**Assignments**

1. Paul, a resident in the outskirts of your town, consults you about building a latrine in the compound of his house. He is an open-minded man who is keen to improve life for his family. He has a wife and three young children, and his elderly mother also lives with them. He doesn’t have a tap in his house and gets water from a nearby well. The area has heavy soil and the rock below is impermeable.

1. Which types of latrine are possible choices for him?
2. Which types of latrine would you recommend, and why?
3. What other advice would you give him about the location, design and construction of the latrine?
4. Since Paul does not have adequate access to water supply within his compound, his options are limited to dry latrine systems. His possible choices would include Arborloo, Ventilated Improved Pit Latrines, Urine-diverting latrines or biogas latrines. Other options include Simple Pit Latrines, Kumasi Ventilated Improved Pit (KVIP) Latrines, Enviro Loo Waterless Toilet and Composting EcoSan Toilet (hub publications, 2019).
5. The Kumasi VIP latrines would be the most cost effective and economical option. It is preferred to the ordinary VIP latrine because in addition to all the advantaged of VIP latrines, it provides for the continuous usage of facility even when one of the holes is filled up and it also provides for safe and easy emptying of the latrines. The latrines comes with two holes with one being active at a time. When a holes is filled, is sealed (both the hole and vent) for a year or two to allow for proper decomposition while the other is being used. The environmentally friendly organic compost from the long decomposition can then be used a manure in farms.

Other good alternatives to the Kumasi VIP latrines are the VIP Latrines and UDDT. Since the latrine is meant for his household, it will not be suitable for biogas latrines because of the low number of users. Due to the difficulty in accessing water, the wet latrines are equally not a good option for him..

1. The advise would include:

* A latrine must not be located over a surface water body and should be at least 100 feet (30 m) from the edge of the flood plain of a surface water body (Minimum standard in Water, Sanitation and Hygiene Promotion).
* He should also consider the wind direction and place the latrine downwind and at a convenient distance from the house.
* For the safety of the children, he should choose a SanPlat for the slab.
* The materials for the superstructure should be available locally, so that the system is sustainable.
* He should install a handwashing facility next to the latrine to limit contact with excreta and promote good hygiene.
* Latrines should be sited away from trees to prevent obstruction of vent pipes.
* Latrines should be constructed with enough space for vehicle or other machines to enable access and movement during desludging.
* In the selection of soil conditions on which to construct the latrines, avoid (if possible) rocky outcrops, unstable ground conditions and depressions with shallow water table.
* Latrines should be constructed with adequate drainage to ensure that rainwater does not flood the pit. At least 1.5m above the ground level.

2. (a)Nancy is a laboratory technician. She is analysing a sample of wastewater collected from a pipe that discharges effluent into a river. Name two tests Worknesh could perform to assess the physical characteristics of the effluent.

(b)As part of the analysis she also does a BOD test on the sample and gets an unusually high result. What does the high BOD tell her about the wastewater? What effect could it have on the river?

1. The two tests include:
2. Colour test: Colour in water is caused by the presence of vegetable and minerals substance as well as other contaminants.
3. Turbidity test: This test measures the number of suspended solids in wastewater.
4. A high BOD test result would tell Worknesh that there was a lot of organic matter in the sample. If this was discharged into the river it would remove oxygen from the water, which would harm fish and other organisms living in the river.

3. What is the purpose of the report of a rapid assessment and who should receive copies of the report? Explain the contents of Rapid Assessment Report

1. The purpose of the report is to summarise the results from the assessment and indicate how well its aims have been achieved. After permission from the funders has been obtained, it should be sent to all those who had an interest in its findings. Apart from the funders, recipients could include:
2. the kebele or community administration
3. community representatives
4. the local Health Extension Workers team
5. any non-governmental organisations (NGOs) or funding organisations who might be willing to finance or support a follow-on programme
6. any local or international WASH programmes.
7. Government agencies with coordinating responsibility for WASH at the different levels.

The content of a Rapid Assessment Report depends on the funders of the assessment. See review of Plan International’s Rapid Assessment Report (Eastern Samar Province, Eastern Visayas (Region VIII)) below:

* General Information: This is where the name, nature of the assessment, assessment date and contact details of the assessors is captured.
* Situation Overview: This where details of the nature of the emergency being assessd is documented. The geographical coverage of the assessment and expected impact where also noted in this section of the report.
* Needs Section: This section captures the need for the intervention and it was disaggregated by programmatic areas.
* Coverage and Gaps Analysis: This is where the scoping and actual coverage are document.
* Risks Section: This was where risks concerning the assessment was documented.
* Projected Trend: This is where forecast is made based on findings from the assessment.
* Response capacity of National and Local Authorities: The local capacities of the authorities as well as that of civil societies actors are recorded in this section.
* Humanitarian Access: The logistic, security and civil-military relation was discussed under this section
* Humanitarian Country Team’s Strategic Priorities: This is where the country and/or regional strategic priorities for the sector or programmatic area is documented
* Analysis and Recommendation on what needs and gaps should be responded to: This is where stratic and operational committement is founded concerning the planned intervention.

4. Explain five ways in which urbanisation creates challenges for effective sanitation and solid waste management.

Urbanization creates challenges for effective sanitation and solid waste management through the following:

* Inadequate infrastructure

According to Agumbnwamba, et al.(1998) as referenced by Ugwuanyi and Isife (2012), Many Local Government Areas lack the capacity to meet infrastructural services for waste generation in rapidly growing areas. When vehicles to evacuate waste and other infrastructures are not provided or inadequate from the Local Government to the State Government, there will be problem in handling the waste generated by the populace.

* Inadequate Budgeting

The continuous growth of population in urban areas makes it difficult for government to make adequate budgetary provision for waste management and sanitation leading to poor waste management and sanitation practices especially in satellite towns close to the city.

* Informal Settlements

Because of the enormous economic opportunities in urban settlements, cost of leaving is mostly high and unaffordable by certain class of people. This class of people normally reside in satellite towns close to the city and the are mostly unplanned and lacked basic Waste management and Sanitation facilities.

* Poor Planning

Urban waste management and sanitation requires an integrated and collaborative planning with participation from stakeholders from government, private sector and development partners. The approach to managing the waste should be comprehensive and sustainable. However, for lack of capacity proactive and collaborative planning is not often carried out.

* Lack Knowledge

Urbanization brings about the movement of people from remote villages to developed areas. This leads to the transfer of the traditional ways of disposing solid and liquid waste from the villages to the city without knowledge of the potential impact of the actions or inactions. These practice may include open defecation and disposing of solid waste in moving water.

5. How do good sanitation and waste management practices bring a positive effect to urban inhabitants? Give examples for effects on:

health

education

economic conditions

the environment

1. Health:

Good sanitation and waste management helps to break the infection cycle. It help to keep people separate from potential sources of pathogens. They reduce the risk of contaminating water supplies with pathogens and discourage the transmission of disease.

1. Effects on education:

Healthy children have fewer days off school through illness. When they are at school, healthy children learn better than sick children. Providing good sanitation facilities encourages children to attend school, particularly girls during their menstrual periods.

1. Economic conditions:

The health benefits promoted by good sanitation and waste make for a more productive community. Less money is spent on healthcare and people lose fewer days off work through caring for the sick.

1. Effects on the environment:

Good sanitation and waste management means that there will be less faeces and waste deposited in public places and less pollution of the water and soil.

## References

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