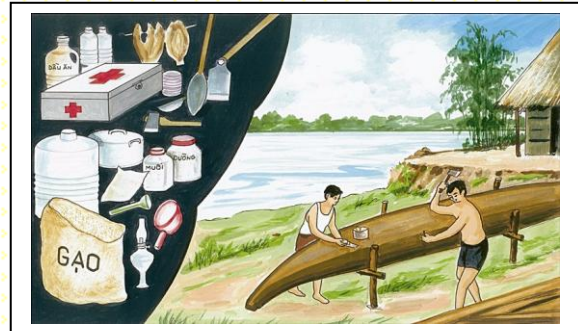
#### Asset and life protection

- Ensure the levels of house and breeding facilities are raised above expected flood level.
- Install appropriate necessary facilities such as barriers and hand-rails along veranda to protect babies/children from falling into water.
- Ensure safety tools such as life-vest, floating things, etc. for use while traveling during flood season.
- Build separate and high safe cages for cattle/livestock/poultry to protect them from floods.

- Create embankments around the house to keep flood out.
- Assign works to family members.
- Closely tie furniture to prevent them from being swept away by flood water..
- Move furniture to high areas.
- Reserve documents/papers in water-resistant bags and keep at safe places.
- Move animals to a high area.
- Check electric equipment to ensure safety. Cutting off the electricity if necessary to avoid shock and fire.

### Food and health safety

- Store firewood/fuels.
- Upgrade toilet to prevent pollution.
- Store food, water, medicine for man and animals.
- Get alum and Chloramine B ready for treating water.
- Develop vegetable gardens in high areas or artificial floating areas.
- Get fishing tools ready for fishing during flood.



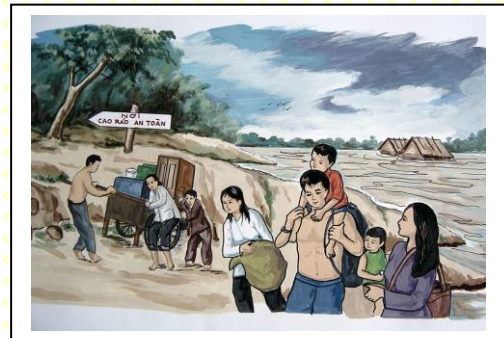
### Community activities

- Join in groups of volunteers to support community where possible.
- Learn your neighbors's situation to help them, especially for old persons, disable person, children and pregants.

### Evacuation

If the evacuation is the only option ( to a safety area or a relative's house).

- Follow direction from local authorities to evacuate to safer areas.
- Ensure bringing safety objects such as life vest, floating things, etc. while evacuating to safer areas.
- Identify a safe shortcut or options to go to the safe area. Ensure family members are aware of the way or options.
- Actively evacuate before the ways are cut off.
- Get all things ready, especially the radio for following up information.



### 2.2 – During Flood - response

“During Flood” includes activities of monitoring and taking action for emergency situations.

### Outdoor activities

- Do not go swimming or boating in swollen rivers, canals, lakes. If required, safe equipment should be equipped.





- Restrict children from playing around the banks of rivers, canals, sewers, flood control dams ...
- Watch out for snakes and other poisonous animals in flood water.
- When going on field, should go with at least 01 person with life vest, floating things. Should not bring children.

### **At home**

#### *Information*

- Regularly listen to radio for following up information.
- Update information from flood monitoring stations.
- Ensure ability to communicate with nearest health stations and rescue posts.



#### *Monitoring*

- Monitor rains and flood levels.
- Regularly pay attention to special members in family such as young children, old persons, disable persons or pregnant women.
- Regularly check the safety of animals, drinking water, food, medicine etc.
- Regularly check the safety of fences, house.
- Get transportation means and safety equipment ready.
- Ensure the safety of electricity.
- Properly treat water and food before use to prevent epidemic.

#### *Take action on time*

- Always update family members on situations of flood for taking proper actions on time.
- Rearrange all things to adapt the change of flood level.
- Make decision and evacuate on time if necessary.
- In emergency case, call the nearest health station or rescue post.

### **At safe area/shelter**

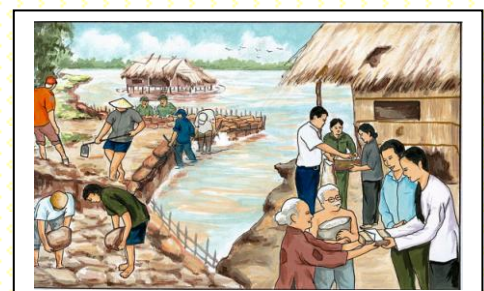
- Ensure all family members are safe and present at the safe area.
- Consciously abide by the safe area's regulation.
- Do not get back home until it is said to be safe.

## **2.3 – After Flood - Recovery**

“After Flood” is a period for rehabilitation and relief.

### **Community activities**

- Support neighbors who need help.
- Join relief activities or provide relief to community.



### **At shelter/safe area**

- Consciously abide by the regulation of safe area.
- Do not get back home until it is safe.
- Ensure safety on the way back home.

## **At home**

### *General Plan*

- Set up rehabilitation plan.
- Identify priority activities.
- Assign works to family members.
- Prepare/mobilize resources and support.

### *Safety and sanitation*

- Ensure safety of electricity.
- Ensure safety of using furniture or equipment.
- Be aware of slippery.
- Ensure to be safe from poisonous animals.
- Ensure a good sanitation.
- Ensure safety of all family members.



### *Rehabilitation*

- Damage assessment.
- Prepare a to-do list with a priority order, such as reinstalling electricity, cleaning house, etc.
- Restore as planned from the list.
- Look for external support if necessary, such as micro-credit systems etc.
- Request payment from insurance services (If available).

## Chapter 3: Flood safety measures in School

This chapter helps teachers and schools children oriented on flood safety measures in school.

### 3.1- School flood safety measures

This section provides an overview intervention that can be undertaken at the school to ensure the safety of its students, teachers, staffs, infrastructure and equipments.

The main roles the schools can play in reducing flood risks can be described as follows:

- **As public awareness raising hub** – through parent, student and teacher networks
- **As safe places**, if the schools are located on higher ground.
- **As a support system to young flood victims of school age.**

Specific preparedness measures that the school can employ to provide a safe place for its occupants (students, teachers and staffs) as well as to facilitate recovery from flood hazards are listed below.

#### Before flood

- Be familiar with the flood history in the area.
- Be familiar with the geographical feature of the area where the school is.
- Know how to contact local disaster management authority.
- Have a school disaster management plan and share it with the students and parents. It should clearly define actions to take in case of hazards (not just flood).
- Have some of the senior students trained in first aid and water rescue (or other life saving techniques, depending on the frequent hazard in the area).
- Provide swimming lessons to children as part of the school sport/extra-curricula activity.
- Provide the students with safety measures at household level as part of the school lessons.
- Help students to brainstorm on family safe plans. Invite subject experts to school and hold seminars on health care during the flood season.
- Provide health related information, especially on water borne diseases caused by flood water, to students, teachers, school staff and parents. Invite subject experts to school and hold seminars.
- Maintain an emergency contact list including contact details of local emergency management agencies. It should be shared with the students and their parents.
- Organize evacuation drills and exercises for students.
- Document properly the school's properties.
- Identify safe areas in the community and address safe evacuation routes for evacuation. This is particularly important in case of quick as well as slow onset disasters.
- Update flood information and effective emergency response measures so that students and teachers know and actively prepare for.
- School staffs continuously listen to radio for flood information.

#### During flood

**Upon receiving the warning,**

- At the first warning, arrange equipments and books in safe places.
- Remove and tie heavy objects that could be floated by flood and cause damages.
- Allow school children to be off school when informed that flood becomes more serious.
- Have a full list of students before the school is warned to be in danger.
- Make announcement in the community of the closing of school.
- Have a plan to protect school's properties during the flood season.
- Switch off all power supply mains to prevent electrocution and associated fire hazards.
- Assign staffs to be on shift and ready to response to flood.

**If the school is used as a safe shelter,**

- Keep first aids kit ready.
- Reserve drinking water.
- Make sure the school floor is higher than the anticipated flood level.
- Identify how many people can stay at the school and inform the local authority.
- Raise the level of toilets in the school area.
- Construct a bridge connecting the school building with the toilets.
- Keep a portable radio powered by battery.
- Keep flash lights (at least 2) powered by battery.
- Know the routes to a safer area in case the flood is more severe than expected.
- Have means of transportation such as boats, small boats, etc. to be ready for evacuation if necessary.

**After the flood**

- Clean up class rooms thoroughly to make sure all objects in touch with contaminated flood water are now clean and tidy. Seek help from students and the communities.
- Assess and record all damages, identify needed supports, and report to the education authority for immediate repair.
- Announce the school's reopening dates to the community.
- Organize activities where students can help in community rehabilitation efforts.
- Beside the Government's supports, the school should mobilize more supports from private organizations as well as mass organizations to help the school recovers quickly.

**Supporting the flood affected staffs and the students**

- Keep records and analyze the number of students and staffs who are affected by flood.
- Provide support to affected staff and students. Have a school-wise support plan.
- Provide students opportunities to express their feelings. This can help them overcome the trauma of loss and grief.
- Relief activities from political and social organizations.
- Provide activities to reduce trauma, such as writing essays, art projects and etc. Younger kids who have difficulties in expressing their emotions can apply this way to release stress.
- Contact parents or relatives of affected students and staff. By working together, healing process can be quicker.
- Train teachers and staff on psycho-social care and support for disaster victims. To be able to recognize children's reaction to traumatic situations can help formulate an appropriate support system.

- Have experience sharing section in the class where students can freely share their own personal experience and receive peer support.

### **Principal and other senior staffs**

- Be ready to give command and instructions on response activities after flood.
- Establish the linkage among local authority, other affected schools in the province/district and the local disaster management agencies to do damage inventory and have support activities accordingly.
- Provide extra support to students and staff with deceased in the family and hold memorial services as appropriate.
- Provide direct interventions.

## ***3.2 - Safety on the way to school***

### **3.2.1 - Flood risks and way to school**

The main means of transportation during flood season are boats and canoes.

In rural and border areas, many students have to go to school by small boats through long rivers and large fields, without life vests or floating things.

Without equipping enough skills to response to emergency situation during flood season, children become the most vulnerable group in community.

### **3.2.2 - Safety measures on the way to school**

Safety on the way to school is the top important objective of education management during flood season.

*What should we do to ensure children's safety on the way to school during flood season?*

- Organize taking children to school and back home by safe means of transport such as not over loaded, equipped enough with life vests, and means of communication when necessary (Mobile phone, loud-speaker).
- Continuously follow up warning information and do not go sailing while it has signal of storm, whirlwind.
- Select the route not much affected by flood. Keep away from strong flow. Be careful when crossing bridge, canal junction - strong current.
- Do not go on the uninhabited route. Should go on crowd route, with a lot of trees to have support when necessary.
- Do not go through exposed fields.
- Assign tasks before starting see off and pick up children.
- If children can go to school by themselves, parents and teachers should help children to assess the level of safety and have necessary safety requirements for them.



*Children should be active themselves!*

- Learn to swim and become good swimmers.
- Equip themselves with life-vest or floating things when going out.
- Obey the safety waterway regulations.
- Learn how to save drowning people. Be ready to help others when necessary.
- In emergency situation, it's easier and more active with tidy clothes and suitable books.

*Floating things*

Life vests, plastic cans or spongy boxes. Traditional materials can be used such as banana trees and dry coconut fruits ect.



**Ensure safety for waterway transportation**

**Aware of safety**



**Safely equipped**



**Safely see off and pick up**

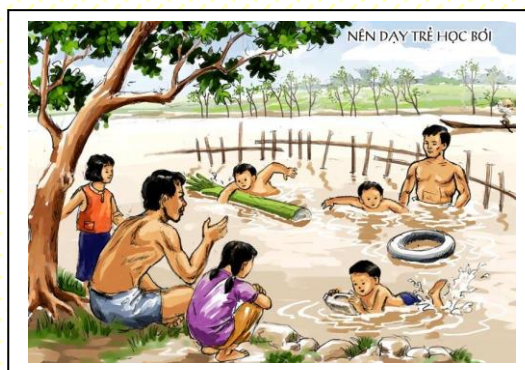


## Chapter 4 – Enhancing children capacity through swimming lesson

### 4.1. Swimming universalization program in Vietnam

After flood season 2001, the provincial People’s Committee of both provinces had issued guidances to line agencies to jointly organize swimming lessons for children in flood affected areas, by which the provincial Committee for Sports and Physical Training (CSPT) will take the leading role, in collaboration with the district People’s Committees and other line agencies. At district level, the People’s Committee assigns district CSPT in collaboration with People’s Committee of all communes/town and relating bodies at district level (Youth Union, Education, CPFC, Health, Finance and Planning) to realize the guidelines, highlighting the objectives and requirements of universalization of swimming skills for children as follows:

- To minimize flood child toll and help them to self-protect from injury in flood water.
- To widely disseminate to people to raise awareness of the benefit of swimming learning to minimize accidents during flooding time; at the same time encourage people to participate in swimming as a kind of sport to improve their health, especially for youths and juniors;
- To provide basic knowledge and techniques/skills for the children, also for parents and youth members to further replicate in their locality;
- To identify and further train the excellent students to participate in swimming contests at district and provincial levels.



The universalization of swimming lessons requires various efforts from all above captioned agencies and support from the parents, as well as the children themselves.

### 4.2. Enhancing children’s safety through swimming lesson:

Messages for adults:

- At household level:
  - o Teach children to swim in safe condition.
  - o Before flood season, apply for children to attend swimming universalization courses organized by local authorities.
  - o Teach children how to use safety tools such as life-vest, floating things, etc.
  - o Pay attention to children while they are swimming during flood season.
  - o Do not allow children to swim alone, or without adults’ permission.
- At school level:
  - o Have a list of school children who can not swim. Send them to swimming course organized by schools or local authorities.
  - o Teach children on safe swimming.
  - o Teach children how to use safety tools for swimming such as life-vest, floating things, etc.
  - o Cooperate with relevant agencies to organize swimming competition for school children to create general awareness of community on flood safety.

- Apart from conducting swimming lessons for the kids, it is also crucial to raise awareness of their parents and community people to help the children avoid common injuries during flood period: in the water, on the road or at home.
- Dissemination on child drowning awareness also plays a important role in combine all safety measures to protect children from water-related accidents.

(See poster of Children Drowning Prevention (for adult) for more information)

Children should do:

- Learn swimming with adult
- Obey direction from adults
- Do not swim in flood water
- Be aware of flood water, it can cause drowning.
- Call loud for help when seeing your friend drowning.
- Always bring life-vest or floating things when going out during flood season.

(See poster of Childrwn Drowning Prevention (for children) for more information)





## Chapter 5 - Flood Early Warning System

### 5.1 - What is an early warning system?

An early warning system is to alert population under threat of a potential disaster (in this case a damaging flood) in the near future, and serve as starting points for individuals and groups to make decisions and take timely protective actions.

### 5.2 - What are flood warning and forecasting?

It is a message informing of the impending danger (flood), i.e., when water level is higher than the warning level.

In Vietnam, there are flood information levels issued to the public:

#### 5.2.1. Flood Forecasting – Content Of Flood warning

The level of flood information of Tien and Hau rivers is set in Index II Regulation of issuing tropical low pressure, storm and flood warning information (Decision from Prime Ministry on Regulations of issuing tropical lowpressure, storm and flood: warning information no 245/2006/QĐ-TTg, 27 October 2006

No	Name of River	Warning water level (m)			Period to announce flood information
		I	II	III	
1	Tien River	3,0	3,6	4,2	Each 5 days
2	Hau River	2,5	3,0	3,5	Each 5 days

- Title of flood warning is set by the types on Flood and Storm regulation.
- The flood situation in/ with in 24 hours and exact data of water level at the closest period.
- Forecast the situation, changing of flood during the specific period, including the water level at the site; compare the forecast water level with the warning water level or that of the special big floods.

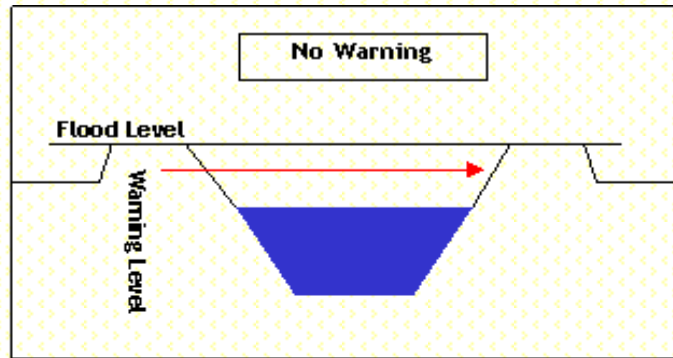
#### 5.2.2. Flood forecast

- When the flood season comes, PCFSC follow up the hydro-met information in Tien and Hau Rivers issued by Provincial Hydro-Met Forecast Center, Southern Hydro-Met Forecast Center to have and disseminate information quickly to local area and local people to have appropriate prepadness and response measures such as:

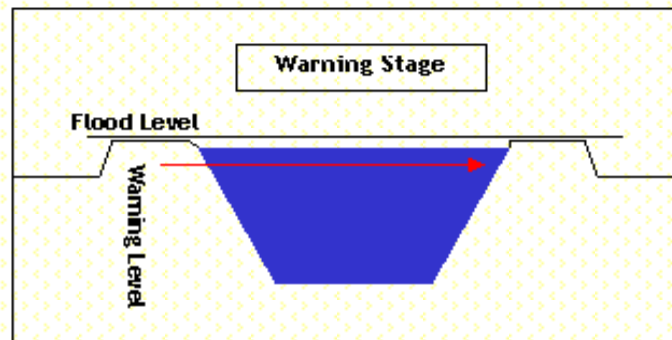
+ In the year that flood comes early and raises quickly and many affects to crop cultivation, PCFSC will consult with provincial People's Committee to issues an urgent warning to local authorities and local people to have necessary measures to protect agricultural production such as strengthen dyke and bank, mobilize force to help local people to harvest crops or field, etc prepare machines, materials, fuel to pump flood water out of ...

+ During the main period of flood at the end of September and the beginning of October, water from upstream goes to Tien and Hau Rivers with high intensity and nearly reaches the third warning level, PCFSC will consulte with Provincial People's Committee to issue urgent flood warning so that local authorities and local people to

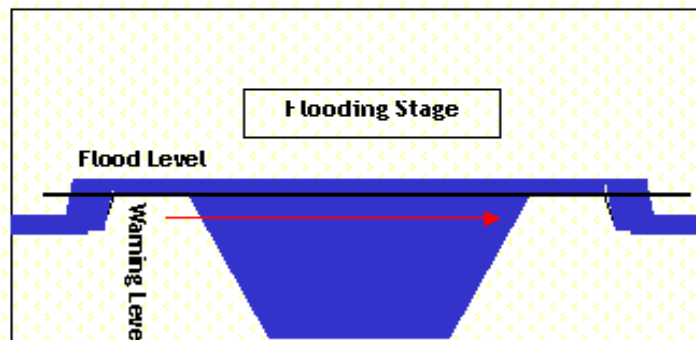
have necessary measures to protect their health, human life, property, infrastructure and to prepare flood and organize relief activities for affected households.



The height of the water is below the alarm level. No risk of flooding.



The height of the water is equal or higher than the alarm level but lower than the flood level.



The water level equal or higher than the flood level.

Picture 2: Three stages of flooding

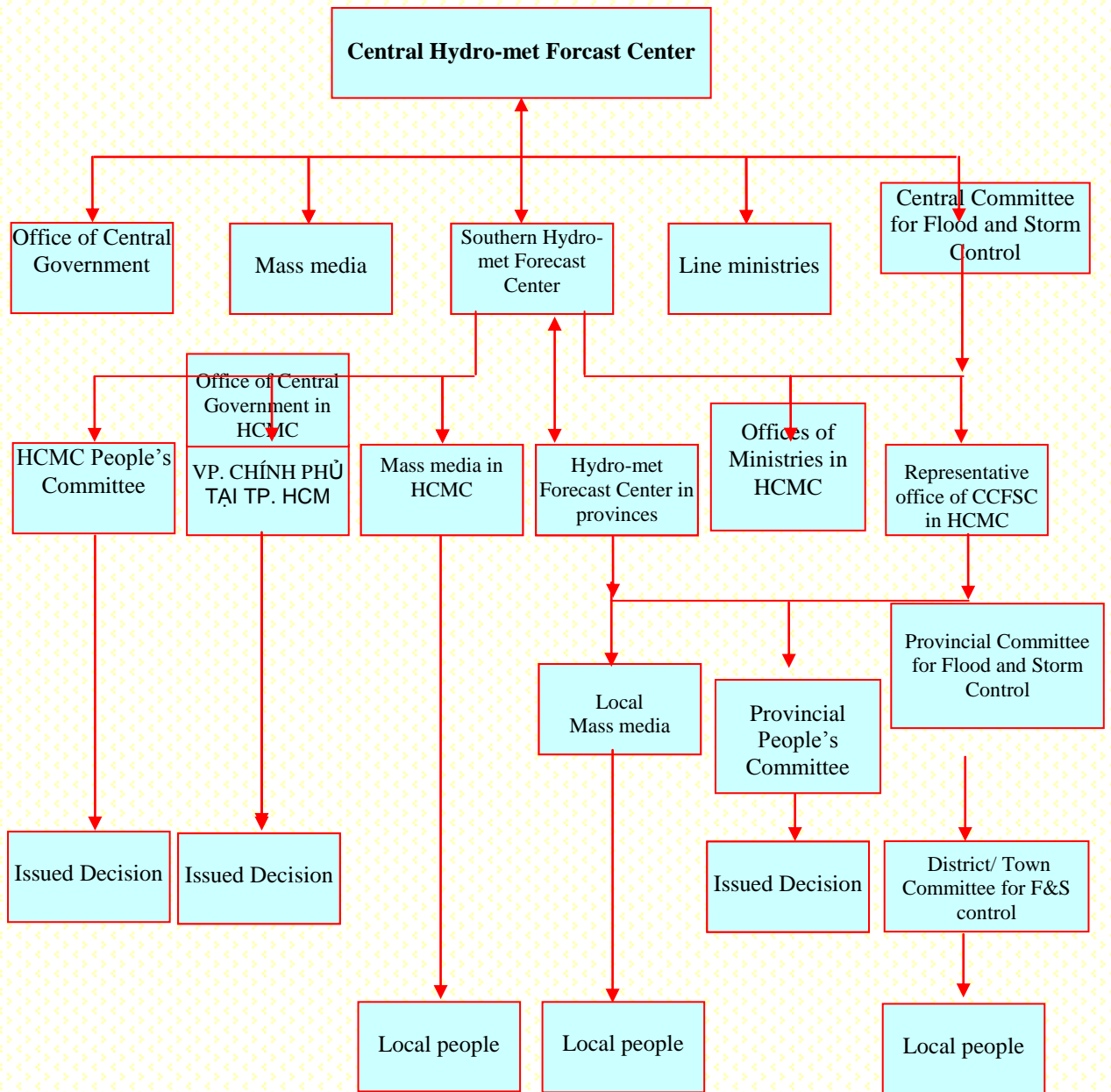
**Table 1: Different between flood forecast and flood warning**

Flood forecast provides following information	Flood warning provides following information
<ul style="list-style-type: none"> <li>▪ Specific areas that are likely to get affected.</li> <li>▪ Estimated flood data indicating:                             <ul style="list-style-type: none"> <li>• Time of detection and the time available before the flood comes</li> <li>• When flood will occur</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Recommended appropriate actions: Depending on the warning level, the community at risk will be given appropriate action to follow.</li> <li>▪ Information on possible effects/ risks of non-compliance to advice.</li> </ul>

<ul style="list-style-type: none"> <li>• How long flood will last</li> <li>• Where water will come from and where it will go</li> <li>• Strength and speed of flood</li> <li>▪ Associated risks <ul style="list-style-type: none"> <li>• Estimated area of inundation</li> <li>• Number of households likely to be affected</li> <li>• Other factors that will affect safety</li> </ul> </li> </ul>	
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The recipients should make sure that the warning message is issued by the designated authorities as shown below:

- **At the national level :** CCFSC and its Secretariate office
- **At the provincial level:** Provincial People’s Committee and PCFSC with its Secretariat office
- **At the district level :** District People’s Committee and DCFSC with its Secretariate
- A standing office serving for district town DCFSC
- **At the commune level:** Commun town/ People’s Committee and CCFSC town and from commune, ward, town to villages and community.



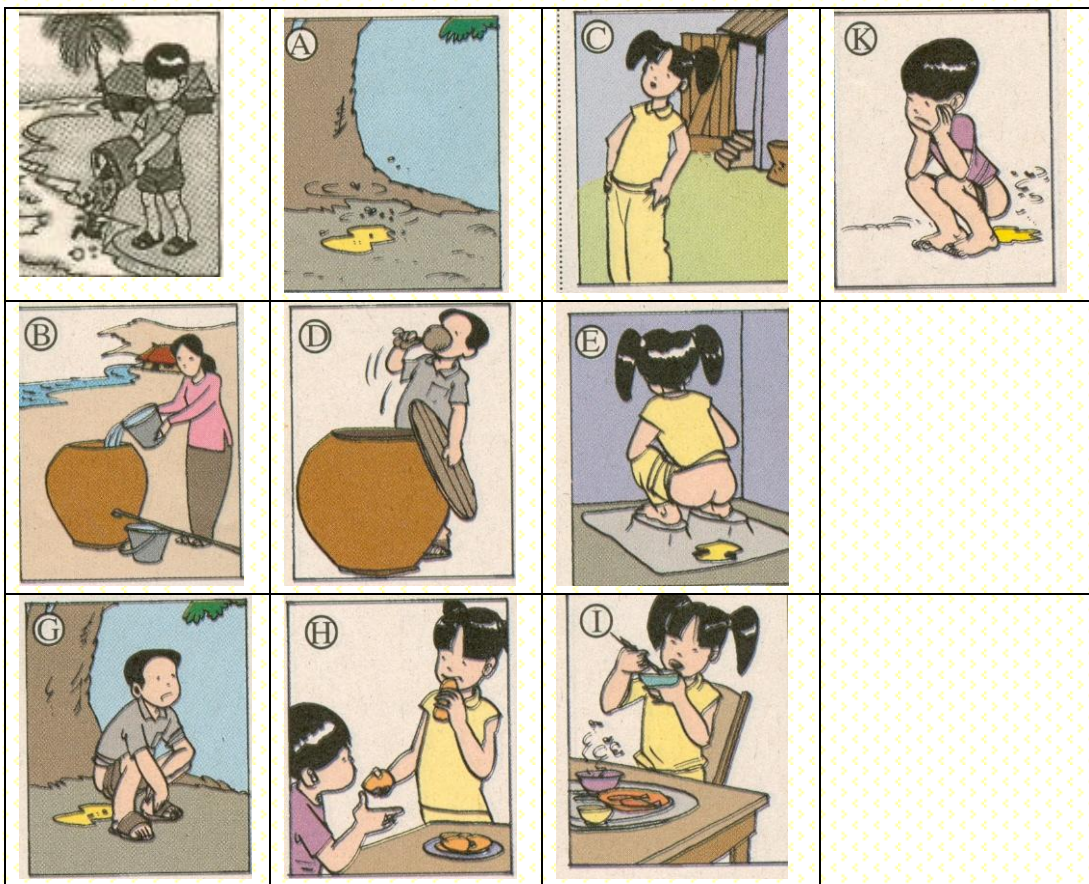
**Figure 3: Process of transferring information and flood warning to local people**

## Chapter 6: Common Diseases during flood season

This section can be used to teach students at pre-school and secondary school.  
(For secondary school students no need to use the clues)

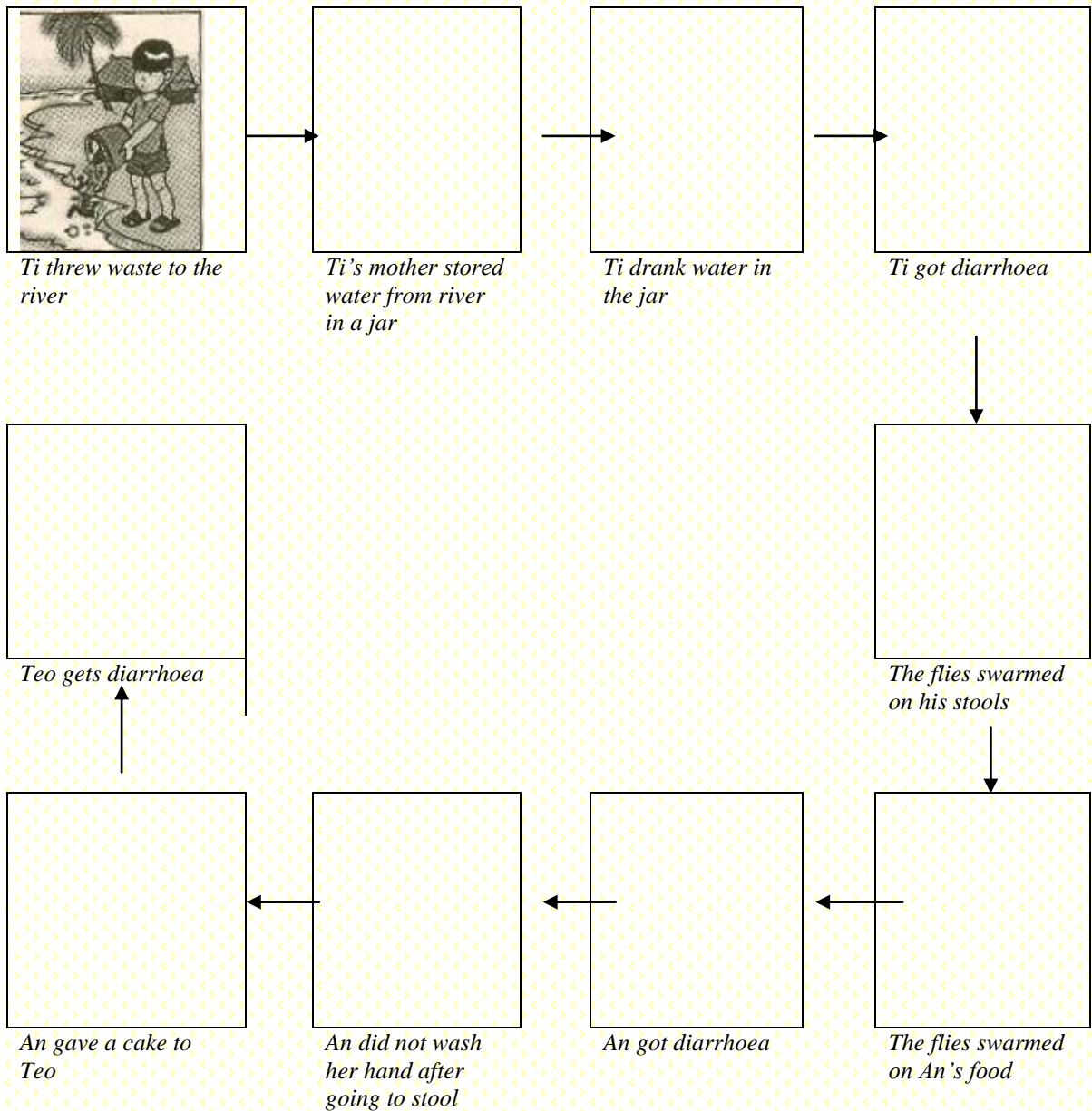
### 6.1. CAUSES AND TREATMENT FOR DIARRHOEA

1. Why do you have diarrhoea? (Cut the following pictures separately and arrange them to make a story that relates to diarrhoea)



(Keys: in order: No 1: the picture without letter on; No 2: B; No 3: D; No 4: G; No 5: A; No 6: I; No 7: E; No 8: C; No 9: H; No 10: K)

*Clues for primary school children*



**2. Based on the story made, can you tell the causes of diarrhoea?**  
*(Answer: Drank unsafe water from the jar; Ate unsafe food (food was contaminated by flies or touched by dirty hands))*

**3. How to prevent:**

<i>Cut the following messages and put in a suitable position in the above story</i>	<b>Keys</b>
Wash hands before eating and after visiting toilets	<i>Between picture No 8 and 9</i>
Put garbage in the dustbin	<i>Between picture No 1 and 2</i>
Use hygienic toilet	<i>Between picture No 4 and 5</i>
Keep food off flies	<i>Between picture No 6 and 7</i>
Drink boiled water	<i>Between picture No 2 and 3</i>

*(Resource from Applied Health Education - Vietnam Plus)*

## 6.2. ACUTE DIARRHOEA FOR CHILDREN

### 1. *How can you know a child got diarrhoea?*

**Answer:**

- Visit toilet more than 10 times per day.
- Watery faeces.
- Faeces have sour smell.
- Blood in faeces or mucus in faeces.
- Continuously vomit or a few times per day. It often happens after meal.
- Maybe the child got fever.
- Refuse to eat.

### 2. *What is the harm of diarrhoea?*

**Answer:**

- May die.
- May get malnutrition.
- Easy to get other diseases.

### 3. *What is the cause of diarrhoea?*

**Answer:**

- Eat or drink food contaminated bacteria causing diarrhoea.

### 4. *How to prevent diarrhoea?*

**Answer:**

- Eat and drink safely.
- During the first 4 months of the baby life, always feed them with breast milk.

### 5. *What are safe eating and safe drinking?*

**Answer:**

- Food and drink must be washed and cooked properly.
- Food and drink must be fresh and clean.
- Keep food off flies.
- Wash hands properly before touching food.

### 6. *What do you do when your child gets diarrhoea?*

**Answer:**

- Give children plenty of water especially ORS liquid, and let them drink gradually.
- Feed children as usual (Breast milk, fruits and food)

### 7. *How can you have ORS liquid?*

**Answer:**

- Buy it at drugstore.
- Dissolve 1 sachet of ORS with 1 litter of boiled water. Must dissolve the whole sachet at one time.

### 8. *If you can't get sachet of ORS you can make it by yourself with the following formula:*

**Answer:**

- 8 tea spoons of sugar.

- 1 tea spoon of salt.
- 1 litter of boiled water

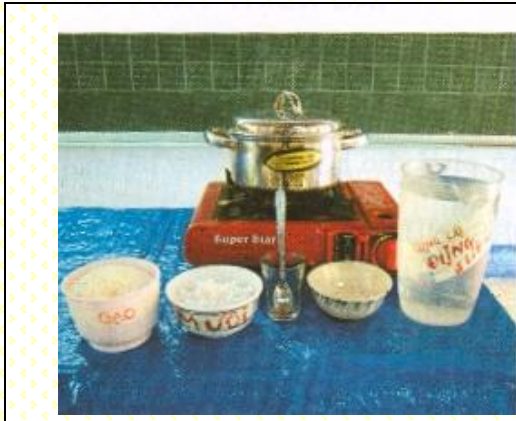
Put every thing in one bottle and then shake

**9. We can feed the child with salt gruel.**

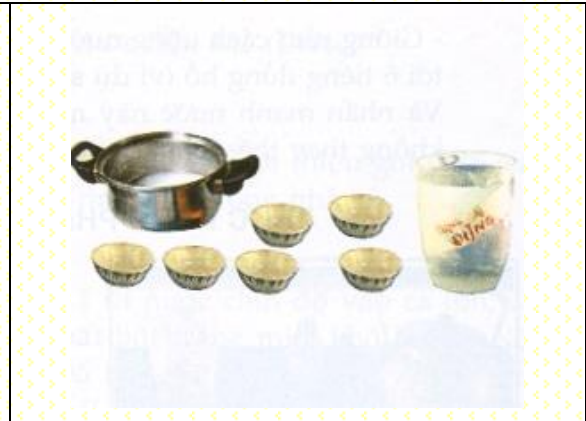
**Answer:**

- 6 bowls of water.
- 1 handful of rice
- 1 pinch of salt

Put every thing into a pot and cook around 15 minutes, then get the salt gruel liquid for the child to drink or eat if they want.



*All needed thing to make salt rice soup*



*6 bowls of water*



*A handful of rice*



*A pinch of salt*

*(These pictures are from booklet of Health Care for Primary School Children - The Save The Children Australian – New Zealand)*

**10. After dissolving ORS, we can use it during the day after 24 hours. If there is some left over, we should throw it away.**

**11. What should we do when a child vomits?**

**Answer:**

- 10 minutes after vomiting, the child should be given ORS liquid.

**12. If the child still got diarrhoea and vomits, what should we do?**

**Answer:**

- Take the child to hospitals.



## 6.3. FEVER

### 1. What is fever?

When the temperature of the body is over 37 °C is so-called fever. When a child gets fever, we should follow up his/her temperature regularly.

### 2. Is fever a disease?

No. It is the resistance of the body to disease causing substances and agents.

### 3. The cause:

- Virus, bacteria (Flu, cold...)
- Strange protein (i.e. when having vaccine).
- Other causes such as when a baby has milk teeth, loss of water when suffering diarrhoea, and so on.

### 4. Levels:

- a. Minor level: from 37,5 – 38 °C
- b. Average level: from 38 – 39 °C
- c. High level: from 39 – 40 °C
- d. Very high level: over 40 °C

You have to use thermometer to take the temperature of the body. For baby and children it is good to take temperature at anus if taking temperature at armpit, add 0.5°C to the shown number from thermometer.

### 5. What should we do when a child gets fever?

- Take their cloths off.
- Let them lie down at cool and quiet places with fresh air but not windiness.
- Give them plenty of water, fruit juice, and should feed them easy-digested food such as gruel and soup. When they've got fever they don't want to eat. Therefore we should feed them many times per day.
- When the temperature is over 38°C, we should clean the child's body to reduce fever. (See the next section)
- We can give the child medicine to reduce fever such as Paracetamol. ***Don't give medicine which contains Aspirin. It is good to follow the advices of the doctor if you can visit.***

### 6. We should take the child to hospital when:

- The fever lasts more than 3 days.
- High fever level (39-40°C) with pale complexion and suffocating
- Fever with diarrhoea, stomachache or painful joints
- Fever with rash, bleeding and jaundice.
- Fever with stiff neck, swelling fontanel vomiting and convulsion.

*(Resource from booklet of Health Care for Primary School Children - The Save The Children Australian – New Zealand)*

## INSTRUCTIONS ON REDUCING FEVER BY USING DAMP TOWEL

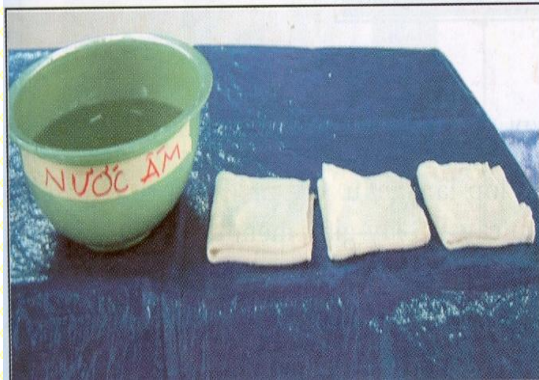
*(Resource from booklet of Health Care for Primary School Children - The Save The Children Australian – New Zealand)*

**What we need:**

- 1 basin of warm water
- 3 clean towels

**How to do:**

- Take off the child's cloths.
- Let the child lie down at cool and quiet places with fresh air but not windiness
- Deep 2 towels into warm water and then squeeze them and put one on the armpit and one on the groin of the child at the same side. Use the third towel to clean the child's body and face.
- And then swap the side.
- Turn the child to one side to clean the back.
- Clean the child with warm damp towel in 15 minutes, and then check the temperature of the child. If it is ok we use dry towel to dry the child's body.



*All necessary things for reducing fever*



*Put warm damp towel on the child's armpit and groin*



*Use warm damp towel to clean the body*



*Turn to one side to clean the back*

## **Chapter 7: School Flood Safety Program**

This chapter introduces steps to conduct School Flood Safety Program and

The program includes 5 steps:

- (1) Assessment on Flood Risk for schools
- (2) Developing School Flood Management Plan
- (3) Teacher orientation on Flood Hazards
- (4) Students orientation on Flood Hazards
- (5) Designing public awareness activities in schools

### 7.1- Assessment on Flood Risk for schools

#### 7.1.1. Why assessment on flood risk for your schools?

- To review status of capacity and vulnerabilities of your schools.
- To identify what are the risks can be happened to your schools during flood season.
- To forecast strength of flood and capacity of your schools to scope with flood.
- To identify vulnerability in both your schools' facilities and students
- To have a proper school flood management plan to strengthen capacity of your schools and better emergency response approaches.

#### 7.1.2. Sample of school flood impact assessment form

### *School impact assesement form*

School name:.....

Commune:.....District:.....Province:.....

School telephone number..... Fax:.....

### 1. General information:

#### 1.1. Teachers information

Total	Male	Female	No. of persons trained on flood hazards		No. of persons who need support	
			Male	Female	Cannot swim	others

#### 1.2. Students information

Total	Male	Female	No. of persons trained on flood hazards		No. of persons who need support	
			Male	Female	Cannot swim	others

1 <sup>st</sup> grade						
2 <sup>nd</sup> grade						
3 <sup>rd</sup> grade						
4 <sup>th</sup> grade						
5 <sup>th</sup> grade						
.....						

**1.3. Status of school facilities:**

1. Is your school flooded during flood season in last year?.....
2. If yes, how high was the water level?.....
3. Was there any students of your school drown during last flood season?.....
4. How far is the school from the main road?.....
5. Is the school near the river or canal?.....
6. If yes, is it dangerous? Any safety signal installed?.....
7. During the flood season, how can students go to school?.....
8. Did your school organize any boat to motor children to school?.....

*Please circle the following words that reflect your school's status.*

8	The walls of the school are made of	concrete	wood	soil	thatch	
9	The roof of the school is	tiles	tole	corrugated iron	cottage	
10	The floor of the school is	tiles	cement	soil		
11	The school is	new	old	strong	weak	nearly collapsed

**2. Strength and weakness:**

No.	Items	Answer		Remark
		good	Not good	
19	How is communication system in your school?	good	Not good	
	Is your school equipped life-vest,	yes	no	

	floating things?			
	Does your school have school map for emergency?	yes	no	
	Does your school have any transportation means? What are they? (write in remark column)	yes	no	
	What is the status of transportation means?	good	Not good	

### 3. Flood risks and vulnerabilities:

- 3.1. General information on impacts of flood in previous year
- 3.2. Forecasting strength of flood in the year
- 3.3. Items may be affected by flood

No	Items	Unit	Quantity	Remark

#### 3.4. Identify who are vulnerable? Why

No	Name	What are risks?	Why?	Remark

### 4. Recommendation:

No	Items	Activities	Expectation	Responsibilities	Cooperation	....
	Strutural measures					
	Non-structural measures					
	.....					

## 7.2- Developing School Flood Management Plan

### **7.2.1. What is a School Flood Management Plan?**

A school flood management plan is a list of activities that teachers and students agree to follow before, during and after flood. A school flood risk reduction plan identifies activities to reduce flood related risks in a school. It has been shown that those affected by flood are the ones best able to deal with a disaster, therefore the school contingency plan builds on this coping strategy ensuring that the teachers and students are better prepared for disasters. It must be ensured that different school children and teachers are represented and will have a voice in the contingency planning process. This will contribute to the school owning and sustaining the plan. (from CPDRR project – Plan Bangladesh).

### **7.2.2. Steps to make a School Flood Management Plan**

#### *Step 1: Identifying objectives of the plan*

- To make the school secure against flood
- To plan and implement flood reduction activities in the school
- To effectively prepare and respond to flood
- To train and build awareness among students, teachers, parents and School Management Committees about flood
- To coordinate with local government offices and other emergency services

#### *Step 2: Forming School Flood Management Task Force*

- Group 1: School Flood Management Board
  - o School Management Board (Principal, Vice principal, General Secretary, etc.)
  - o Group of former teachers
  - o Group of active students
- Group 2: Local agency partners
  - o CCFSC/DCFSC
  - o Red Cross
  - o Youth
  - o Women union
  - o Health
- Assign responsibilities of each group, group members in accordance to each period of flood.
  - o For example: before flood, group A is responsible to organize training for teachers and students while group B is designing public awareness activities, etc.

#### *Step 3: Assessment on school flood risk impacts*

- Resource inventory
- Assessment on hazards, vulnerable and capacity at school level
- Identifying risk, possible problems.
- Solutions.

#### *Step 4: Preparation of School Flood Management Action Plan*

- Before flood: including preparedness activities (structural and non-structural measures) such as upgrading school yards, building school fences, facilities, safety equipments, training for teachers and students on flood hazards, public awareness activities, swimming lesson for school children, etc.
- During flood: including response activities. Activities for emergency situation should be highlighted. Increasing close cooperation with other local agencies

partners as mentioned in the list above to cope with emergency more effectively.

- After flood: including recovery activities. School Flood Management Board in cooperation with other relevant agencies to review the School Flood Management Plan. Identify strengths and weaknesses of the previous period.

Period	Propose DRR activities	Sub-activities	Objectives	Target number	How?	When	What resources?	Who?
Before flood	Structural measures							
	Upgrading school facilities	- School yards - Window - Doors - Roof - Floor .....	.....	.....				
	Safety equipments	- Communication - Life-vest - Transportation means - First aids kit .....						
	Non-Structural measures							
	Capacity building	- Training for teachers - Training for students						
	Public awareness activities	- School flood safety campaign - Developing IEC materials ....						
During flood	.....	.....						
.....								
After flood								

*Step 5: Developing school evacuation map and flood risk map*

- An evacuation map shows safety way in a school.
- Get students' involment to develop this map.
- Teach students how to use the map. Evacuation simulation can be conducted in combination with other school activities.

- A map showing risks around the school should also be developed to help ensure students safety outside school. And do not forget roles of students in building up materials and activities.

### 7.3- Teacher orientation on Flood Hazards

Educational institution is a major public infrastructure which can create long lasting impacts on future generation. The overwhelming impacts of disasters on children, particularly those attending schools in times of disaster is the evidence that immediately solutions need to be sought to ensure that children get access to un-interrupted education and their safety improved at home or at schools.



Teachers are considered as the pillars of society with high moral regards. The extent of their influence goes beyond the school boundary and orienting them in flood risk reduction has far-reaching impacts.

Hence, building capacity on flood hazards for school teachers can help reduce vulnerabilities at schools. That leads to more effective education and safer for school children. This approach can be considered enhancing long term development.

In the seminar, teachers are introduced:

- General understanding on flood hazards and other disaster.
- Knowledge, experience on flood management at school and household.
- Health care and early warning system.
- Discussion on possible activities can be undertaken at schools to education students and enhance public awareness on flood risk reduction.
- Evaluation of flood impacts and developing flood management plan at school level.

### 7.4- Student orientation on Flood Hazards

Children are the most vulnerable group in community. Therefore, equipping them with general understanding on flood hazards and how to cope with emergency situation can help to reduce human loss.

They are effective communication agents in the communities, willing and enthusiastic in sharing knowledge and information without any reservation.



It is expected that after being oriented, school teachers will come back their schools, together with school management board built up school flood management plan and provide orientation for other colleagues and students in their schools.

Orientation for students can be through extra-curricular and out-door activities, into class activities.



## 7.5 - Designing public awareness activities in schools

Children's participation should not be seen as an isolated event but a process where children are constantly supported, encouraged and engaged by adults.

To have larger impacts to community's awareness on flood risk reduction, public awareness activities organized by schools should be planned and conducted in cooperation with relevant agencies at local levels.



The objectives of the public awareness activity in schools are not only for their school teachers, staffs, students but also for wider community living in the areas. Event experiences can be shared with other neighbors districts, provinces, etc. for better approaches and effects.

Following is a sample activity which schools can conduct at their schools:

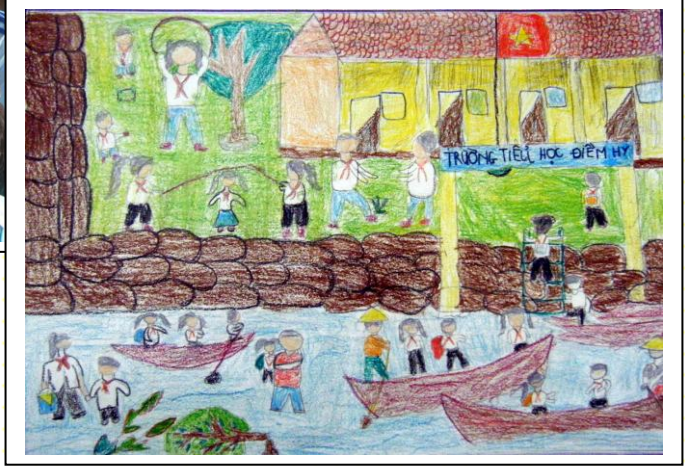
### **School Flood Safety Campaign Day:**

*The objectives of Festival on School flood safety Day are to help students and community to:*

- Get to know the geographical features of their school.
- Get to know the flood features in the region
- Enhance the communication network.
- Develop orientation for flood preparedness plan.
- Update information on flood and measures to cope with flood. Enhance knowledge, experience and skills on emergency management during flood season.
- Enhance the swimming capacity for children.
- Review information on flood safety measures.
- Know how to prevent common diseases in flood season.
- Identify safe places and routes for evacuation.

*Recommended activities:*

- Exhibition of IEC materials and safety objects.
- Quiz
- Game,
- Role-play,
- Drawing and painting, painting analysis
- Film show,
- Experience exchange with local people.
- Swimming competition.
- Developing school map
- Identifying flood prone areas to draw map of the channels surrounding and danger warning board,



## REFERENCES

- Training course curriculum on Planning and Implementation of Flood Preparedness Program at Provincial and District Levels – Project on Capacity Building for Planning and Implementation of Flood Preparedness Program at Provincial and District levels in the Lower Mekong Basin (Phase 2) Feb 05 – Apr 06
- School Disaster Management Plan, Children’s Participation in Disaster Risk Reduction (CPDRR) Project – Plan Bangladesh Oct 07 – Dec 08
- *Booklet of Health Care for Primary School Children - Save The Children Australian – New Zealand*



### **Mekong River Commission (MRC)**

MRC is an intergovernment organization established in 1995 to promote and co-ordinate sustainable management and development of water and related resources for the countries's mutual benefit and the people's well-being by implementing strategic programmes and activities and providing scientific information and policy advice.