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**Assignment**

1. Describe the particular challenges of providing WASH services in urban settings arising from each of the following factors.

* + - * 1. Increasing population size
        2. The diverse nature of the urban community
        3. Infrastructure required for WASH services
        4. Governance, in particular the process through which resources for improving WASH services are allocated and utilized.

**Answer**

1. Challenges related to population size and characteristics

WASH service upgrade and expansion is slower than the rate of population growth, which puts pressure on the existing systems. As the services are shared by many more people, they quickly become inadequate and may break down.

1. The diverse nature of the urban community

Urban communities come from different backgrounds and have varying economic status. They are likely to be very mixed and include people from different ethnic groups and religions. Moreover, most people living in urban areas move frequently in and out of town. They may not feel they are part of a community or care very much about the place where they live. These characteristics make it difficult to raise awareness and understanding of basic service issues and pose significant challenges for mobilizing people to change their behavior and actions. Promoting safe hygiene and sanitation practices is difficult if the community is very mixed and the people do not share a sense of responsibility for their neighbors or environment.

Urban communities consist of diverse groups of people and all need access to WASH services. However, depending on their age, lifestyle, nature of their daily work, and/or physical condition, these groups require different levels of service. Some in the community, referred to as vulnerable groups, have particularly special needs and are most affected by the lack of WASH services, for example:

* Children and the elderly
* People living with HIV/AIDS
* People with disabilities (of any age)
* Poor families with little or no income. Children, especially those under five years of age, are more likely to die of diarrhoea caused by lack of clean water. Disabled people may not easily access and use conventionally built latrines because of steps or rough and uneven ground. This not only limits their ability to practice safe sanitation but also makes them socially marginalized.

1. Challenges related to infrastructure

The key challenge to meeting the increasing WASH service needs in Ethiopia’s urban areas is the availability of adequate resources, including finance and human resources that can provide and maintain the necessary infrastructures.

The infrastructures required are:

* Liquid waste (including faecal sludge from latrines) transportation and disposal sites
* Solid waste collection, transportation equipment and disposal sites
* Storm water drainage system
* Waste recycling or reuse equipment and facilities.
* Water supply system

Water supply systems include developed water sources, treatment plants, storage reservoirs, and a network of distribution pipes delivering water to users. Growing population numbers and economic activity in urban areas mean that:

* Large amounts of investment are required to expand the capacity of these systems to meet the water needs of the population adequately. Mobilizing sufficient funding is often difficult.
* Waste from industrial activities increases the threat of contamination of water sources.
* Water sources, especially groundwater, may become depleted over time because of high extraction rates.

Sanitation services include infrastructure for collection and safe disposal of liquid and solid waste. The amount of waste increases with the population size. Industrial activities also add to the type and composition of wastes generated. You may have noticed the excessive waste accumulated in different parts of urban areas. Figure 1.4 shows an example where rubbish and flooding have caused problems in a suburb of Accra in Ghana – similar scenes can also be found in Ethiopia.



Figure 1.4 Accumulated solid wastes and effluent from a latrine block have filled a drainage canal in Accra, Ghana.

Wastes from residential areas and from industries often require treatment before being safely discharged into the environment. Faecal sludge from latrines or toilets needs to be transported, treated and disposed of safely. Most towns do not have a proper treatment facility or a suitable disposal site. In emerging towns, where agricultural processing is a growing trend, industrial wastes, for example from coffee processing plants and hide processing factories, are causing an additional burden. Wastes from such industries are often released into the environment without treatment.

Again, mobilizing sufficient finance to expand services in a timely manner is critical to managing these situations, but is difficult.

1. Challenges related to governance

Appropriate allocation of public funds between WASH and other sectors, such as roads, is a governance issue. Within the WASH sector, most of the budget goes to water related works and the sanitation component is usually left with very little. Even the small proportions of resources available are spent on financing major infrastructure in urban centres where most of the rich families reside. This may mean that tax collected from the larger community is only benefiting a selected few, which is not considered fair.

Effective operation and management of urban WASH facilities is another challenge related to governance. In principle, WASH facilities are managed by service providers, such as water utilities and micro- and small enterprises (MSEs). These groups are expected to recover costs for operating and maintaining the facilities but their performance is often below expectations. Service providers may not listen to the needs and complaints of user communities. Where services are not provided to the expected standard, the community’s motivation and willingness to pay the tariffs is reduced. This affects the capacity of the service providers to manage the WASH facilities and is a major challenge for governance. Moreover the distribution of resources and infrastructure may not be town-wide, socially inclusive or equitable.

2. What are the major health risks from?

* + - * 1. Open defecation
        2. Allowing food waste and litter to accumulate in a ditch
        3. Not washing hands before eating.

Briefly explain how these risks could be reduced.

**Answer**

1. Handwashing before eating is an important aspect of good hygiene practice. Without this there is a risk of transmitting pathogens into your mouth, which may result in the faecally transmitted diseases listed in (a).
2. If faeces are deposited in open areas then pathogens can be washed into rivers and groundwater. Also flies are likely to transfer pathogens from faeces onto food. Many diseases are caused by ingesting contaminated food or water, including diarrhea, dysentery, cholera, typhoid, and infection by intestinal worms and other parasites.
3. If food and other organic waste are allowed to accumulate it will encourage flies and rates to breed, which are vectors of diseases. It is possible that piles of waste will also contain excreta so the risks will be the same as those listed in (a).

These problems could be reduced by providing a waste management service that ensured wastes were collected and disposed of appropriately.

These problems could be reduced by providing sufficient numbers of well-designed and maintained latrines so that people did not have to defecate in the open.

These risks could be reduced by ensuring everyone has access to sufficient water to make it easy to wash hands routinely and by introducing community programmes to inform people about the benefits of handwashing and good hygiene.

3. Describe three specific challenges posed by peri-urban areas and slums for improving access and utilisation of WASH services.

**Answer**

Urban communities living in slums and peri-urban areas have particular characteristics that make it challenging to provide sustainable WASH services.

These are:

* Illegal settlement: people living in slum areas and at times in peri-urban areas have no legal status, which automatically makes it impossible to improve the WASH situation. For example, utilities provide connections to legally owned premises but most slum dwellers do not have these rights. The case of latrine construction is similar.
* Lack of infrastructure: these areas have little or no infrastructure and often there are no access roads. In the absence of access roads, bringing WASH services to residents of slum areas is impossible or very challenging.
* Poverty: communities are usually very poor and cannot pay for improved services.
* Unplanned settlement pattern: these are a key feature in peri-urban and slum areas. This makes it difficult to provide basic infrastructure, including WASH services, roads, water supply networks and public latrines with proper access for sludge removal are lacking. The settlement pattern also hinders attempts to plan interventions that can improve the situation.

4. Explain three challenges associated with engaging stakeholders in planning and implementing urban WASH projects.

**Answer**

There are many challenges associated engaging stakeholders in planning and implementing urban WASH project.

They include:

* **Lack of coordination and poor communications between different sectors and organizations makes it difficult to make effective plans.**

In the past there has tended to be a lack of coordination among the organizations and agencies responsible for WASH projects, for example between governmental and non-governmental organizations, and this has resulted in duplication of effort, contradiction or inconsistency (WUP, 2003). There has also tended to be separation between projects to improve water supply and those related to sanitation and hygiene. As a result of this fragmented approach, there have been gaps in communications with stakeholders and some have been left out of the planning and knowledge sharing in a project.

* **Reaching low-income households.**

The delivery of water supply and sanitation to low-income urban and peri-urban communities is complex. Poor consumers may not be adequately represented in community organizations and are often perceived as being ignorant and apathetic like people with disabilities and other vulnerable groups. Women may not be able to participate in meetings but it is important that they are involved in WASH developments. However, in many instances this is clearly not the case because they have proved themselves able and willing to help bring about change that will improve their living conditions (WUP, 2003). Effective communication strategies that reach out to low-income communities will be needed to ensure they are also included within the stakeholder group of users and beneficiaries.

* **Working across boundaries**

One of the particular challenges of WASH is that it means working across sector and disciplinary boundaries. Although commonly referred to as the ‘WASH sector’, WASH is a combination, as you know, of water, sanitation and hygiene sectors and is therefore cross-sectoral, meaning it involves people from different sectors working together. In particular it involves representatives from offices and bureaus of water, health, urban development and finance. It is also cross-sectoral in the sense that it involves both public and private sectors including government departments and agencies, and contractors, consultants and other private companies.

Cross-disciplinary communication is also essential because many complex WASH problems require more than one source of information to solve them. Cross-disciplinary refers to the academic disciplines and training of the people involved. These could include engineers, sociologists, hydrologists, doctors, nurses, accountants and managers to name but a few. People trained in different disciplines often have different ways of thinking and approaching an issue that can make communication between them difficult. Care is needed to ensure that everyone understands each other and that the information provided by and to stakeholders is accurate, relevant and can be easily understood.

Although it can be a challenge, it is important to realize that cross-boundary working has many advantages as well. The combination of different perspectives and experiences brings a diversity of thinking and approach that can ultimately make a project more successful. The key issue is to recognize the differences and work with them to ensure all voices are heard.

* Imagine you are working on a programme that involves liaising with officials from different government departments, including water resources, health and education. What issues would this raise?
* The officials from the water resources department (engineers or water supply technicians), those from the health department (community health workers, nurses or midwives) and those from the education department (teachers) would all have different academic backgrounds and varying knowledge which they could contribute to the discussion.

Cross-disciplinary engagement is about teamwork, where individuals bring different skills to the table and see issues from different perspectives. However, in order for a new cross-disciplinary team to become effective that team must develop shared values and culture. As a WASH practitioner you may be involved in the development and maintenance of effective forms of cross-sectoral and cross-disciplinary communication to manage complex WASH problems in your locality.

Reference list

(JMP, led by UNICEF and WHO, 2012 & 2014, PP.4 – 16)

(Mathur et al., 2007, SMART e.org, 2010, PP. 45 – 57)

(Pradhan, 2000, Hotez et al., 2008, cited in Brown et al., 2013, PP. 18 – 30)