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DIPLOMA IN WATER AND SANITATION HEALTH

AIPMS

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Question 1: Why is community based managed essential in management of water resource?

Answer:

Integrated water management can only be possible if the community is empowered through decentralization and is free to make decisions on their natural resource management. (Wash Manual) The four main resources are land, water, livestock and forest which form a village ecosystem. The advantages of having a program of water resources that is community based and managed is that they have an active input in the planning and implementation of the programme. For example, in the situation here in Chipinge in the wake of the recent cyclone Idal the NGO’s that focused on the community outreach to get information found out that there was no need for much drilling of boreholes but the area has a lot of natural springs. This means the communities really wanted the protection of those springs and the making sure that in some areas there is water available near the households.

The management of water resources is also critical as it affects that village ecosystem greatly. Women and young children are the main collectors of water in our area and at times need to walk 10 to 15km to get the required water that means they can spend most of the day on collection of water and thus collection less than needed.

How to achieve the sustainability of the project is to include the community. To analyse the complete socioeconomic impact of a water supply, sanitation and hygiene project, the full impact should be taken into consideration. They include less disease, better education for children (particularly girls), better nutrition for mothers and children, time energy saving for women and secure livelihoods. (WASH DIPLOMA MODULE 3, 2018)

The sustainability of the programme is dependent on the control of the resources by the community. With the extra demands that the water resources have got in terms of new technologies in extraction for irrigation and water use for household consumption there is need for capacity building of the community in terms of understanding what the community needs to do to budget the water resources. They need not to over irrigate as there are ways they can use the water efficiently thus being able to have enough water for drinking and washing. The less the distance of collection of water the better as this helps the girl child to be able to go to school and less frequencies of rape or abuse when collecting the water.

Question 2: With examples, discuss the difference between Community management and Community Participation?

Answer:

The main difference between Community management and Community participation is the terminology. Community participation had more control on the natural resources being on NGO’s and governments but the communities were involved in a less affair. Community management the local and rural groups are co-heirs of the programme and will need to be consulted from inception to the implementation. They will be partners in the program thus even some form of contribution by the community will become the order of the day.

As in community participation we can see the drive for ownership of the programme it was in not emphasized as in the community management.

Community Participation is the involvement of the community in the programme from concept to maintenance of the water projects. It was seen in the 1960’s that governments cannot continuously fund the maintenance of water projects because there is no system of sustainability and ownership of the community thus it is required that the community participate in the water programs. There are a number of tools that can be used to be able to achieve these like self-help initiatives. These are when an organization needs the construction of certain works they offer to the community to be able to build or implement the programme for a cash or kind fee, this helps to increase the increase the involvement of the community to the programme and also helping them financially. This cannot substitute the normal help that communities need but by doing this it also helps in the training of the community leaders how the systems work and how to maintain it.

In Chimanimani there are some water servicing committees that are formed by NGO’s where they drill boreholes and they train a certain amount of local leaders to maintain it thus being able to equip them with the tools to buy equipment or fix the borehole pump if need be on site, this help to make sure the community would maintain the system as it falls on them to rehabilitate the system if it breaks down. Also, capacity building of the participants helps them to also have a life skill they can use to earn a living for their families.

Community management refers to the capability of a community to control, or at least strongly influence, the development of its water and sanitation system. Community management consists of three basic components:

 Responsibility: the community takes on the ownership of and attendant obligations to the system.

 Authority: the community has the legitimate right to make decisions regarding the system on behalf of the users.

Control: the community is able to carry out and determine the outcome of its decisions." An emphasis should be placed upon establishing good communications between professionals and communities facilitating closer dialogue and partnership, helping governments to move from being providers to becoming promoters and facilitators. (WASH DIPLOMA MODULE 3, 2018)

Community management programme involve the grass roots stakeholders from beginning, this happens when you have outreach programme that ask the community what is applicable for there are especially women would know as they spend a lot of time looking and collecting water. When the process of outreach is finished then implementation. By having the community become co heirs of the programme there is a lot of advantages like communication is better if there are any problems, funds can be raised to maintain the project and the involvement of the community is higher. If the committee fails then everyone knows and they can do something about it. (Duncan Mara, 2011)

By taking control of the natural resource in community management the advantages are that there has been seen that the resources its better taken care of for a more sustainable project. The socio-economic well-being of the community is better, there is also better emphasis on the maintenance management of the project.

Question 3. Give five maintenance problems and difficulties. How can you overcome maintenance difficulties in the water supply system management?

Answer.

1. In any system there are problems and difficulties. In water supply system management there are maintenance problems and difficulties like the cost of maintenance. This is a real problem as if the service provider or NGO installs a technology that requires foreign parts and technical no how the system will fail. For example, here in Chipinge there are a number of hand pumps that are not working because of a small part that is critical thus people are resorting to using unprotected water sources because the pump is not working. The solution to this is to have a set and basic water system that will be user friendly and where required parts are readily available.
2. Another problem is lack of ownership and fundraising to maintain the system. This is a real issue as our local government relays heavily on NGO funding thus will not have money to fund the repair of the water system .To add sustainability of the system there is need to form what water committee groups that will be trained in how to maintain the water system and with partnering with the local communities they can set aside funds to be able to buy the parts themselves and have control over the natural resource.
3. Water quality is another problem and its current in Chipinge. As people are building and population is growing there is more and more demand on the water resource. That means wells are being constructed on alarming rates but most are not protected. At the same time septic tanks and pit latrines are not being constructed properly thus will burst and will affect the ground water systems thus will be able to use it for drinking. This can be counteracted by having policies that support the building of proper latrines and the filtering and purification of the water systems. Having regular water purification test will also help in identifying the water they should not be used and also training on how to
4. Government corruption and internal politics can affect the maintenance of a water supply system as this touch at the core of human rights. In Chipinge the government doesn’t want to be seen as doing nothing so will rather affect negatively on the programs that let the fame of a successful program go to anyone else. This affect the maintenance as some water points can be used and maintained under different political parties that means if you want to use the water system you have to be part of a certain party. If the water system breaks down and someone wants to fix it but is no affiliated to a certain party then the maintenance is not done. To solve this is difficult as the internal politics of a country will need to take back seat on the negative impacting of the local resources. Policy campaigns that the governments will be the solution not the problem. There should be more of community management programs so that the community can have more of a say in the running of the systems.
5. Cultural and religious tension can also affect the maintenance of water systems. The comes in when the NGO has not involved the local community in its programme and gone ahead to put a water system that is not applicable to the community. Some areas a Taboo to draw water so the would be no motivation to maintain the water systems by the local people. Community management principals should be the underlying principal for us to solve this problem. And consultation of local leaders in the roll out of the program

Question 4: What are Water technologies available in your area? Explain five.

Answer:

Water technologies are systems or equipment’s designed to be able to provide quantity and quality water. For us to be able to determine what water technologies are in my area we need to see what are the water sources and water needs as that will determine the technologies that are used in the area to meet the parameters.

Water sources in Chipinge are many and diverse some come from underground water or springs. Underground springs are usually found in mountainous areas as Chipinge is very mountainous. They are so many springs that this becomes one of the primary sources of water to rural communities.

Another source of water is from aquifers that are in the ground. Aquifers are cup shaped rock formations that are situated underground. When rain falls the water seeps down the different soil levels then it filters thus in most cases the water that collects in the aquifer is clean and drinkable.

Another source of water is Rainwater collection, from roofs or larger catchment areas, can be utilized as a source of drinking water, particularly where there are no other safe water sources available (for example in areas where groundwater is polluted or too deep to economically tap). In extreme situations, small quantities of water can be condensed from the atmosphere (as dew) on screens or similar devices. (WASH DIPLOMA MODULE 3, 2018)

The last water source is surface water that is springs, lakes and night storage dams. These are readily available in many areas but are grossly polluted by animal waste or human waste.

In Chipinge we usually focus on ground water sources.

The main use of the water is drinking and domestic use. The nearer the water source the better. The is why it is important to have a higher quantity of water pumped at any one water point.

There are three main design options which are single point systems, stand pipes and house hold connections. Single point systems as the name in tells are usually public points that communities get water. Whether they are open wells, had pumps or bush pumps or stand pipe must have a system where solid waste is channeled away from the water source. These also can be used be communities for water troughs for animals, laundry, bathing and other facilities even watering small gardens. But we want to have the convenience of having water at the door step then piped systems are the way to go. Having this system lowers the amount of energy used to collect water especially by the girl child and the consumption of water increases thus having more health benefits. Consumptions can increase up to 500 percent for yard taps. (WASH DIPLOMA MODULE 3, 2018)

So, as we understand the need we can then be able to see the technologies that can give us the water.

1. Hand dug wells:

These are very common in the Chipinge are. They are dug by hand to distances of up to 25m. The have concrete rings that are inserted and the main principal around them is that the water table is near the surface. As piped water is not available in some areas this becomes the primary source of water for domestic uses.

1. Bush pumps:

These ae mainly installed in areas that have been drilled +/- 40m hole that has a 160mm PVC casing. The bush pump or hand pump is installed and the community gathers there to collect drinking water and water for bathing and laundry. It is manually operated so it provides sustainability.

1. Solar Pumping systems:

To provide stand pipes to communities the local authority in partnership with NGO’s managed to install solar pumps that will feed in 5000Lplastic tanks that are hoisted in a tank stand then it will feed through gravity will feed to stand alone taps.

1. Rain water Harvesting

In areas that have no access to clean water rain water harvesting is used and water is stored. Water guard or aqua tabs ae used to purify the water. In can, be captured on roofs.

1. Drilling systems in Zimbabwe are mainly based on rotary drill system that can be able to drill many meters down the earth’s surface. As the normal borehole is between 40meters to 60meters deep this technology of drilling is both fast and efficient, the costs are the big prohibition as some will cost between US$2600 to US$3000 per hole and most people cannot afford it.

Question 5: How do you ensure cost effectiveness in supply of water?

Answer:

In any water supply program there are costs that are incurred but the onus is to keep costs down. There are different ways that the cost can be effective for the project so that most of the funds are going to the actual supply of the resources.

In the beginning you have to determine the operational cost of the scheme. A lot of schemes that don’t go through this process end up being expensive as they did not foresee certain aspects of the scheme. At the same time the involvement of women is critical in the planning phase of the programme. Women are the main uses of the system and their input in how the system should work will help the system to be effective as well as the costs.

Technology also plays a part in cost effectiveness. That means the type of pumps used must be user friendly, durable and cost of maintenance low in the long term There some instances that the equipment used are not locally source thus the maintenance parts are out of the country. This means the cost of maintaining this water source becomes expensive.

Capacity Building is another way of making our costs are kept effective, that means that if the water committee is trained how to maintain the system we will not need to bring in outsiders to maintain the system that might deem to be expensive at times.

Numerous examples have shown that a project that is managed by the community itself is much more cost effective in the long run than a "top down" project. (WASH DIPLOMA MODULE 3, 2018)

Community managed programs will have a sense of ownership from the community thus they can provide low cost or free labour through them being volunteers. Again, like in Chipinge there are a number of springs that should not be touched because of cultural reasons and thus having the communities point them out will save costs. There are hidden costs in any project that will be taken care like logistics of the systems or being able to use local materials that might be cheaper and available.

In Zambia, drilling costs were reduced from an average of US$5,000 per bore well to US$2,600 from 1996 to 1998 through the application of a series of reforms in UNICEF supported programmes including:

 reducing specifications of bore wells to a level more appropriate for hand pumps;

 the issuance of a single contract for both hydrological survey and drilling;

 drilling payments based on unit tasks instead of lump sums;

 And no payments made for dry wells.

Not only are more boreholes being drilled because of reduced costs, but the number of contracts being awarded by other donors has also risen, because of increased confidence in getting value for money. (WASH DIPLOMA MODULE 3, 2018)

# Bibliography

Duncan Mara, B. E. (2011). *Sanitation and Water Supply in Low-income Countries.* Bookboon.com.

*WASH DIPLOMA MODULE 3.* (2018).