##### **CERTIFICATE COURSE IN WASH**

##### **Course Code: C003**

##### **Module three assessment**

Submitted by: **MALIS WILSON EDWARD**

*Mobile Contact: +256776659984/+256772701053*

*Email:* [*malisilegba@gmail.com*](mailto:malisilegba@gmail.com)

**Module three**

1. *Describe an ideal way of ensuring that hand washing is a culture and not a belief*

Answer:

An ideal way of ensuring that hand washing is a culture, people need to know and have a chance to look at some of the conditions and practices regarding hand washing in their community. Hence we need to explain and demonstrate to community that our hands are many times rendered to touching different surfaces that contains germs, and we must also make sure the community understand the concept of germs by use of appropriate terms in the local language if possible. the community must be made aware that diarrhea is very common now and is the leading cause of death to children due to poor hands washing practices and one of the key ways to reduce diarrhea is good hands washing practices.

**lack of convenient hand washing station**

The ideal way of ensuring that hand washing is a culture, we need to overcome barriers to proper hand washing, handing washing should be made as easy as possible by keeping water and cleaning agent in several places, besides the latrine, outside kitchen, eating area, and next to a bedbound person’s bed. And we need to motivate the community to use most acceptable and available local material like ash, sand or mud to wash hands.

**People have poor access to water**

For an ideal way of ensuring that hand washing is a culture, we need to encourage every home state to have access to enough and adequate water supply through rain water harvest. And if water is being collected from stream, river spring and well it should be a collective responsibility of every family member to participate in collecting water irrespective of their gender.

Another alternative we need help households to find ways to practice hand washing even when water is scarce by prioritizing times for hand washing at critical times like before preparing food, before eating food, after using the toilet and after cleaning the baby’s bottom and use of water serving devices such as tippy tap to conserve water.

**The amount of water necessary for ideal hand washing,**

For an ideal ways of ensuring that hand washing is a culture, we should involve other stakeholders, the legislation, non-governmental organizations, Community based organizations and community leaders to encourage every family to prepare and install at least one hand washing station near latrines and the local community members and leaders to monitor and ensure they are functional. also to facilitate and organized public demonstrations by using children and adults to model good hand washing techniques.

1. *In your own view, what should be done to communities who use one source of water for various purposes i.e. drinking, bathing, washing clothes and utensils, swimming and livestock use*

Answer:

In my own view,

**Extensive hygiene education programmes** can do a support for these communities to realize the priority of water, sanitation and hygiene among the various groups in the community, and by promoting their understanding of the implications of the existing conditions and proposed technical options for both community and family health.

**Community awareness on their hygiene Practices**.

The community needs a concerted awareness to let them know that many water pollution problems in their community are the potential source of infection and health problems among the community members, then when the community members themselves feel there is a problem and jointly undertake actions that will permanently improve the conditions and their practices, they will then develop a positive attitude to change and to adopt new behavior and practices that has clear benefits for health or other reasons and considers these benefits as important.

The community requires General messages and information on disease transmission and risky practices on their own environment by individual, larger groups and the whole community. They need to make choices together, assigning responsibilities, and monitoring actions. These will increase the people’s commitment to put into practice the agreed changes.

1. *There are communities who do not belief in fathers sharing sanitation facilities with their daughters, how would you handle a situation like this if you are a volunteer promoting digging of latrines in such a community*

Answer:

If am a volunteer promoting digging of latrines in such a community, I will intensify community sensitization on importance of having a latrine, effective deposing of human feces and involve in helping motivate people to properly use the available facility(latrine) to reduce spread of diseases (diarrhea).

I will also encourage community to construct a 2 stances latrines or divide latrine into at least two rooms so that children use one room and parents use the other room.

I will also advice the community to build up a second latrine where their daughters can use without embarrassment their fathers.

Alternative I will encourage and engage the community to negotiate with their neighbor so that one family to construct latrine to be designated to their women and daughters and another family construct a latrine to be use by men.

1. *Explain how you will come up with a system for disposal of sanitary towels in rural and remote villages where it is even a taboo to use sanitary towels*

Answer:

**Creating Awareness**

Sanitary hygiene education is still a novel term in rural and remote areas, we need to aim at creating awareness at the grassroots level both in terms of use & disposal and also about the hazards of careless disposal of sanitary towels. We need to emphasize that menstruation is a biological function and rid the community of taboos and superstitions associated with menstruation and use of sanitary towels. Similarly, menstrual health and hygiene awareness camps may be organized for women in the community, at local health centers, by qualified professional

**Community education**

A comprehensive puberty education, awareness and counseling adolescent girls and boys and for women and men organized by qualified professionals as part of school education and involving municipal activity, administrative outfits, corporate bodies and independent institutions to join hands to bring about a solution for menstrual hygiene and Sanitary towel disposers to be become a part and package of each residence and building and to make fathers of adolescent girls be aware about the menstrual hygiene management needs of their daughters.

**water, sanitation and hygiene**

We need proper facilities for women and girls so that they have a safe a secure place to go to when they are having their periods, latrines in schools, workplaces and markets (public places) should be functional, clean, sex-segregated, lockable and have appropriate facilities for washing and disposal of used sanitary towels. And ensuring that there are no public gathering spots on the path to the toilet where men gather socially.

Also we should involve women in the design of sanitation and waste management structures to ensure menstrual waste related needs for disposal, collection and treatment are taken into account.

**Sanitary Towel Decentralized Deposit Centers**.

We need to put attention to operations and maintenance of waste management solutions, especially incinerator technologies in different settings, with appropriate and detailed training and guidance cooperators and institutions to ensure smooth and efﬁcient functioning of technologies and Support from private sectors in development of menstrual waste management products that are environmentally friendly and accessible for women and girls

1. *Explain the main objectives of an efficient operation and maintenance of water supply system*

Answer:

The Main objectives of an operation and maintenance of water supply system is to ensure efficiency, effectiveness and sustainability of water supply system. The water supply system should be functioning and being used, and able to deliver an appropriate level of benefits such as quality, quantity, convenience, comfort, continuity, affordability, equity, reliability, and health. The system should also continue over a prolonged period of time which goes beyond the lifecycle of the equipment. And its operation, maintenance, administrative and replacement costs are covered at local level through user fees, or alternative financial mechanisms.

Operation of system in general means ensuring effective routine running of system timely and daily. Whereas maintenance in general means up keep of structures/system including planned, preventive or corrective maintenance, repairs and replacement of parts.

1. *In remote and rural villages, how would you design and make sure that the inhabitants have an efficient operation and maintenance of water supply system.*

Answer:

**Conduct socio‐economic assessments and wealth in a society.**

This can help to determine the needs and capabilities of the communities to support the water supply system. Hence Communities with higher average income are more likely to pay significant user fees for O&M thus allowing community management entities to move away from voluntary arrangements towards more professional service provision. Outsourcing some of the operation and maintenance tasks to professional third party service providers relive community councils from taking care of the day‐to‐day O&M business. At the same time, professional service providers can be made more accountable for their work than voluntary councils. Local governmental institutions may still play an important role in this model by building capacity and monitoring the performance of the service providers.

On the other hand, communities with low incomes in fragile environments usually have less

capacity to contribute to the systems O&M. Preferably, the community members are involved in

key decisions but cannot be expected to assume the main responsibility for the systems O&M. This requires the presence of governmental entities or other external actors like development agencies with the capacity and the resources to facilitate direct provision to the community.

In between, there are communities, which are in a position to take on operation, maintenance and

management duties as well as contributing modest user fees. In contrast to the other two forms, where communities mainly have an oversight and decision‐making role, here significant community commitment is required in terms of community members volunteering time to carry out the bulk of the O&M tasks. The willingness and capability of community members to assume the voluntary tasks is thus of vital importance for this model to succeed.

**Staff should be involved at the beginning of each project**

O&M staff should be involved at the beginning of each project, including planning, design,

construction, acceptance and start-up. When a collection system is designed with future O&M

considerations in mind, the result is a more effective program in terms of O&M cost and

performance. In addition, post‐construction support from external agencies is needed to support and sustain the community efforts over the long‐term in operations and maintenances

**program structure**

Provide the necessary program structure to allow goals to be met; including ensuring

appropriate program components are in place, organization of administrative and maintenance functions, legal authorities, measures and activities, and design and performance standards

**Responsibilities for managing**

Responsibilities for managing and implementing activities need to be clearly defined, documented, and communicated. Job descriptions help ensure that all employees know specific responsibilities and individuals have proper credentials. Determination of staff requirements for *an efficient* O&M requires a working knowledge of the system.

**Design and Performance Provisions**

Requirements and standards are needed in place for the installation of new system components and for major rehabilitation projects. Procedures and specifications should exist for inspecting and testing the installation of new pumps, and other appurtenances and for rehabilitation and repair projects.

**Maintenance Facilities and Equipment**

Permittees would need to provide adequate maintenance facilities and equipment.

Maintenance facilities are locations where equipment, materials and personnel are

dispatched and where operations records are kept. Increasingly, computer systems are

used to manage maintenance records.

**Routine Preventive Operation and Maintenance Activities**

A good preventive maintenance program is one of the best ways to keep a system in good

working order and prevent service interruptions and system failures. In addition to preventing service interruptions and system failures, a preventive maintenance program can protect the capital investment in the water supply system. I.e. Routinely inspects of the system, including pump stations, and addresses defects or other problems, investigates complaints and promptly corrects faulty conditions. Also provides maintenance records, an adequate workforce and appropriate equipment in working order, maintains and updates a schedule of planned activities.

**Training**

Water supply system employees are exposed to numerous challenging conditions, and

adequate training, including safety training, is necessary for employees to meet these challenges.

Training programs should address safety procedures and include general operation and maintenance procedures to ensure employees are adequately prepared.

**Condition Assessment**

Condition assessment is performed to identify assets that are underperforming, determine

the reason for the deficiency, predict when failure is likely to occur, and determine what corrective action is needed and when.

**Securing Information**

Records, maps, and other information should be stored in a secure location when not in

use. Utilities should make back-up copies of all data and sensitive documents on a regular

basis. Back-up material should be stored in a secure offsite location.

1. *What are the duties of the municipal/county government in ensuring an efficient operation and maintenance of water supply system?*

Answer:

**Building the capacity of communities**

The municipal/county government support in Building the capacity of communities in technical, financial and managerial terms, with awareness of gender questions at the local level, which communities do not have the capacity to carry.

**Reinforcing the role of the local authority**

The municipal/county government keeps an important role in ensuring an efficient operation and maintenance of water supply system by reinforcing the role of local authorities in coordination with communities, and giving the technical and financial means to do so.

**Promoting NGO/private sector participation**

The municipal/county government plays an important role in promoting the participation of local nongovernmental organizations and small private firms in the provision of services such as technical assistance, training, repairs, spare parts provision for an efficient operation and maintenance of water supply system.

1. *Community management of operation and maintenance of water supply system has been termed as efficient for rural projects. Do you agree with the statement? Explain your answer*

Answer:

I do not agree with the statement

Multiple reasons have been brought forward for these functionality failures. Discrepancies between demanded and supplied service level are often identified as one of the wrongdoers for *water supply system* breakdowns.

The users’ economic demand, that is their ability and willingness to pay for a certain service, does not necessarily match the supplied service level. the users may be able and willing to pay for more or less, than what is actually supplied.

On the one hand, users may not be willing to pay for very basic water supply infrastructure (e.g. hand pumps or community water taps, which are shared among multiple households and desire higher service levels such as household connections or increased quantities of supplied water to enable agricultural production. As a result, users may not be willing to contribute to the operation and maintenances of such basic services or enhance them through self‐supply initiatives.

On the other hand, poor households may not be in the position to pay for the most basic services and are thus unable to maintain hardware, which would fulfil minimum supply standards. This latter point often leaves governments, development actors and local service provides with the dilemma of whether to provide services at a supply level that meets minimum acceptable norms, or to supply services at lower levels for which the communities are willing and able to pay.

In any event, if there is too big a deviation between supplied and demanded service level, it will

inevitably threaten the schemes long‐term sustainability, as it is unlikely that the community is either willing or able to maintain it over longer periods. The effective demand of the community, in reality things are often not as straightforward. Demand can be highly variable across and within communities and Particularly for poor communities,

Irrespective of the provided supply level, rural communities inlow‐income countries often struggle with operation and maintenance tasks that go beyond day‐to‐day business such as financial management, succession planning or asset replacement.

Numerous studies highlight that many communities based service providers are not able manage their water systems sustainably without external support of some sort and Rural communities’ in

low‐income countries are usually not endowed with the financial resources to contribute meaningfully to the upkeep of water supply systems. At the same time, they often cannot rely on governmental support, be it in the form of grants, loans or other funding to maintain the water supply infrastructure or in the form of advisory services and capacity building to improve the quality of operations, maintenance and administration

Accordingly, if the communities are left on their own, the water systems often begin to fail once large‐scale investments for major repair or rehabilitation works are required.

The institutional challenge of setting and enforcing effective O&M policies is even bigger for

larger and more complex systems, which puts the scalability of the approach into question.

While sustainability issues have been discussed in the WASH community since quite some time, the pressure to extended coverage and the relative ease to spend budget and demonstrate impacts while providing first time access pose strong incentives to building hardware instead of focusing on the more challenging elements of management, operation and maintenance.

The fact that financing in the sector often comes in the form of investment programmes with a

duration of 4 ‐ 5 years further contributes to the pattern where development agencies hand over

O&M solely to the community.

On the account of these difficulties, development scholars have reflected on the limits of what community management can realistically accomplish, given that it is an approach relying on informality and voluntarism.

**Availability of water sources**

Use of alternative water sources such as springs, rivers, streams and ponds by the community members during prolonged period of breakdown, has made operation and maintenance activities hard to be carried out.

1. *Explain the difference between an eco-san latrine and a standard pit latrine*.

Answer;

**Eco-san** refers to excreta disposal solutions which recycle nutrients from human excreta for agricultural production. Eco-san can be a Double vault urine-diverting latrine which uses a dry disposal system in which urine and faeces are managed separately or Double vault non-urine-diverting latrine which urine is not separated from faeces but soil, ash and organic waste is added to the vault contents. Both options are designed so that one vault is used initially, then sealed when full. Then second vault is used until that is full, at which point the first vault can be emptied and the stored waste re-used for agricultural purposes. eco-san is applicable in any soil formation either damp areas or dry.

Whereas **pit latrines** are the simplest form of dry latrine which consist of a pit dug in the ground and a cover slab above the hole. The excreta both faeces and urine drop through the hole to enter the dry pit. The pit is often lined but the bottom remains open, allowing the liquid to drain into the soil and leaving the solids behind. They do not require water so are appropriate in areas where there is no adequate water supply. They can be constructed with minimum cost using local material and local skills

1. *List the materials you would need to make a simple device for hand washing*.

Answer:

**Materials needed to make a Tippy Tap, a simple handwashing device with running water**.

* Two wooden branches of 2meter length, with Y-shaped end.
* Two thinner sticks of 1meter length.
* A nail
* Two lengths of rope (0.5 m and 1 m)
* A 5liter container either Jerry cans, tin cans, wooden bowls, or pottery
* A piece of soap
* A bag of gravel

**Tools needed to make a Tippy Tap.**

* A pair of pliers
* A lighter
* A shovel
* A screwdriver
* A saw to cut the wood.

1. *Explain how you will ensure that a latrine is user friendly to those who are disabled?*

Answer:

**Assessment of physically challenges**

For latrine to be users friendly to those who are disabled, I may need to conduct communities’ awareness to improve knowledge and capacities of service providers, local government institutions, households and communities to understand concerns of people with disability and to involve them during decision making processes so as to identify and analyze the barriers, obstacles and factors that create problems for people with disability in accessing and using sanitation facilities and to experience different problems and barriers faced by a range of different disabilities when using sanitation facilities. Also to improve knowledge of disabled people about how sanitation facilities can be adapted to meet their needs.

**Encouraging communities to consider design options.**

I need to consult people with disabilities on project design, technology options

and staff training at all stages of project cycle to get feedbacks that proven designs and to construct a user friendly sanitation facilities that are accessible for all.

**Extra-large space inside and** **assistive devices.**

For latrine to be users friendly to those who are disabled, I need to know who will use the latrine and how much space they will need. Hence it will help to come up with a suitable design with ample space considerations for installation of different types of assistive devices for safe and free movement for persons with disability. Therefore, the design incorporates additional space for a wheelchair to enter, park, and turn around inside. and space to use crutches and sticks.

Also the design should include features such as:

* Level, marked paths and A firm, even path clear of hazards benefits everyone, wheelchair and crutch users
* Ramps or low steps with handrail to the latrine entrance.
* Wide entrances to latrine, and enough space inside for a person and her/his caretaker.
* Commode movable seats for people who have difficulty squatting, including overweight people, pregnant women, older people and disabled people.
* Simple handrails and movable latrine seats that can be placed over pit latrines.
* Hand lever to replace a foot lever on tippy taps for people with weak legs.
* latrines that are safe and appropriate located and no more than 15m from the household.
* Door handles should be lockable and easily reached by all.
* Door should generally open outside or sliding doors are the most preferable.

**Training on conducting accessible audits.**

Key functionaries at district and block level to meet representatives from disabled people’s organizations, and from the health, education, aging and WASH sectors to ensure a reliable supply of water, soap and anal cleansing materials including funding for the operation and maintenance of the latrines.

Reference:

1. Water\_Sanitation\_Hygiene\_Improvement\_Training.
2. Water and Sanitation Reference 4.
3. Operation and Maintenance of rural water supply and sanitation systems.
4. Handbook on Accessible Household Sanitation for Persons with Disabilities (PWDs).
5. Guidelines for Management of Sanitary Waste (as per solid waste management rules, 2016)
6. Operation and maintenance in community managed rural drinking water supply systems