

SCHOOL SANITATION AND HYGIENE EDUCATION

SPECIALIZED MASTER IN WASH (HUMANITARIAN) THESIS

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DEDICATION

1 dedicate this end of training thesis to my Parents

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ABSTRACT

Diarrhoeal diseases are among the greatest causes of children mortality. They are caused particularly by the lack of hygiene and sanitation, the bad management of human excreta, of raw water. The children and teenagers indeed are touched by these diseases. The children in age to attend the school pass surroundings 1/3 of their day in schools, where they have to nourish themselves and to put themselves at ease. The sanitation facilities of the schools must thus be favourable for these activities, but unfortunately it is not the case in the major part of schools. The sanitation installations are most of the time quasi non-existent or badly maintained, and hygiene practices are more deplorable. That attends seriously to the life of the children particularly and the community in general. Through this work, we showed the importance of school sanitation and hygiene education in the school curriculum of our children, the positive impact on the safeguarding of their health, their manner of learning and the positive impact that hygiene education of children can have on the wide community. We also took into account the management of the menstruations in our schools which are the cause of abandon of the classes by several school girls and teaching women. The implementation of a programme of school sanitation and hygiene education emanates from the responsibility of several actors of which the government in first, and is articulated mainly around five points, which are: evaluation, planning, organization, formation and action. However this work gives only one preliminary idea of what must be done as regards school sanitation and hygiene education. It will thus be necessary to make studies on particular samples to really evaluate the needs of schools and find solutions to fill them.

Keywords: School sanitation, Hygiene education, Program, Health

LIST OF ABBREVIATIONS

FRESH: Focusing Resources on Effective School Health

IRC: International Water and Sanitation Centre

MGD: Millennium Development Goals

MHM: Menstruation Hygiene Management

MoHRD: Ministry of Human Resource Development

SSH: School Sanitation and Hygiene

SSHE: School Sanitation and Hygiene Education

UNESCO: United Nations Educational, Scientific and Cultural Organization

UNICEF: United Nations Children's Fund

UNO: United Nations Organization

WASH: Water, Sanitation and Hygiene

WFP: World Food Program

WHO: World Health Organisation

WSSCC: Water Supply Collaboration and Sanitation Council

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INTRODUCTION

Sanitation refers to the management of human and animal excreta, with the antivectorial fight, the management of solid waste and drainage of waste and rain water (Sanon, 2012). It is one of the basic determinants of the quality of life and human development. Today the concept of sanitation includes personal hygiene, safe drinking water, food hygiene, environmental sanitation and disposal of human excreta, wastewater and solid waste. So the MHRD (Ministry of human resources and development) in India defines it in 2012, as a safe management of human excreta, including its safe confinement, treatment, and disposal and associated hygiene-related practices. The term "hygiene" is taken from Hygeia, the Greek goddess of health, cleanness, and sanitation. According to Save the children (2010), good hygiene means keeping yourself and your environment clean in order to prevent illness and disease. It means living in an environment where human and animal feces do not enter your body.

Globally some 1.1 billion people are currently without access to improved water supply and about 2.4 billion do not benefit from any form of improved sanitation services (UNO, 2013). The majority of these people live in Asia and Africa. In Africa, for example, two out of five people lack improved water supply. Diseases related to inadequate water, sanitation and hygiene are a huge burden in developing countries. It is estimated that 88% of diarrheal disease is caused by unsafe water supply, and inadequate sanitation and hygiene (WHO, 2004c). One gram of feces (approximately the size of a child's little toenail) may contain 10 million viruses, one million bacteria, 1000 parasite cysts, and 100 worm eggs.

In environments where people don't practice good hygiene, they are not protected from feces and they are exposed to germs, which cause diarrhoea and acute respiratory diseases. These two illnesses are big killers of young children, and they are the primary illnesses facing school-aged children. (Save the children, 2010). The children are thus more affected by the lack of sanitation than the adults. The medical conditions of infrastructures in our schools reveal the risks of contamination by pathogenic micro-organisms, to which millions of children attending these mediums is exposed. Their level of vulnerability vis-à-vis the diseases is thus increased. The absence of hygiene education makes these conditions even more worrying. Hygiene education means the service of an education and/or information aiming at encouraging the people to adopt good hygiene practices and to prevent the diseases due to a lack of hygiene.

In the 2008 annual report of UNICEF it is shown that of the 60 developing countries, surveyed, only 46% of primary schools have adequate water sources and 37% have adequate sanitation facilities. The figure 1 bellow represent it.



Figure 1: Percentage of primary schools having adequate water source and sanitation

The UNICEF also estimated (in 2012) at 1, 9 billion the number of school days which could be gained if the millennium development goals (MGD) relating to the salubrious water supply salubrious water and sanitation were reached and if the incidence of the diarrheal diseases were reduced.

Global objective:

To contribute to the improvement of WASH conditions in schools;

Specific objectives:

- Demonstrate the importance of school sanitation and hygiene education for children and also for the entire community
- Steps to implement a SSHE program.

I- IMPORTANCE OF SCHOOL SANITATION AND HYGIENE

The focus of school sanitation and hygiene education is on the development of life-skills, a healthy and safe school environment and outreach to families and communities (Samanta, 1998). The importance of school sanitation and hygiene education can be seen through several points:

I.1- Health preservation

The poor conditions of sanitation, the poor quality and the scarcity of water and the unsuited hygiene practices are catastrophic and harm the health of school age children, who spend long days in school. The physical environment and the cleanliness of the school can have significant consequences on the health and the wellbeing of the children. The diseases are propagated quickly in the exiguous places having a limited ventilation, without installation nor soap to wash the hands, and where the toilets are in bad condition too often, it is at the school that the children fall sick. Schools with quality WASH programmes can effectively reduce the transmission of diseases. A study conducted by Koopman (1978), showed that more than 40 percent of diarrhoea cases in schoolchildren result from transmission in schools rather than homes. Provision of sustainable supplies of safe water for drinking and cleaning, as well as child friendly toilets, urinals and handwashing stands in schools can reduce the impact of bad sanitation on the health of children.

However, the mere provision of facilities does not necessarily make them sustainable or produce the desired impact. It is the use of latrines and the related appropriate hygiene behavior of people that provides health benefits. In schools, hygiene education aims to promote those practices that will help to prevent water and sanitation-related diseases as well as encouraging healthy behavior in the future generation of adults. The provision of safe water and sanitation facilities in schools is just a first step towards a healthy physical learning environment. Schools should then fully integrates life skills-based education that focuses on key hygiene behaviors.

A research (conducted by save the children) demonstrated that safer water, combined with good hygiene practices, can reduce diarrhoea infections by more than half. When safe water and good sanitation facilities are available, but there are poor hygiene practices, you get fewer of the benefits of improved water and sanitation.

The sanitation state of the school can also have an influence on how children are learning at school.

I.2- Impact on learning

Children's ability to learn may be affected by inadequate water, sanitation and hygiene conditions in several ways. These include helminthes infections (which affect hundreds of millions of school-age children), long-term exposure to chemical contaminants in water, diarrheoal diseases and malaria infections, all of which force many children to be absent from school. Poor environmental conditions in the classroom can also make both teaching and learning very difficult (Adams et al, 2009). We can thus say that children perform better when they function in a hygienic and clean environment.

I.3- Impact on communities

Children are more receptive to new ideas and can be influenced to cultivate good hygiene and sanitation habits. After the family, schools are most important places of learning for children; they have a central place in the community. Schools are a stimulating learning environment for them and stimulate or initiate change. If sanitary facilities in schools are available, and the hygiene education is properly done they can act as a model for the wide community. Schools can also influence communities through outreach activities, since through their students, schools are in touch with a large proportion of the households in a community.

Hygiene education is most effective among younger populations, and students can be seen both as beneficiaries and as agents of behavioral change within their families and their communities.

Children who have adequate water, sanitation and hygiene conditions at school are more able to integrate hygiene education into their daily lives, and can be effective messengers and agents for change in their families and the wider community. Families bear the burden of their children's illness due to bad conditions at school. According to Snel et al (2003), a schoolchild educated to the benefits of sanitation and good hygiene behavior is a conduit for carrying those messages far beyond the school walls, bringing lasting improvement not only to his or her health and wellbeing, but also to that of the family and the wider community. In India, schools are considered the most important and basic links through parents, individual families and consequently the community. And if children learn appropriate hygiene practices in school, they are much more likely to apply them in future when they themselves become parents because, the personal hygiene promotion and environmental sanitation within schools helps children to adopt good sanitation habits during formative years of their childhood and adolescence. The focus of school sanitation and hygiene

education is on the development of life-skills, a healthy and safe school environment and outreach to families and communities. The school, like privileged place of socialization in the community, represents a major asset for the change in a country in a general way.

I.4- Gender consideration

Providing separate sanitation facilities at schools for boys and girls can help to keep girls in school longer. The long-term benefits of education – especially for women – are well understood. Educated mothers are more likely to adopt healthy hygiene and sanitation behaviours – and consequently have lower infant mortality rates in their households.

Sometimes, girls and female teachers are more affected than boys because the lack of sanitary facilities means that they cannot attend school during menstruation (Adams et al, 2009). Menstruation is a delicate subject and remains a taboo in several societies. In certain countries the cultural beliefs concerning menstruation enhance the injustice and have a negative impact on dignity, health and the education of women and girls. There is a need to collect more information on menstruation hygiene management (MHM) to improve WASH in schools programming and create more equal, safe and healthy school environments. Menstruation is a natural part of human existence. Good menstrual hygiene is fundamental to health, hygiene, education, work and wellbeing of women and girls everywhere. Yet it has been neglected and under-researched by WASH sector as well as the health and education sectors.

A study conducted by Keihas in 2013, in Burkina Faso and Niger, shows that there are serious challenges that need to be addressed before good menstrual hygiene management becomes a reality in schools in these two countries like:

• The school WASH facilities are currently inadequate for girls to safely manage their menses

There are not enough water sources and latrine units for students. There is also a lack of gendersegregated latrines and hand washing facilities with soap. None of the observed schools had a changing room / wash room for girls, sanitary protection materials, or a disposal for sanitary protection materials. Hence, most of the girls cannot change their sanitary protection at school which leads to absenteeism during menstruation. Local production of sanitary pads does not yet exist in Burkina Faso or Niger. The figure below shows the percentage of girls that are able to change sanitary protection at school:

School Sanitation and Hygiene Education



Figure 2 : Girls Able to Change Sanitary Protection at School (Keihas, 2013)

Only 23 % in Niger 17 % of the girls in Burkina Faso and said that there is a place in school where they can change their sanitary protection, as illustrated by the figure. Moreover, only 6 % of the girls in Niger and 45 % of the girls in Burkina Faso said they can wash their bodies at school, if needed. The girls who change their protection or wash at school do so in the latrines. It is also important to note that only 13 % of the girls in Niger and 31 % of the girls in Burkina Faso said there is a place in school where they can dispose their dirty sanitary protection materials. At school, there are only latrines for disposal.

All the girls who use pieces of cloth for protection said that they wash them with soap. However, the majority of the girls do not want to dry their pieces of clothes under the sun (which would kill the germs) because they do not want other people to see their sanitary protection materials. Menstruation is supposed to be kept secret and completely hidden from others. In general, girls are able to dry their pieces of cloth under the sun only in the outdoor washrooms reserved for women. Otherwise they are dried indoors.

• School children lack knowledge and information on menstruation.

There is a lack of knowledge and information about menstruation. Generally, MHM is taught too late. The majority of the girls did not know what happened when they experienced menstruation for the first time and therefore were scared. There is currently no education material on MHM available in Burkina Faso and Niger. Hence, all the girls, teachers and education officials found the pre-tested MHM manual in French useful and informative. As illustrated in the figure 3 bellow, only 14 % of the girls in Burkina Faso and 48 % of the girls in Niger had received some information about menstruation before they experienced their first periods.



Figure 3: Information Received Before Menstruation (Keihas, 2013)

Menstruation had been discussed with them only afterwards. Half of the girls had received the first information on menstruation by their mothers. Other girls had received the first information from friends, grand-mothers, sisters, aunts, female neighbor or female teacher.

• Menstruation affects girls' participation and performance at school.

Most of the girls feels shy or stressed at school during menstruation and participate less at school due to fatigue, shame or pain. Psycho-social support for menstruating girls at school is missing. Girls would prefer discussing menstruation with other girls or female teachers at school. However, some schools do not have any female teacher since there is still lack of female teachers in both countries, especially at secondary school level and in hard-to-reach areas. Menstruation remains a taboo and menstruating women are still often considered 'dirty' in both countries. Negative socio-cultural beliefs may lead to forced seclusion and stigma: half of the girls said that there are activities and places that are forbidden for them during menstruation. Most of the girls, 83 % in Burkina Faso and 68 % in Niger, said that they feel stressed at school

during menstruation, as the figure 4 below illustrates.



Figure 4: Girls Feeling Stressed at School during Menstruation (Keihas, 2013)

Moreover, the majority of the girls, 72 % in Burkina Faso and 58 % in Niger, said that they also have other problems during periods, such as fatigue, lack of confidence and bad mood. When asked about participation in the classroom during their menstruation, 83 % of the girls in Burkina Faso and 39 % of the girls in Niger told that they participate less. As reasons for participating less at school during menstruation, the girls mentioned pain, stress, fatigue, and shame. Pain is common: 78 % of the girls in Burkina Faso and 90 % of the girls in Niger experience pain during menstruation.

Nevertheless, MHM is becoming an increasingly important element in WASH in Schools programming. In the UNICEF study also it is state that recent initiatives, such as the first high-level intersectorial MHM meeting convened by WSSCC in March 2013, show that menstrual hygiene is gaining attention in both the private and public sectors. House et al. in 2012 described the key elements of menstrual hygiene programming to create a supporting environment for MHM, the figure 5 bellow presents those key elements:



Figure 5: Key Elements of Menstrual Hygiene Programming (House et al, 2012).

I.5- Disability consideration

Disabled students can be affected in different ways by inadequate water and sanitation facilities in schools. Toilets that are inaccessible often mean that a disabled child does not eat or drink all day to avoid needing the toilet, leading to health problems and eventually to their dropping out of school altogether (WHO, 2009). It would be thus of primary importance to envisage an alternative solution for disabled people so that they are not underprivileged.

I.6- Some SSHE initiatives

Apart from national governments several other organizations are involved in SSHE. We have:

• FRESH (Focusing Resources on Effective School Health)

An initiative of WHO, UNICEF, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Bank, aims creating an environment in schools and in basic education programmes in which children are both able and enabled to learn. The FRESH Start initiative was launched at the Education for all Conference in April 2000 in Senegal (World Bank, 2001). It is also supported by a number of other agencies, including International Education, EDC, the Partnership for Child Development, WFP and partners from the private sector. It has developed a common framework as a starting point for an effective school health component in a broader effort to achieve more child-friendly schools. This framework includes a core of simple and familiar interventions that capture the best practices from programme experiences. When they are supported by effective inter-sectorial and community partnerships they can even be implemented in the poorest schools and in rural areas, as well as in more accessible urban areas.

The framework is increasingly popular around the world as the basis of both government policy and school-community practices. The individual countries are encouraged to develop their own strategy to match local needs.

The four core interventions in the framework are:

Provision of safe water and sanitation

It is an essential step towards a healthy physical learning environment. Skills based health education this approach to health education focuses on the development of knowledge, attitude, and life skills needed to deal with health and social issues.

> The development of specific psycho-social skills

The opportunity to use and practice them are central to effective skills-based health education. When individuals have these skills, they are more likely to adopt and sustain a healthy lifestyle during schooling and the rest of their lives.

School-based health and nutrition services

Schools can effectively deliver a variety of health and nutritional services provided that the services are simple, safe and familiar, and address problems that are within the community and are recognized as important.

Health-related school policies

Health policies in schools can support the three interventions above. In addition, these policies could help promote strategies of inclusion and equity in the school environment if addressing issues like the further education of pregnant school girls and young mothers and of children (in) directly affected by HIV.

Besides the above noted four core interventions, the FRESH start approach defines three supporting activities that provide the context in which the interventions can be implemented. These supporting activities are:

• Effective partnerships between teachers and health workers and between the education and health sectors;

• Effective community partnerships: promoting a positive interaction between the school and the community is fundamental to the success and sustainability of any school improvement process;

• Pupil awareness and participation - children must be important participants in all aspects of school health programs and not simply the beneficiaries.

• HECA

WHO, together with various partners, established a global alliance to tackle environmental threats to children's health, including inadequate sanitation and hygiene. Through advocacy and information sharing, the Healthy Environments for Children Alliance (HECA) aims raising awareness, with the goal of informing and influencing policy-and decision-makers on effective measures for protecting and promoting healthy environments for children. One of the key areas of focus is creating healthy settings in schools, including the provision of separate sanitation facilities for boys and girls.

• UNICEF

Currently school sanitation and hygiene education are integral parts of more than 30 UNICEF country programmes. Different approaches have been tried in different countries, ranging from the

mere provision of facilities to hygiene promotion and broader environmental education. Valuable experiences exist on the development of children as potential agents of change within their homes and communities, on the training of teachers and other community members, and on the construction of separate school sanitation facilities for boys and girls as a means to increase enrolment and attendance of girls. Inevitably, working with schools requires an integrated holistic approach with collaboration among different sectors, addressing issues of health, education, nutrition and water and sanitation.

<u>Partial conclusion</u>: The main purpose of WASH in schools is to improve the health and learning performance of school-aged children and their families by reducing the disease and illness that result from poor water and sanitation, and permit to every child to be in child-friendly school that should have appropriate and healthy WASH facilities, complemented by effective hygiene education.

II- IMPLEMENTATION OF A SSHE PROGRAM

II.1- Targeted hygienic behaviors

Effective hygiene education for children is not just teaching facts about health risks and bad hygiene practices. The life skills approach focuses on changing children's hygiene behaviour and the hygiene behaviour of their families and wider community with a view to improving their quality of life. (Mooijman, 2006). Sanon (2012), identified key hygienic behaviors for the promotion of hygiene in educational circle by the various intervening actors. These behaviors are closely related to the needs indexed on the level for the ground:

- Behaviors related to the prevention of the diarrheal diseases:
- -The washing of the hands to the soap
- -Optimal use (without wasting of the resources) of the water infrastructures and of cleansing
- -Management of the drink water
- -Hygiene in the handling and the storage of food.
 - Practice of personal hygiene
- Skin and its appendices (nails, hair).

- Génito-urinary with a detailed attention to 9 years girls and more.
- Dental.
- clothing hygiene (cleanliness of the clothes).
 - The management of solid waste in the school environment

The elements in the table below were proposed by Mooijman (2013). The table 1 shows the essentials practices of hygiene for students.

	Knowledge	Attitudes	Practices
Safe use of toilets and urinals: Diarrhea and worm infections are two main health concerns that affect people on a large scale and can be improved through appropriate toilet and urinal use	Exposed excreta are the leading cause of spreading diseases and making people sick. Behaviors can lead to worm infections	Children recognize the importance of safe use of toilets and urinals, including the safe disposal of feces and hygienic anal cleansing followed by washing hands with soap	Children practice the safe use of toilets and urinals, including the safe disposal of faces and hygienic anal cleansing followed by washing hands with soap. Depending on age, children maintain and operate school toilets
Personal hygiene: Many diseases can be attributed to poor personal hygiene	Personal hygiene impacts diseases.	Children understand appropriate personal hygiene: washing hands with soap (see separate point), wearing shoes or slippers, cutting nails, brushing teeth, combing hair and the regular washing of body and hair.	and urinals. At all times, children wash hands with soap, wear shoes or slippers, cut nails, brush teeth, comb hair and regu- larly wash the body and hair.
Hand washing with soap: Hand washing at critical moments reduces the risk of diarrheal diseases by 42-48 per cent and signif- icantly reduces the inci- dence of acute respiratory diseases.	Hand washing with soap drastically re- duces diarrheal dis- eases and acute respir- atory diseases	Children understand the importance of hand washing with soap after toilet use, before and af- ter eating, before prepar- ing food and after clean- ing babies.	Hands are washed with soap after toilet use, before and after eating, before prepar- ing food and after cleaning babies

Table 1: The essentials practices of hygiene for students (Mooijman, 2013)

Female and male hy- giene (for adolescents): Genital and menstrual hy- giene is important for the health condition of women and reproductive health in general	Menstrual blood is not dirty, unhygienic or unclean. It is simply blood and tissue sloughed from the lin- ing of the uterus. The odor during menstrua- tion is caused by bad hygiene of the geni- tals.	Both men and women see the importance of wash- ing the genitals daily with mild soap and water. During menstruation, women use sterile pads and wipe genitals from front to back after defeca- tion.	Both men and women wash the genitals daily with mild soap and water. During men- struation, women use sterile pads and wipe genitals from front to back after defectation.
Waste management and water drainage: Appropriate handling of solid waste and stagnant water helps in pest con- trol and limits breeding Mosquitoes and flies.	There are health risks in the non-collection of solid waste and in standing water	Children link collection and treatment of solid waste with overall health risks. They understand the relationship between standing water and insect breeding.	Solid waste is col- lected and treated; standing water is drained.
Water treatment, handling and storage: Through testing and treatment, water can be made safe from fecal or chemical contamination	Where possible, com- munities should collect water from a safe source and store it safely. If the source is not safe, water must be treated through boil- ing, filtering, solar or chemical disinfection.	Communities understand the necessity of treating unsafe water through boiling, filtering, solar or chemical disinfection	If the source is not safe, children always treat the water through boiling, filtering, solar or chemical disinfec- tion. Boiling is too dangerous for younger children.
Food hygiene: Eating healthy food is essential for the well-being and survival of each human being. Eating 'contaminated' food (also known as 'food poi- soning') can be a signifi- cant source of diarrheal diseases.	Food hygiene and dis- eases are linked. Food should be stored appropriately. There are recognizable signs when food is spoiled	Children know how to store food appropriately and recognize common signs of spoiled food.	Raw fruits and vegeta- bles and raw meat, poultry or fish are treated and stored appropriately

An example of promoting hygiene behavior that stresses a particular action and its effects is the sanitation- and hygiene-related F-diagram. The F-diagram shows the path by which germs can spread from person to person.

- -Fingers
- -Flies
- -Fields
- -Floods



Figure 6: The F diagram (Mooijman, 2013)

II. 2- Roles and responsibilities of stakeholders

According to the WHO, it is often assumed that national and local governments take responsibility for a healthy school environment. However, limited financial and human resources, possibly as a result of structural adjustment programs, inhibit governments from doing so. Therefore we rely more and more on students, teachers, parents and communities for the improvement of the environmental situation at schools, including the construction and management of school facilities. This section lists stakeholders at district and local levels, and outlines some of the things they can do to help achieve and maintain adequate water supply, sanitation and hygiene in schools. The list is not exhaustive, and can be added to in any particular context. We have:

• National governments

- Can invest in sanitation in schools;

- Create incentives for schools to do more in-house;

- National education fund and awareness campaigns aimed at children and young people;

-Create legislation to require schools to provide separate toilet facilities for boys and girls.

• Communities and civil society

- Can actively support schools in their efforts to improve sanitation and hygiene;

- Campaign or more public funds for sanitation and hygiene promotion;

- Create connections between social organizations focusing on youth and those that focus on health;

-Endorse and further reinforce hygiene messages delivered in schools.

• Contractors

- Can provide free or subsidized services in schools in their own communities (this will not only have a direct positive impact on children's health; it will also increase demand for sanitation in the house); and endorse and reinforce hygiene messages delivered in

• Schoolchildren:

- Comply with procedures for water use and care, sanitation and hygiene enabling facilities.

- Observe appropriate hygiene measures.

- Participate in the design and construction process.

- Play an active role in the cleaning and maintenance of facilities (e.g. through

School health clubs).

• Schoolchildren's families:

- Encourage children to comply with procedures for water use and care, sanitation and hygieneenabling facilities at school, and develop positive hygiene behaviors.

- Can provide schools for better sanitation facilities and hygiene education;

- Keep their children in school (both boys and girls);

- Use good sanitation and hygiene practices in the home; and can find ways of raising resources to support schools in this effort.

- Support, or participate actively in, parent-teacher associations or similar bodies.

• Teachers:

- Monitor the state and use of school water, sanitation and hygiene-enabling facilities.

- Organize the care and maintenance of facilities.

- Encourage schoolchildren to adopt appropriate behaviors at school and at home through hygiene education.

• School directors or head teachers:

- Organize the setting of targets for water, sanitation and hygiene at school level.

- Ensure liaison with education authorities and other authorities at local and district level.

- Create conditions in which staff are motivated to achieve and maintain targets.

- Develop and enforce rules when required.

- Encourage parent-teacher liaison.

• Local or district education authorities:

- Provide resources and direction for setting, achieving and maintaining targets at school level.

- Advocate at district or national level for adequate resources.

- Coordinate with local environmental health services, public works departments and so on to ensure that sufficient technical support is provided.

- Monitor implementation of water, sanitation and hygiene guidelines in schools as part of the routine monitoring and inspection process.

- Provide training to teachers, school directors and other school staff.

- Can invest in sanitation in schools; find ways to use the expertise of health and infrastructure professionals in the education department; and create incentives for schools and teachers who improve sanitation access or deliver effective hygiene promotion.

• The health sector:

- Provide guidance on the environmental health aspects of school design, construction and maintenance.

- Monitor environmental health conditions, monitor child health.

- Provide selected health services (e.g. micronutrient supplements, treatments for helminthes infections, hygiene promotion, vaccination campaigns or health inspections). - Provide training and advice for teachers, schoolchildren and parents on water, sanitation and hygiene.

• Parent-teacher associations, school governors, school committees and similar bodies:

- Advocate locally for improvements in school water supply, sanitation and hygiene.

- Raise funds and help plan improvements with school directors and teachers.
- Support maintenance of school facilities.

- Support provision of consumables, such as soap.

• Public works or water and sanitation sector:

- Ensure correct design and construction of school buildings and sanitary infrastructure.

- Ensure correct maintenance and training of local school caretakers and maintenance staff.

• Construction and maintenance industry, including local contractors:

- Provide skilled services for construction, maintenance and repair of school buildings and sanitary infrastructure.

• NGOs

Like religious groups, cooperatives and scouts,

- Can reinforce SSH activities, either because of their status in a community or because their own campaigns coincide with what is being promoted at the school.

The level of participation described above can only be achieved with sufficient resources at all levels. Adams et al. (2009). For example, school directors or head teachers need support from district or local education authorities, who themselves need the staff, transport and operating funds to be able to visit schools, particularly in peripheral or inaccessible areas

Effective links between different government sectors, and between the public sector, the private sector and local communities are essential. Local intersect oral bodies, such as village or district development committees, may be useful for joint planning, implementing and monitoring of improvements.

II.3- Implementation strategy of a SSHE program

According to Sanon (2012), the implementation strategy could be schematized as follow:



Figure 7: Implementation strategy circle of a SSHE program

So all SSHE programs should follow the phases that are:

• Assessment

Before formulating objectives and drawing up an action plan for SSH, a participatory needs assessment has to be undertaken, including:

- Assessment of the health condition of the boys and girls,
- Their hygiene behavior, the existing facilities,
- The curriculum in use,
- The qualification of the teachers,
- The available teaching materials and the available budget (Snel et al, 2003)
- Formulation of the objectives and the results to reach
- Presentation of evaluation results and the priority actions selected.

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In CBSE schools in India, Outline School Sanitation Ratings have been instituted with the purpose to assess the sanitation situation. In furtherance to the National School Sanitation Initiative it has been decided that all Indian schools, including, will be rated according to their sanitation status in five color categories pertaining to Infrastructure, Institutional Sustainability, and Environmental Sustainability, Health & Hygiene and Pedagogics as follows:



	Infrastructure	Institutional sustainability	Environmental sustainability	Health & Hygiene	Pedagogics	% Adherence to the norms	Remarks
Green	\odot	\odot	\odot	\odot	\odot	91%-100%	Excellent
Blue	\odot	\odot	\odot		٢	75%-90%	Very good but scope for improvement
Yellow		:				50%-74%	Fair – can improve
Black			\otimes	\odot	$\overline{\mathbf{S}}$	34%-49%	Poor – needs considerable improvement
Red	3	$\overline{\mathbf{S}}$	8	3	3	Below 33%	Grim – needs immediate action

After completion of a participatory needs assessment an SSH program in a school can be started. On the basis of the available information priorities for action can be set. It is crucial at this stage to formulate clear objectives, ensuring a proper mix of objectives related to hardware (water and sanitation facilities) and objectives related to software (their use, and behavior changes).

Objectives need to be Specific, Measurable, Applicable, Realistic and Time-bound (SMART). (UNICEF, 1998). They have to take into account the available or expected budget and manpower. In order to stimulate collaboration with a health center for example, the objectives should, whenever possible and useful, match with the objectives this center has in the field of hygiene education.

A checklist proposed by UNICEF is presented on Annex 1

Organization

Knowing that the phases are not linear, it will be necessary to think of:

- Establishment within the school a committee (pupils supervised by a teacher and supported by the direction)

- The implication of the committees of parents

- The implication of the teaching staff and administrative.

It is necessary to take account of the usual organization of the school. Indeed, certain schools have already structures like committees of pupils, Community cores gathering parents, teachers and pupils; in these precise cases, it would be preferable to use the existing structures instead of creating new ones (Sanon, 2012).

• Planning

To combine this phase and the other two phases above we can use the **problem–solution tree**. It is a simple method for identifying problems, their causes and effects, and then defining objectives for improvement that are achievable and appropriate for the specific conditions of each school. The problem–solution tree is performed as a group activity through the following steps:

1. Discuss any major aspects of the current situation where water supply, sanitation and hygiene targets defined for the school are not met. Write each one in large letters on a small piece of paper (about the size of a postcard).

2. For each major problem, discuss its causes by asking the question "Why?". For each of the contributing problems identified, ask "Why?" again, and so on until root causes for each problem have been revealed and agreed. Write all the contributing problems in large letters on a small piece of paper or postcard and stick them all on a wall, arranged in a way that reflects their relation to each other and to the major problem. This creates the "problem tree".

3. Having developed the problem tree, the next step is to determine the solutions. For each of the contributing problems noted, discuss possible solutions. Check that suggested solutions contribute to solving the major problems identified by asking the question "What?" to identify what will happen if a particular solution is implemented. Some solutions proposed will probably have to be abandoned because they are unrealistic, given current conditions, or because they will not have sufficient impact on the major problems.

4. Once a number of feasible solutions have been agreed, phrase them as objectives. For each objective, the group can then discuss and agree a strategy (i.e. how the objectives can be reached), responsibilities (i.e. who will do what), timing, resources and requirements.

Many schools are currently far from achieving acceptable levels of water, sanitation and hygiene, and may have no suitable facilities at all, because they lack resources, skills or adequate institutional support. Achieving appropriate targets will often not be possible in the short term. Therefore, it is necessary to both prioritize required improvements and work in a phased way so that the most urgent problems (or those that can be addressed rapidly) can be identified and targeted immediately, and other changes can subsequently be made in a phased manner (Adams et al, 2009).

• Training (staff requirements and training)

1. Search for technical aid near the qualified governmental authorities in matter in terms of formation, thus entitling the actors to ensure that the school is the place by excellence for promotion of health

2. Training professors and other key actors of the process

3. Follow-up of formation and regular recycling.

According to UNICEF, in order to become effective promoters and implementers of SSH, teachers require a certain level of hygiene awareness and commitment. This includes:

- A working knowledge of the relation between water, sanitation, hygiene behavior and health;

- Awareness about their importance as a role model, resulting in proper hygiene behavior;

- Skills to work with students in a participatory way;

- Commitment to bring about improvement themselves, or to get third parties involved if necessary.

Training of teachers who, if motivated and enthusiastic, are a key element for effective hygiene education, should also include effective teaching methodologies, e.g. the use of participatory techniques. For bringing about or facilitating improvements in water and sanitation situation, teachers will need to know how and where to apply for assistance, how to mobilize community members, etc. Construction of a latrine at the teacher's premises will help enhance the teacher's appreciation of sanitary facilities and at the same time be a motivating factor.

Selection of teachers for training should be done carefully. Selection criteria include:

The teacher can act as a role model and have good contacts in the community, the teacher has a genuine interest in SSH and the teacher can be allocated some time for taking SSH activities in the

school a bit further. Care should also be taken that male as well as female teachers get involved in SSH.

However, teachers may not be able to put their knowledge and commitment to effective use if the curriculum does not allow for hygiene education, or if agencies do not respond to requests for assistance in the provision water and sanitation facilities. Training of teachers should therefore never be carried out in isolation, which also calls for interagency cooperation. The basic professional training of school teachers should include education related to sanitation and hygiene and to a participatory way of working. Teachers already in service have to get the opportunity to upgrade their knowledge and skills in this respect. Regular interdisciplinary workshops involving school teachers, health workers, planners, etc., can contribute +significantly to the necessary cooperation and coordination of activities.

Staff and schoolchildren routinely perform many of the activities that are important for creating healthy school environments; they do this as they use and care for classrooms, outdoor space, toilets and so on. One important decision that has to be made about maintenance of facilities is whether or not schoolchildren should be responsible for cleaning toilets and other sanitary facilities. The benefits of involving schoolchildren include cost saving, encouraging schoolchildren to use facilities cleanly and demonstrating important hygiene skills. However, great care must be taken to ensure that such an arrangement works effectively in practice, without exposing school-children to disease risk, placing an unfair burden on one group of children in particular or having the task viewed as a punishment, which will cause negativity.

In some schools there may be other staff, such as cleaners and kitchen staff, who are specifically responsible for maintaining healthy conditions. In their training and management, they should be made strongly aware of the importance of their role and should have the ability to apply basic principles of hygiene to their daily work (Snel et al, 2003).

• Action

- The implementation of the action plan worked out to the step 3 by respecting the national standards in WASH matter in educational circle

- The regular control of quality

- The control of the impact on the hygienic behavior of the children

II. 4- School sanitation options



Figure 8: Modelling 3d Ecosan latrines installed (latrines for child in situation of visible handicap in bottom on the left) source: www.Snvworld.org



Figure 9: separate latrine for boys and girls. Source: world bank 2014

II.5- Monitoring and evaluation

According to Snel et al. 2003, Monitoring should be an on-going activity in school sanitation and hygiene programs. Monitoring is not simply collecting information to "see how things are going". It is meant to help improve programs and activities over the short term. Monitoring involves checking, analyzing and acting to improve a situation. The action should be taken at the lowest possible level, with cross checks to make sure that the situation has in fact improved. The provision of safe water and sanitation facilities in schools is a first step towards a healthy physical learning environment, benefiting both learning and health.

The development of an intervention depends mainly on information available on what is already made and what remains to be realized. The follow-up and the evaluation in this context remain essential in the information management and the decision-making on a factual basis. A serious reform of this sector necessarily passes by a good system of follow-up and evaluation. This last will allow, inter alia, to have a precise image of the situation in the schools and to establish the priority axes of intervention. It will also make it possible to follow the progress carried out after each authorized effort. Evaluation provides a more systematic assessment of whether visions and objectives are being achieved in the long run in the most effective manner possible. (WHO and WSSCC, 2005).

Most programs that are serious about monitoring and evaluation try to develop a small set of indicators that describe the minimum necessary conditions for program success at the school level. It is very useful for those involved in projects, or those working in a particular place, to develop mutually-agreed and bottom-up lists of basic indicators. An indicator shows a standard that you want to reach. It can be written as a sentence or a question, as long as people understand its meaning in the same way.

What indicators should be considered for the evaluation?

Two types of indicators will be considered for the follow-up and the evaluation out of matter EAH in educational circle: **indicators for the infrastructures**, and the **indicators for hygiene educa-tion.** If it is easy to make the follow-up of the maintenance of WASH infrastructures, it appears more difficult to appreciate progress relating to the change of behavior in positive hygiene prac-tices by children. Consequently, a special attention must be given to the follow-up of the change of children's behavior. Thus any SSHE action must start with an observation of children's behavior because it is proves that in certain cases, the existing infrastructures are underused.

The table below shows the indicators to consider in a SSHE program evaluation:

Table 3: Operation framework of indicators

Objectives	Indicators	Verifica-	Level	Fre-	Responsible
To ensure the access of the schoolchildren with adequate sanita- tion infrastructures (Fitting WHO stand- ards or country norms) and with the water of quality.	% of schools with adequate and func- tional WASH infra- structures ; the WHO standard are recorded in Annexe	Follow-up of latrines form	National or depart- mental	quency Semi-an- nual quarterly	The ministry in charge, school direc- tion pupils
To ensure a optimal and adapted use of sanitation infra- structures by children	% of school having their infrastructures well maintained % of the children expressing satisfaction of using infrastructures The number of hy- giene education ac- tivities of led by children	Follow up form Focus group Observation	Local	Continue	School direc- tion Pupils
To develop knowledge and competences of children as regards good hygiene prac- tices	Hygiene courses in- cluded in the education curriculum % of professors trained in participa- tive method of hygiene educa- tion	Training report	National	Continue	Ministry in charge NGOs

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	% of parents	Meeting re-	Local	Continue	teachers
To ensure the partici-	taking part in	port			
pation of parents in	development of ac-				
the effort to assure	tion's plan				
the continuity at home	for the school				
-	promoting				
	health of their				
	child				

CONCLUSION

This work permit us to show the importance of school sanitation and hygiene education, for the schoolchildren in particular and the wide community in general. The supply of schools with sanitation facilities is a step towards our children health safeguarding at school, but the mere provision of sanitation facilities could not guarantee the good health of children. Hygiene education thus makes it possible with the sanitation facilities to lower the children mortality by reducing the diarrhoeal diseases, but also that makes it possible for children to live in a healthy and pleasant environment and that easy the training. Hygiene education at school is also of a great effectiveness for the behavior change into the community because, the children are excellent channels by which the good hygiene practices pass from school to home.

The implementation of a SSHE program in schools demands the participation of all the stakeholders in the education of children and must be followed of an evaluation and a constant monitoring in order to make sure that the good hygiene practices were quite understood as well by the children as by teachers.

This work being just an overview of the situation it would be judicious to make an in-depth study on a particular sample in order to really be able to evaluate the needs for our schools in terms of sanitations facilities and hygiene education.

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ANNEXES

Annex 1: Assessment checklist

1. General:

1.1 What are the main health problems in the community?

1.2 Which of these are most prevalent among students/staff in the school?

1.3 Have linkages been made with non-education sector experts to address water, sanitation and health education issues within the school?

___Yes with whom? _____

____ No Who could be contacted? ______

2. Water:

2.1 Where does the school's supply of water come from?

Ground water (dug well, borehole, spring)

2.1.a Is the well clean? <u>Yes</u> No

Rainwater collection

2.1. b Is the storage container clean? ____Yes ____No

2.1. c Is the water treated? <u>Yes</u> No

Surface water (rivers, lakes) without treatment this is a major health hazard

2.2 What is the water quality?

2.3 Who tests it? _____

2.4 How often? _____

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2.5 Is treatment necessary? Yes No
2.5 a. Is it being implemented? Ves No
2.5.a is it being implemented?iesivo
2.5. b How often?
2.6 Is the water sufficient? <u>Yes</u> No
2.7 Is water available all of the time at the school? <u>Yes</u> No
2.8 What is the level of the groundwater?
2.9 Does the amount of water available change throughout the school year? i.e. dry season/rainy season?YesNo
3. Sanitation
3.1 What are the present practices of defecation?
3.2 Are the toilets sufficient for the number of teachers and students?
(See WFP standards above)YesNo
3.3 Are people familiar with the construction and use of toilets?YesNo
3.4 What types of toilets are available? Open defecation is not acceptable
Pit latrine
3.4.a Is there a cover for the latrine? <u>Yes</u> No
3.4.b Is wood ash or dirt provided to prevent flies?YesNo
VIP (Ventilated Improved Pit) toilet
Flush Toilet
3.5 Are toilets at least 30 metres from any drinking water source?YesNo
3.6 Are toilets suitable for both younger and older students?YesNo
3.7 Are there separate toilet facilities for male and female students and teachers?YesNo

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3.8 Are the toilets accessible to persons with disability?YesNo
3.9 Are hand-washing facilities with soap available?YesNo
3.10 Are toilets clean?YesNo
3.11 Are they cleaned regularly? <u>Yes</u> No
3.12 By whom?
3.13 What do students or teachers use for cleaning themselves?
3.14 Is this readily available?YesNo
3.15 Are there signs in the latrines encouraging good hygiene?YesNo
3.16 Is health education included in the school curriculum? <u>Yes</u> No
3.16.a Is health a separate class? <u>Yes</u> No
3.16.b Is health taught in one or more carrier subjects? <u>Yes</u> No
3.16.c Which subjects?
3.17 Are students' hygiene behaviours monitored or evaluated?YesNo
3.17.a How and by whom?
4. Solid Waste Disposal
4.1 Where does the rubbish or trash go?
Burned and buried on the school compound
4.1.a What is the relation of the rubbish pit to the water source?
4.1. b Is the rubbish pit at least 100 metres from the school?YesNo
Taken off the school site
5. Vector-borne diseases
5.1 What vector-borne diseases are present in the community?

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Mosquito-borne diseases					
Which ones?					
De dant (miss/act) hanne diagone 2					
Rodent (mice/rat)-borne diseases?					
Which ones?					
Fly-borne diseases?					
Which ones?					
5.2 What steps have been taken to prevent vector-borne diseases from spreading?					
5.3 Is the school compound clean? <u>Yes</u> No					
5.4 Is the grass slashed to keep down insects and mosquitoes, and reduce the risk of fire? YesNo					
5.5 Are there any areas where stagnant water can act as a breeding ground for mosquitoes?					
Can these be filled?YesNo					
5.6 What cleaning materials are available?					
Brooms					
Water buckets					
Shovels					
Grass slashes/Machetes					
Other					
5.7 What materials are needed?					

	INDICATORS
1) Water quality: Wa- ter for drink- ing, cooking, personal hy- giene, clean-	 a. Microbiological quality of drinking water: E coli or thermo tolerant coliform bacteria are not detectable in any 100-ml sample. b. Treatment of drinking water: drinking water from unprotected sources is treated to ensure microbiological safety.
ing and laun- dry is safe for the purpose intended.	c. Chemical and radiological quality of drinking water: water meets WHO Guidelines for Drinking-water Quality or national standards and acceptance levels concerning chemical and radiological parameters.
	d. Acceptability of drinking water: there are no tastes, odours or colours that would discourage consumption of the water.
	e. Water for other purposes: water that is not of drinking water quality is used only for cleaning, laundry and sanitation
2)Water quantity: Suf- ficient water is available at all times for drinking and personal hygiene, and for food preparation, cleaning and laundry when applicable	 a. basic quantities required Day schools : 5 litres per person per day for all schoolchildren and staff Boarding schools : 20 litres per person per day for all residential schoolchildren and staff b. Additional quantities required Flushing toilets: 10–20 litres per person per day for conventional flushing toilets: 1.5–3 litres per person per day for conventional for pour-flush toilets Anal washing/cleansing: 1–2 litres per person per day
3)Water fa- cilities and access to wa- ter: Sufficient water-collec- tion points and water use facilities	 a. A reliable water point, with soap or a suitable alternative, is available at all the critical points within the school, particularly toilets and kitchens. b. A reliable drinking water point is accessible for staff and schoolchildren at all times.
	a. Hygiene education is included in the school curriculum.

4) Hygiene promotion: Correct use and mainte- nance of wa- ter and sani- tation facili- ties	 b. Positive hygiene behaviours, including correct use and maintenance of facilities, are systematically promoted among staff and schoolchildren. c. Facilities and resources enable staff and schoolchildren to practice behaviors that control disease transmission in an easy and timely way.
5) Toilets: Sufficient, accessible, private, se- cure, clean and cultur- ally-appropri- ate toilets are provided for schoolchil- dren and staff.	 a. There are sufficient toilets available – 1 per 25 girls or female staff, and 1 toilet plus 1 urinal (or 50 centimetres of urinal wall) per 50 boys or male staff. b. Toilets are easily accessible – no more than 30 metres from all users. c. Toilets provide privacy and security. d. Toilets are child-friendly and appropriate to local cultural, social and environmental conditions. e. Toilets are hygienic to use and easy to clean. f. Toilets have convenient hand-washing facilities close by. g. There is a cleaning and maintenance routine in operation that ensures clean and functioning toilets are available at all times.
6) Control of vector-borne disease: Schoolchil- dren, staff and visitors are protected from disease vectors.	 a. The density of vectors in the school is minimized. b. Schoolchildren and staff are protected from potentially disaster an mitting vectors. c. Vectors are prevented from contact with schoolchildren and staff or substances infected with related vector-borne diseases.
7) Cleaning and waste disposal: The school envi- ronment is kept clean and safe.	 a. Classrooms and other teaching areas are regularly cleaned to minimize dust and moulds. b. Outside and inside areas are free of sharp objects and other physical hazards. c. Solid waste is collected from classrooms and offices daily and disposed of safely. d. Wastewater is disposed of quickly and safely.
8) Food stor- age and prep- aration, if ap- plicable: Food for	 a. Food handling and preparation are done with utmost cleanliness (hands are washed before preparing food). b. Contact between raw foodstuffs and cooked food is avoided. c. Food is cooked thoroughly. d. Food is kept at safe temperatures.

schoolchil-	e. Safe water and raw ingredients are used.
dren and staff	
is stored and	
prepared so	
as to mini-	
mize the risk	
of disease	
transmission.	