

# STRATEGIA NETHERLANDS



**POSTGRADUATE DIPLOMA IN WATER, SANITATION & HYGIENE (WASH)**

**ASSIGNMENT FOR MODULE 5 (INTRODUCTION TO SANITATION)**

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2019

## ASSIGNMENT CONTENTS

(MY ANSWERS TO ALL QUESTIONS)

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.

- (a) Which types of latrine are possible choices for him? Since Paul does not have a piped water supply, so he may not install a water-based system. Therefore, my advice to Paul will be to install a pit latrine. He has a variety of pit latrine type to choose: single pit latrine, a pit latrine with slab, a VIP latrine with slab, a double pit latrine, etc.
- (b) Which types of latrine would you recommend, and why? I would recommend to Paul as first option: the VIP latrine because VIP Controls odor and insects, has minimum health risk, It's low cost and easy to construct and maintain, has minimum water requirement and as second & best option to Paul: an ecosan system because it's environmental friendly, more sustainable and cost effective, while providing better protection of groundwater and produces useful product as urine and faeces can be recycled and used as fertilizer in the agriculture which can benefit Paul, if he's farmer . Lastly, I will recommend the Arborloo system to him, if the two first types do not match Paul's choice.
- (c) What other advice would you give him about the location, design and construction of the latrine? I would recommend to Paul to consider the location of the pit for at least 30 m away from his well, preferably a far distance. It must also be at a lower level according to the slope of the land. He should also consider the wind direction and place the latrine downwind and at a convenient distance from the house. He would need to consider the design of the squat hole to ensure it is safe for his children and comfortable for his elderly mother. He should consider the locally available materials to be used for the superstructure and installation a handwashing facility next to the latrine.

2. Nancy is a laboratory technician. She is analysing a sample of wastewater collected from a pipe that discharges effluent into a river.

- a) Name two tests Nancy could perform to assess the physical characteristics of the effluent. For assessing the physical characteristics of the effluent, Nancy could perform a suspended solids test, assessing the odour and measuring the temperature of the sample (preferably, the temperature should be measured at the point of origin because it may change within a short time)
- 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?  
A high BOD test result would tell Nancy 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 The purpose of the report is to summarize the results from the assessment and indicate how well its objectives have been achieved. With the permission from the funders, the report should be sent to all those who had an interest in its findings.

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

The key challenge facing many countries undergoing rapid urbanization is the issue of sanitation and waste management. In many of these countries' cities, rapid urban growth has far outpaced metropolitan and municipal authorities' capacity to provide basic services including adequate sanitation. People arriving in cities often live in informal settlements which are developed without planning or control and lack essential facilities for the people who live there. This situation has been further compounded by weak local government structures and the lack of transparency and accountability in city governance.

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

- a) **Effects on health:** Good sanitation and waste management 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.
- b) **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.
- c) **Effects on 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.
- d) **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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- Briscoe, J (1996). Financing water and sanitation services: the old and new challenges. Water Supply, pg1–17.
- Chaplin, S.E. (1999). Cities, sewers and poverty: India's politics of sanitation. Environment and Urbanization, pg145–158
- Etc.