ECO-CLUB MANUAL
(FOR ECO-CLUB INCHARGES)

2012

स्वाध्यायान्मा प्रमदः

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  - ♦ Water shed management.
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INTRODUCTION

- Water is a natural resource that is necessary for the life on earth to exist.
- About 97% of the total water available on the earth is found in the oceans ,only 3% is freshwater.
- 2.9997% is available as ice caps and only 0.003% of the total volume of water is available to us as soil ,moisture , ground water , water vapour band water in lakes , streams , rivers and wet lands

- Water has unique has unique physical and chemical characteristics .
- Water that is found in streams , rivers ,lakes , wet lands and artificial reservoir is called SURFACE WATER.
- Water that percolates into the ground and fills the pores in soil and rock is called GROUNDWATER.
- India is gifted by nature with large number of major and medium rivers constituting 24 river basins
- India receives annual precipitation of about 4000KM, including snowfall.
- India receives most of the rainfall during the months of june to September.
- The monsoon in India is usually stable but varies geographically. They may be heavier in some parts whereas scarcity in others.
- Due to lack of adequate storage facilities and water management system, there is water shortage even in areas with adequate rainfall.

WATER POLLUTION

When the composition or quality of water change due to direct or indirect effect of anthropogenic activities and the water becomes unfit for any purpose it is called WATER POLLUTION.

SOURCE OF WATER POLLUTION

- TWO TYPES :- a) point source b) non – point source
- A) point source :- when the source of pollution can be identified . eg:- municipal waste , industria waste.
  a) Non- point source:- when the source of pollution cannot be identified .eg:- acid rain, agricultural run off.

CAUSES OF WATER POLLUTION

- Oxygen –depleting waste . these includes organic waste which is decomposed by bacteria . they use up the O2 present in the water to degrade these wastes and in this process degrades water quality. The biological oxygen demands (BOD) is an indicator of level of pollution.
- Disease – causing agents . these includes bacteria, virus , protozoa and parasitic worms that enter water from the domestic sewage and untreated human and animal waste.
- Inorganic plant nutrients . these are excessive amount of water soluble nitrates and phosphate that cause excessive algal growth. As the organic matter decays , the oxygen level decrease which kills fish and other aquatic species.
- Contamination by pesticides . this lead s to biomagnifications , birds of prey and other fish-eating birds are affected by such pollution.
- Water –soluble inorganic chemicals. It includes acid , salts and compound s of toxicmetals like mercury and lead.
- Organic chemicals, which includes oil , gasoline, plastic , pesticide, cleaning solvents, detergent and other chemical.
- Sediment of suspended matter. These are insoluble particles of soil and other solids that become suspended in water .
- Water –soluble radioactive isotopes.
- Hot water released by power plants and industries .This water not only decrease the solubility of oxygen but also changes breeding cycles of various aquatic organisms.

- Oil washed into surface water .Accidental oil spills.

CONTROL

- Treatment plants should be set up to treat waste.
- Bioremediation using microbes and plants.
- Avoid throwing waste in water bodies.

ACTIVITIES

1. Quiz related to topic-Multiple choice question.
2. Crossword puzzle.
3. Slogan writing.
4. Poster making .
5. Construction of words from from WATER, POLLUTION,CONSERVATION

WATER- RELATED DISEASES

KEYWORDS:- Water supply , sanitation, blue revolution, sanitation with rapidly expanding populations, many places in the world are already facing a crisis over water, there should be a balance between demand and supply . conservation of water and better management is an urgent need . this is being termed as "BLUE REVOLUTION".

The present water management strategies do not take care of:-

a. Wastage of water
b. Overuse
c. Water pollution
d. Erratic water supply
e. Sanitation related issues
f. Water related diseases

There are four major types of water-related diseases:-

1. Water borne diseases
   caused by contamination of water by human and animal waste
   contaminations include sewage chemical waste
   diseases caused by these agents include cholera, typhoid Hepatitis, diarrhea, dysentery, neurological disorders , cancer .
   Remedy:- * Improving Sanitation
   Sufficient quantity of safe drinking water .
2. Water based disease
   caused by aquatic organism that live a part of life in water and another part as human parasite.
   e.g:- Round worm
   s. Remedy:- Use of clean and safe drinking water
   * Adequate sanitation services.
3. Water – related vector diseases
   *Breeding of mosquitoes in stagnant water spread diseases like malaria, dengue, filariasis.
   *Remedy:-
   cleanliness of surrounding
   Health education
4. Water – scarcity diseases

*Occur in areas where water and sanitation is poor.
*Remedy:- . Providing safe and clean drinking water.
Improved sanitation facilities
Good personal and food hygiene.

5. SUGGESTED ACTIVITIES
*Quiz related to the topic.
*Posters showing spread of watervector diseases
*Posters – description of – diseases plus do and donts
*Slogan – writing.

6. Reference
*Erah bharucha. Text book of Environment studies .

7. Values developed
*cleanliness of surrounding.
*Importance of safe and clean drinking water;
*Good personal and food hygiene
*Importance of health education
*sanitation practices.

ACTIVITIES QUIZ RELATED TO TOPIC

1. Which of the following is not a vector-borne disease?
   a. Dengue
   b. Cholera
   c. Malaria
   d. Filariasis ANS : b. cholera
2. Water management and conservation of water is termed as
   a. Green revolution
   b. White revolution
   c. Red revolution
   d. Blue revolution ANS : d. blue revolution
3. Arsenic poisoning is
   a. Water-scarcity disease
   b. Water-related vector disease
   c. Water-borne disease
   d. Water- based disease ANS : c. water borne disease
4. Water related diseases are mainly caused due to
   a. Erratic water supply
   b. Poor hygiene related behavior pattern
   c. Poor sanitation services
   d. All of the above Ans: all of the above

ACTIVITIES

Slogan writing
Save water, every drop count
POSTER MAKING

DENGUE

Vector :-Aedes aegypti

Symptoms :-

- high fever
- join pain
- red rashes

Don`ts

- Accumulation of water
- Neglect the symptoms.

Do`s

- Consult physician
- Avoid self medication
- Prevent accumulation of water in surrounding.
- Health education
- Use of anti larval spray

"Sanitation is more important than independence." Mahatma Gandhi

The literal meaning of sanitation is providing the means of promoting health through prevention of human contact with the hazards of wastes. According to WHO ,"Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces." Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities. In other words 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal.

If we look at our past, the earliest evidence of urban sanitation was seen in Harappa, Mohenjo-daro and the recently discovered Rakhigarhi of Indus Valley civilization. This urban plan included the world's first urban sanitation systems. Within the city, individual homes or groups of homes obtained water from wells. From a room that appears to have been set aside for bathing, waste water was directed to covered drains, which lined the major streets. So we see that the importance of sanitation was felt since then.

The term "sanitation" can be applied to a specific aspect, concept, location or strategy, such as:

- **Basic sanitation** - refers to the management of human faeces at the household level.
- **On-site sanitation** - the collection and treatment of waste is done where it is deposited. Examples are the use of pit latrines, septic tanks etc.
- **Food sanitation** - refers to the hygienic measures for ensuring food safety.
- **Environmental sanitation** - the control of environmental factors that form links in disease transmission. Subsets of this category are solid waste management, water and wastewater treatment, industrial waste treatment and noise and pollution control.
- **Ecological sanitation** - an approach that tries to emulate nature through the recycling of nutrients and water from human and animal wastes in a hygienically safe manner.

Objectives of Sanitation

1. To increase awareness of the importance of sanitation to one's daily lifestyle, health and dignity
2. To improve people's behavior through the correct use of sanitation facilities and good hygiene practices
3. To promote the continued identification, documentation and replication of sanitation best

practices.

4. To promote innovative approaches towards the acceleration of sanitation
5. To promote programmes to ensure sustainability of sanitation facilities, through their correct usage, operations and adequate maintenance.
6. To provide safe, private hygienic and convenient facilities for defecation.
7. To monitor infection threats and respond by offering useful advice to the public to help to prevent the spread of infection. eg. Workers of MCD visit all the residents of the area allotted to them to inspect for the growth of larvae of mosquitoes (Malaria) and eggs of Aedes egyptii (Dengue/ Yellow fever/Chickengunya) in the stagnant waters of pot/coolers etc. and also advice the people to pour few drops of oil on top of the stagnant water so that it does not become a breeding ground for the pathogens.
8. To maintain hygienic conditions through services such as garbage collection and waste water disposal.

HYGIENE

Hygiene refers to the set of practices perceived by a community to be associated with the preservation of health and healthy living. In modern medical sciences there is a set of standards of hygiene recommended for different situations but what is considered hygienic or not can vary between different cultures, and groups. Some regular hygienic practices may be considered good habits by a society while the neglect of hygiene can be considered disgusting, disrespectful or even threatening.

Hygiene is an old concept related to medicine, as well as to personal and professional care practices related to most aspects of living. In medicine and in home (domestic) and everyday life settings, hygiene practices are employed as a means to reduce the incidence and spreading of disease. In industries related to the manufacture of food, pharmaceutical, cosmetic and other products, good hygiene is a key part of quality assurance i.e. ensuring that the product complies with microbial specifications appropriate to its use. The term cleanliness (or cleaning) and hygiene are often used interchangeably, which is quite confusing. In general, hygiene mostly means practices that prevent spread of disease-causing organisms. Since cleaning processes (e.g., hand washing) remove infectious microbes as well as dirt and soil, they are often the means to achieve hygiene. Other uses of the term such as body hygiene, personal hygiene, sleep hygiene, mental hygiene, dental hygiene, and occupational hygiene, imply their usage in connection with public health. Hygiene is also the name of a branch of science that deals with the promotion and preservation of health, also called hygienics. Good hygiene is an important barrier to many infectious diseases including the faecal - oral diseases and it promotes better health and well- being.

Home and everyday life hygiene

Home hygiene includes the hygiene practices that prevent or minimize disease and the spreading of disease in home (domestic) and in everyday life settings such as social settings, public transport, the work place, public places etc.

Hygiene in home and everyday life settings plays a significant role in preventing spread of infectious diseases. It includes procedures used in different domestic situations such as hand hygiene, respiratory hygiene, food and water hygiene, general home hygiene(hygiene of environmental sites and surfaces), care of domestic animals, and home healthcare (the care of those who are at greater risk of infection).

The major sources of infection in the home are people (who are carriers or are infected), foods (particularly raw foods) and water, and domestic animals (pets). Additionally, sites that accumulate stagnant water—such as sinks, toilets, waste pipes, etc.—readily allow microbial growth, and can become reservoirs of infection. Safe disposal of human waste is a fundamental need; poor sanitation is a

primary cause of diarrheal disease in low income communities. Respiratory viruses and fungal spores are also spread via the air.

Hygienic cleaning can be done by

1. Mechanical removal (i.e. cleaning) using a soap or deterge. This process must be followed by thorough rinsing under running water to remove germs from the surface.
2. Using a process or product that inactivates the pathogens in situ. Germ kill is achieved using a "micro-biocidal" product i.e. a disinfectant such as use of antibacterial product or waterless hand sanitizer, or by application of heat.
3. In some cases e.g. laundering of clothing and household linens such as towels and bedlinen can be done by using Dettol or soaking in Savlon.

Food hygiene at home

Food hygiene is concerned with the hygiene practices that prevent food poisoning. The five key principles of food hygiene, according to WHO, are:

1. Prevent contaminating food with pathogens spreading from people, pets, and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.
3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
4. Store food at the proper temperature.
5. Use safe water and raw materials

Household water treatment and safe storage

Household water treatment and safe storage ensure drinking water is safe for consumption. Drinking water quality remains a significant problem, not only in developing countries but also in developed countries. Methods for treatment of drinking water, include:

1. Chemical disinfection using chlorine or iodine
2. Boiling
3. Filtration using ceramic filters. Solar disinfection - Solar disinfection is an effective method, especially when no chemical disinfectants are available. UV irradiation – as in case of Aqua guards 4. Combined flocculation/disinfection systems – available as sachets of powder that act by coagulating and flocculating sediments in water followed by release of chlorine.

Medical hygiene

Medical hygiene and medical care, that prevents or minimizes disease and the spreading of disease. Medical hygiene practices include:

Isolation or quarantine of infectious persons or materials to prevent spread of infection.

Medical hygiene pertains to the hygiene practices related to the administration of medicine,

Sterilization of instruments used in surgical procedures.

Use of protective clothing and barriers, such as masks, gowns, caps, eyewear and gloves.

1. Proper bandaging and dressing of injuries.
2. Safe disposal of medical waste. eg. use of incinerators.
3. Disinfection of reusables (i.e. linen, pads, uniforms)
4. Scrubbing up, hand-washing, especially in an operating room, but in more general health-care set-

tings as well, where diseases can be transmitted. Autoclaves can be other option.

In the food industry

Modern restaurant food preparation area.

Sanitation within the food industry means the adequate treatment of food-contact surfaces by a process which is effective in destroying vegetative cells of microorganisms and in substantially reducing numbers of other undesirable microorganisms, but without adversely affecting the quality of food or its safety for the consumers.

PROMOTING HYGIENE

Hygeine can be improved by the following practices:-

1. By providing proper water supply and sanitation services.
2. By disposing the waste water properly; If wastewater is not disposed of effectively it can serve as a breeding ground for mosquitoes. People may also slip. children may play in them and risk water-borne illness.
3. By proper handwashing: It is one of the most effective ways of preventing the spread of diarrhoeal diseases. Pathogens cannot be seen on hands, and water alone is not always sufficient to remove them. Soap and wood ash are both cleansing and disinfecting agents when used with water and can be used to kill pathogens on hands and utensils. The most important times that hands should be washed with soap and water are:
   - ♦ After defecating.
   - ♦ After cleaning a child who has defecated.
   - ♦ Before eating or handling food
   - ♦ To encourage hand washing to become part of the daily routine.
   - ♦ Suitable facilities must be located near to places such as latrines and kitchens, where they will be needed. If running water is available, the facilities should include a tap and a sink as well as soap.
4. By promoting good personal hygiene through hygiene education programmes which should teach them the importance of bathing. Regular bathing and laundering are important for cleanliness and good personal appearance. They also prevent hygiene-related diseases such as scabies, ringworm, trachoma, conjunctivitis and louse-borne typhus. Educational and promotional activities can encourage bathing and laundering, but increasing the number of washing facilities and locating them conveniently may be more effective. Bathing with soap is an important means of preventing the transmission of trachoma—an illness that can cause blindness and other eyesight problems. Children's faces in particular should be washed regularly and thoroughly. If a child has trachoma, a special towel or tissue should be used to wipe or dry the child's face; the towel should never be used for other children because of the risk of transmitting the disease. Ideally, programmes that promote bathing should be combined with a programme to reduce the numbers of flies, which spread trachoma and other diseases, and to improve sanitation.
5. By promoting laundering of clothes and bedding, laundry slabs or sinks can be constructed near water points. They should be large enough to wash bedding and other bulky items and be situated so that water drains away from the laundry area and away from the water source. Locating laundry places in natural water bodies, streams and irrigation canals is best avoided if possible, since this practice can contribute to the transmission of various diseases.
6. **Community Hygeine**: Some health measures can be undertaken only at the community level; these include water source protection, proper disposal of solid waste and excreta, wastewater

drainage, controlling animal rearing and market hygiene. Individual community members can play a very important role in community hygiene, and have a responsibility towards their neighbours and to the community to promote good health and a cleaner environment. For example, everyone in the village ,they must keep their houses and compounds clean, because one dirty house can affect many conscientious neighbours and contribute to the spread of disease. Community leaders can promote cleanliness in the home by regularly visiting the houses and by using by-laws to encourage household maintenance. Some kind of reward can also be given to the cleanest house for encouragement.

7. **Markets**: Markets often represent a health hazard because foodstuffs may not be stored properly thereby causing rotting and because the markets may lack basic services, such as water supply, sanitation, solid waste disposal and drainage. Ideally, markets should have several taps to provide ready access to safe water for drinking and washing to traders and consumers.. Many vegetable and fruit sellers regularly sprinkle their produce with water, and it is important that they have access to clean water for this. The sanitation facilities should also be appropriate for the number of people who visit the market, i.e. separate facilities for men and women. Water and sanitation facilities for a market are often relatively easy to support by charging a small fee, or by using part of the market fee to pay for such services. If people are charged a fee to use the facilities, they can be kept clean.
8. **PERSONAL, DOMESTIC AND COMMUNITY HYGIENE** : Foodstuffs sold at the market should be inspected daily by health officials. This is particularly important in case of meat and fish, which should be inspected before sale to ensure that they have been prepared according to national regulations and that they are devoid of any contaminants. Markets usually generate a lot of solid waste and it is important that it is disposed of properly, to prevent vermin such as rats and insects from feeding and breeding among it. The layout of market stalls should thus allow easy access for vehicles that collect waste and clean the area. Solid waste should be collected and disposed of daily, and preferably more often. Strategically located waste bins (often concrete bunkers) can make this more effective. Market areas should also be properly drained to prevent flooding and insect breeding. Markets function most effectively when they have legal status, with market fees and supervision, preferably by health officials .Well run markets tend to have strong traders' associations and good links between market associations and local service providers. This helps them to have a strong voice in improving conditions, since they generate significant income for communities and provide essential food distribution services. Traders' associations can take up the task of setting up standards for the market, can successfully manage water and sanitation facilities, and can organize regular waste collection. If markets are held regularly, community members should seek advice and support from local health staff on issues such as setting up an association, establishing trading standards and penalties for contravention, and on lobbying for service provision. As markets grow, the management of services often gets easier because of more income.
9. **Animal rearing**: In many communities animal rearing is not only a means of generating food high in protein content and nutritional value ,but also for generating additional income. Animals can also provide many other products, such as leather and fuel, that improve the quality of life. However, if it is not practiced safely, rearing can have negative effects on the health of the community. Animals should always be kept away from households, particularly cooking areas and drinking-water sources, because their excreta contain pathogens which can contaminate food and water. Preferably, animals should be kept in compounds at least 100 metres from water sources and 10 metres from houses. Animal waste should be disposed of properly, away from homes and water sources, or be used as a fertilizer. It is also best that animals are slaughtered away from households and water sources, since the wastes may introduce contamination. Slaughtering must be carried out

by qualified individuals who follow the country laws governing slaughter practices. Some disease vectors have animal hosts as primary and humans. Secondary e.g. Pigs, for example, can be reservoirs of Japanese encephalitis, dogs can be reservoirs of leishmaniasis, and some mosquitoes prefer to feed on cattle rather than humans. Placing animal shelters between mosquito breeding places and the village may therefore provide some protection against malaria transmission.

10. **Food hygiene**: Contaminated food represents one of the greatest health risks to a population and is a leading cause of disease outbreaks and transmission. Food that is kept too long can get fermented and contain toxic chemicals or pathogens, and foodstuffs that are eaten raw, such as fruits or vegetables, can become contaminated by dirty hands, unclean water or flies. Improperly prepared food can also cause chemical poisoning: cassava leaf that has not been properly pounded and cooked, for example, may contain dangerous levels of cyanide. To promote good health, therefore, food should be properly stored and prepared .**Food preparation in the home**: As most food is likely to be prepared in the home, it is important that families understand the principles of basic hygiene and know how to prepare food safely. Before preparing food, hands should be washed with soap or ash. Raw fruit and vegetables should not be eaten unless they are first peeled or washed with clean water. It is also important to cook food properly, particularly meat. Both cattle and pigs host tapeworms that can be transferred to human.

PROMOTING SANITATION

"A good sewer is a far nobler and far holier thing than the most admired Madonna ever painted."

- John Ruskin

WASTE WATER MANAGEMENT

The standard sanitation technology in urban areas is the collection of wastewater in sewers, its treatment in wastewater treatment plants for reuse or disposal in rivers, lakes or the sea. Sewers are either combined with storm drains or separated from them as sanitary sewers. Combined sewers are usually found in the central, older parts or urban areas. Heavy rainfall and inadequate maintenance can lead to combined sewer overflows or sanitary sewer overflows, i.e. more or less diluted raw sewage being discharged into the environment. Industries often discharge wastewater into municipal sewers, which can complicate wastewater treatment unless industries pre-treat their discharges. The high investment cost of conventional wastewater collection systems are difficult to afford for many developing countries. Some countries have therefore promoted alternative wastewater collection systems such as condominial sewerage, which uses smaller diameter pipes at lower depth with different network layouts from conventional sewerage. In developed countries treatment of municipal wastewater is now widespread, but not yet universal .In developing countries most wastewater is still discharged untreated into the environment. For example, in Latin America only about 15% of collected sewerage is being treated

Reuse of wastewater

The reuse of untreated wastewater in irrigated agriculture is common in developing countries. The reuse of treated wastewater in landscaping, especially on golf courses, irrigated agriculture and for industrial use is becoming increasingly widespread. In many suburban and rural areas households are not connected to sewers. They discharge their wastewater into septic tanks or other types of on-site sanitation.

Ecological sanitation

Ecological sanitation is sometimes presented as a radical alternative to conventional sanitation systems.

Ecological sanitation is based on composting or vermicomposting toilets where an extra separation of urine and feces at the source for sanitization and recycling has been done. It thus eliminates the creation of black water and eliminates fecal pathogens. If ecological sanitation is practiced municipal wastewater consists only of grey water, which can be recycled for gardening. However, in most cases grey water continues to be discharged to sewers.

Sanitation and public health

The importance of the isolation of waste lies in an effort to prevent diseases which can be transmitted through human waste, which afflict both developed countries as well as developing countries to differing degrees. It is estimated that up to 5 million people die each year from preventable water-borne disease, as a result of inadequate sanitation and hygiene practices. The effects of sanitation have also had a large impact on society. Relevant disease include: Waterborne diseases, which can contaminate drinking water. Diseases transmitted by the fecal-oral route ;Hookworm, where eggs can survive in the soil.

Thus a large number of these diseases can be prevented by proper sanitation.

Global access to improved sanitation

The Joint Monitoring Program for water and sanitation of WHO and UNICEF has defined improved sanitation as connection to a public sewer connection to a septic system pour-flush latrine, simple pit latrine. ventilated improved pit latrine. According to that definition, 62% of the world's population has access to improved sanitation in 2008, up by 8% since 1990. Only slightly more than half of them or 31% of the world population lived in houses connected to a sewer. Overall, 2.5 billion people lack access to improved sanitation and thus must resort to open defecation or other unsanitary forms of defecation, such as public latrines or open pit latrines. This includes 1.2 billion people who have access to no facilities at all.

In India,200m women are obliged to wait throughout day for hours together to go to fields for defecation. Adolescent girls have nowhere private to deal with menstrual hygiene. Inadequate sanitation can result in morbidity and mortality, poor child development ,terrible indignity for huge number of people. At micro level at school on 'eco-club' platform the preventive measures can be taught and can be spread from classroom to home and then at community level some of these problems can be addressed.

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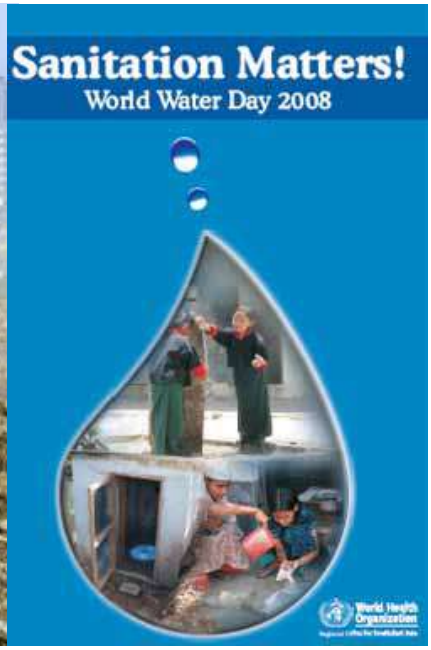
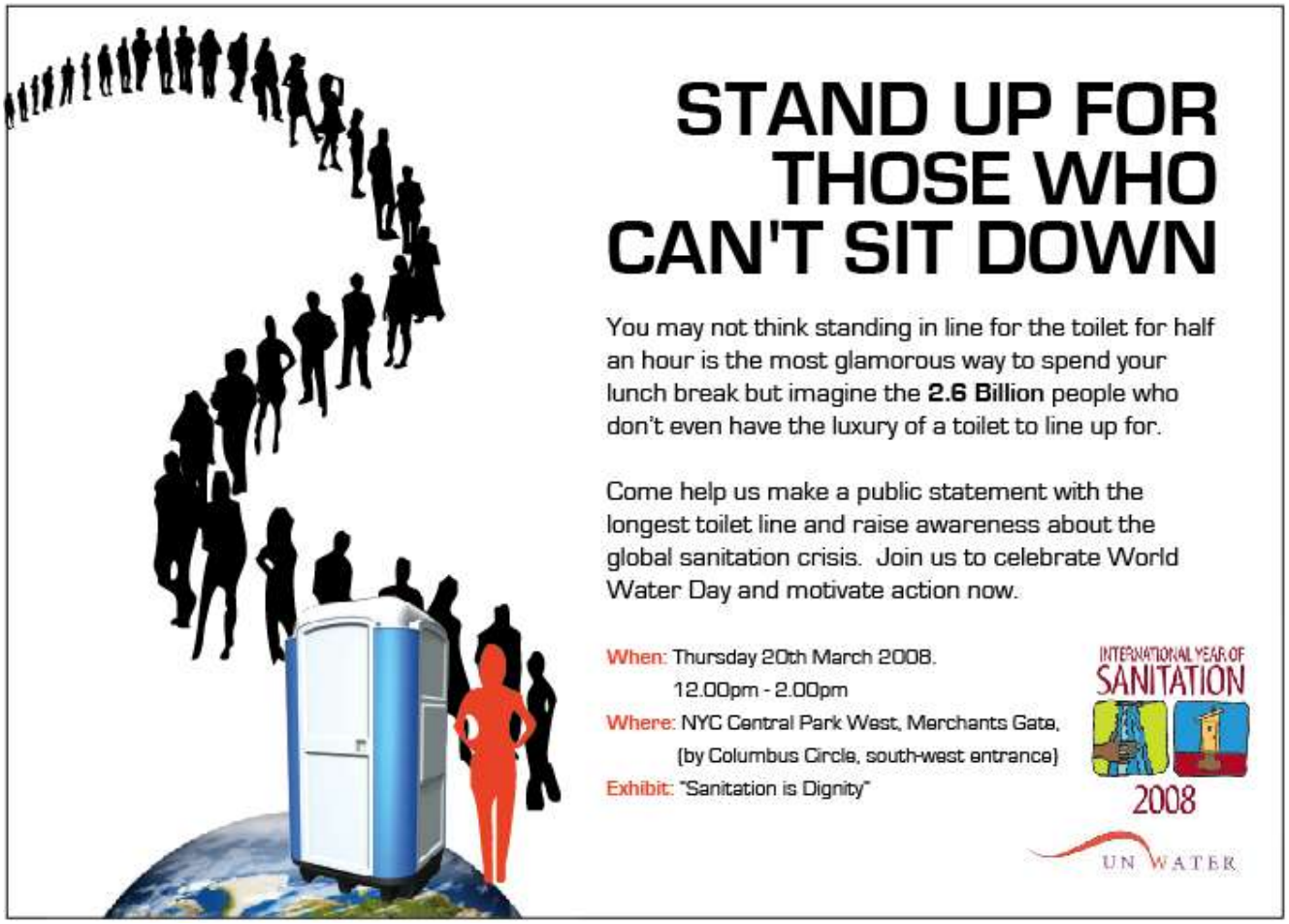
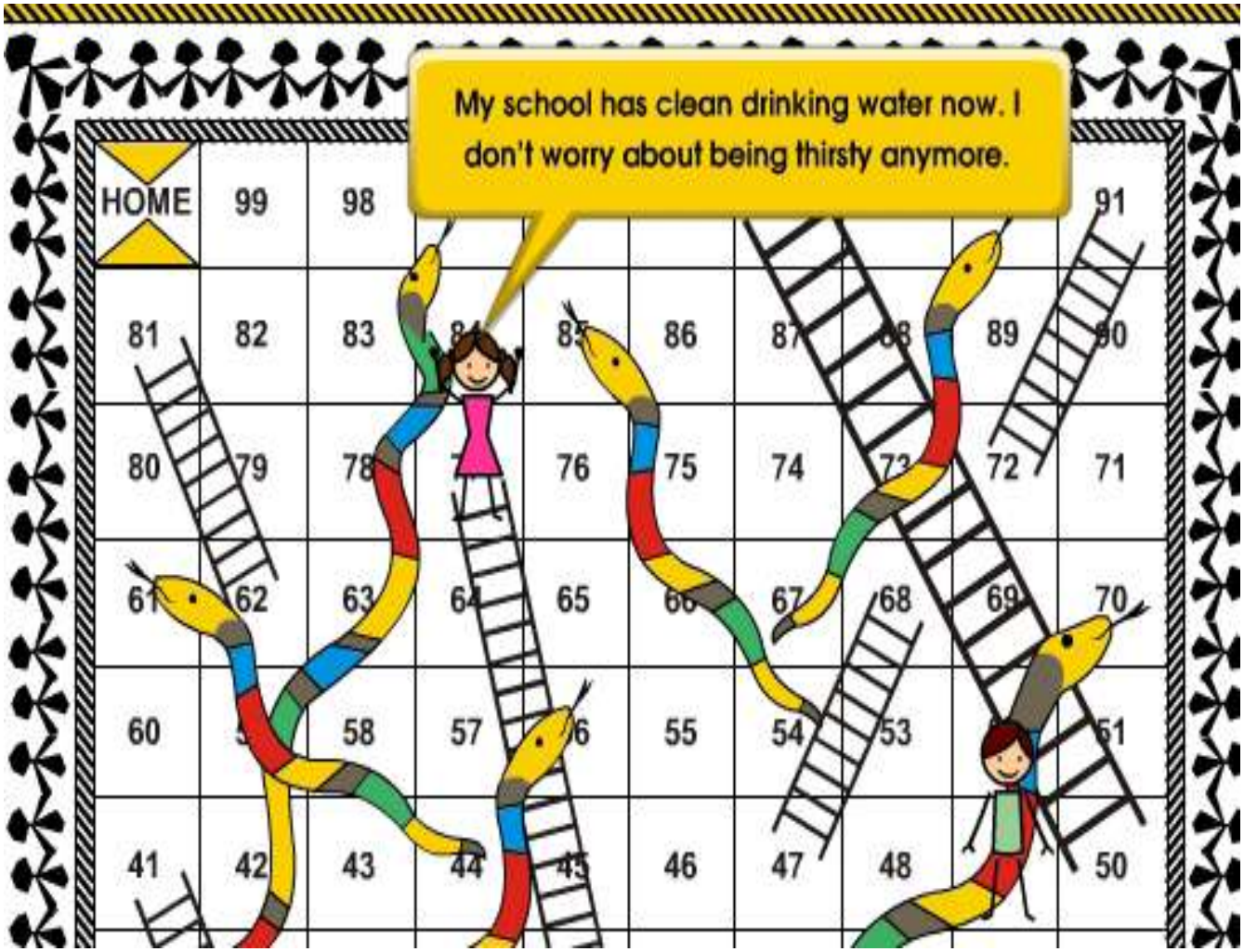

Sanitation Matters!
World Water Day 2008


STAND UP FOR THOSE WHO CAN'T SIT DOWN
You may not think standing in line for the toilet for half an hour is the most glamorous way to spend your lunch break but imagine the 2.6 Billion people who don't even have the luxury of a toilet to line up for.
Come help us make a public statement with the longest toilet line and raise awareness about the global sanitation crisis. Join us to celebrate World Water Day and motivate action now.
When: Thursday 20th March 2008.
12.00pm - 2.00pm
Where: NYC Central Park West, Merchants Gate,
(by Columbus Circle, south-west entrance)
Exhibit: "Sanitation is Dignity"
INTERNATIONAL YEAR OF SANITATION
2008
UN WATER


My school has clean drinking water now. I don't worry about being thirsty anymore.
HOME
99
98
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72
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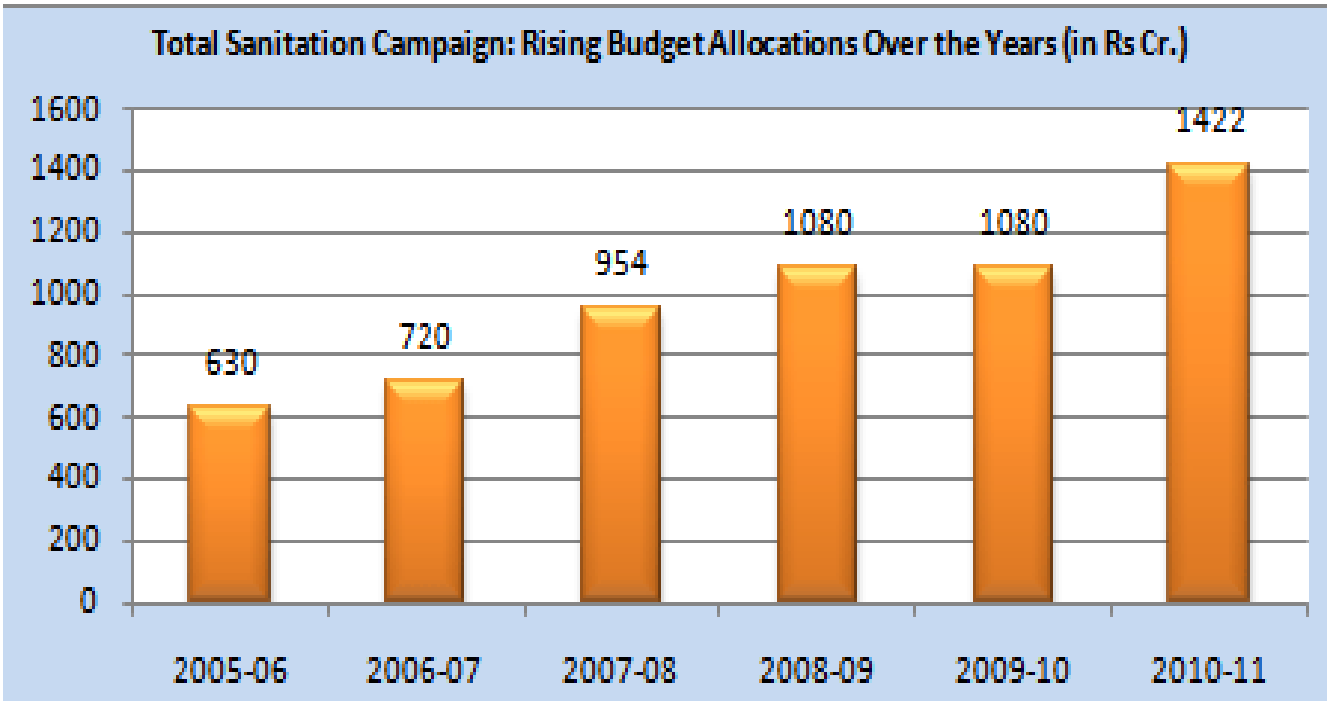
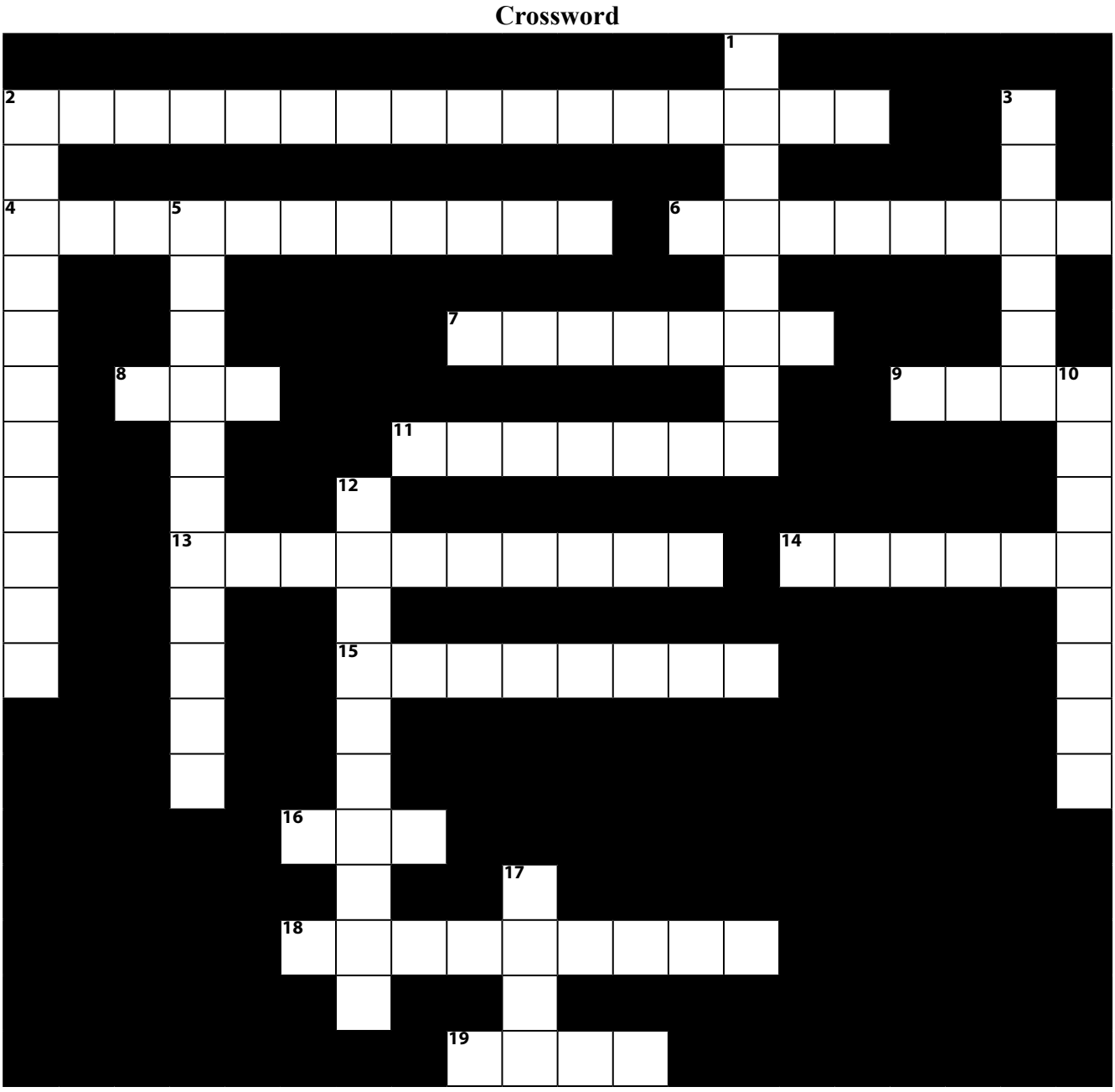

Total Sanitation Campaign: Rising Budget Allocations Over the Years (in Rs Cr.)
1600
1400
1200
1000
800
600
400
200
0
630
720
954
1080
1080
1422
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11

Water related issues



Word Scramble

There are twenty five scrambled water related words. Unscramble them to get the correct words in space provided.

1. ERHSBEOPI ……..
2. LIFSOS ……..
3. MYCOSEMTSE ……..
4. TOLPILONU ……..
5. WAELRNEEB ……..
6. TOFERS ……..
7. METALIC ……..
8. TEFOREDASTNOI ……..
9. GDTRHOU ……..
10. RIEGRCUALTE ……..
11. ROMETEPUL ……..
12. EARCINGOCN ……..
13. DRECYLOHTRIEC ……..
14. TALVOPHICOTO ……..
15. LIFEBOU …….
16. LIDINLWM …….
17. TREOMGALHE …….
18. CLEUNAR …….
19. NOISEOR …….
20. CLECEYR …….
21. LIDAT …….
22. DERUCSE …….
23. BLCUEOC …….
24. MIRONVEENT …….
25. BOVIERYISTID …….