



National regulations on the safe distance between latrines and waterpoints

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¹ Consortium comprises Harewelle International Limited, NR International, Practical Action Consulting, Cranfield University and AEA Energy and Environment

1 Description of enquiry

Dear DEW Point,

We would like to know what the national recommended safe distance (in metres) between latrine and waterpoint is for the following countries:

Bangladesh, Burkina Faso, Ethiopia, Ghana, India, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Papua New Guinea, Tanzania, Timor-Leste, Uganda, Zambia, South Africa.

This info will not exist for all countries, but where it does it would be very useful to know this.

2 National regulations on the safe distance between latrines and waterpoints

By Alison Parker, Centre for Water Science, Cranfield University, and Ingrid Carlier, NR International

The use of on-site sanitation (pit latrines) presents a risk to groundwater quality. The risk to health is reduced by increasing the separation distance of pit latrines and any groundwater sources used for drinking, as this increases the travel time of pathogens through the soil and decreases their survival rate. Defining a separation distance that reduces the risk to health to an acceptable level is no easy task – a detailed study of the hydrogeological conditions is required. The most modern and comprehensive description of this assessment is provided by the British Geological Survey (2001):

Guidelines for assessing the risk to groundwater from on-site sanitation:

http://www.bgs.ac.uk/downloads/search.cfm?SEARCH_TXT=argoss

The following sections describe the national regulations and guidelines reported for the safe distance between latrines and waterpoints for a selection of countries in Africa and Asia. However, it should be stressed that following these guidelines does not guarantee safe drinking water – under certain circumstances the separation distance recommended will be inadequate.

For each country, the relevant policy document is listed, where it is known. Any practitioners who were consulted are also listed – these people often are the ones who have read the original documents (or have stated that they are unaware of any relevant documents). They are thanked for their contributions to this research.

Bangladesh

The following requirements are taken from the “Bangladesh National Building Code” (1993) and are irrespective of ground water table. The soil texture is assumed to be silty, with moderate permeability. The minimum requirement in order to maintain safe distance between the water source and potential source of contamination is **15m** for a subsurface pit or seepage pit. These recommendations are followed in the urban areas.

There are also recommendations published by the Department of Public Health Engineering, to install pit latrines or ring slab latrines 30 feet from shallow hand tube wells (depth 240 feet). For the deep hand tube wells (depth 900 to 1100 feet), no separation is required. This is the informal recommendation for rural areas.

Informants: Matin Abdul, Halcrow; VR Baghirathan, Project Director, WSUP; Shahidul Islam, Dhaka Project Manager, WSUP

Burkina Faso

The National Law Guidance on water management, Article 34 sets the minimum distance between a toilet and a water point (a borehole or a well) as **25m**.

Informants: Wozuame Agbenyo, WaterAid

Ethiopia

The “Construction Usage and Maintenance of Sanitary Latrine Extension Package” published by the Ministry of Health in February 2004, states that latrines “must be sited at least **30m** from any water source meant for human consumption and at lower gradient from water source.”

http://cnhde.ei.columbia.edu/training/documents/Sanitary_Latrine.pdf

Ghana

According to Community Water and Sanitation Agency of Ghana, the recommended distance between a latrine and water source should not be less than **50m** horizontally.

Informant: Abdul-Ganiyu Shaibu, Lecturer at the University for Development Studies, Tamale, Ghana

India

The Manual on Sewerage and Sewage Treatment (Second Edition), published by the Central Public Health and Environmental Engineering Organisation, Ministry of Urban Development, New Delhi in December 1993 states:

“If the distance between the bottom of the pit and ground water table is 2m or more throughout the year, the pit can be located at a minimum distance of **3.0m** from the water source (tube well or dug well) for the effective size (E.S.) of the soil 0.2 mm or less.

If the effective size of soil is greater than 0.2 mm, same distance can be maintained by sealing the bottom of the pit by an impervious material such as puddle clay or plastic sheet and 500mm thick envelop of fine sand of 0.2mm E.S. around the pit.

If the distance between the bottom of the pit and ground water table is less than 2m during any part of the year, the above shall be increased to **10.0m.**”

Informants: Aqbal Husain Khan, Principal Engineer, Water and Waste Water Group, Halcrow Consulting India; VR Baghirathan, Project Director, WSUP

Madagascar

The “Rapport final provisoire : Manuel de procédure” published by the Ministry of Energy and Mines in 2005 defines regulations about latrines and waterpoints, but it **does not specify a separation distance.**

<http://www.hip.watsan.net/redir/content/download/2060/11000/file/MANUEL%20DE%20PROCEDURE%20EAU%20ASSAINISSEMENT.pdf>

Informant: Julie Ranaivo, Antanarivo Project Co-ordinator, WSUP

Malawi

Currently there are **no official guidelines** in Malawi.

Informant: Victor Chipofya, Centre for Water, Sanitation, Health and Appropriate Technology Development (WASH TED), University of Malawi.

Mali

The official standard is **15m.**

Informants: Tim Hayward, Programme Manager, WSUP; Aly Sow, Bamako Project Manager, WSUP

Mozambique

A document whose title translated into English is “Technical to Construct Private Wells” defines a distance of **50m** between a latrine and an excavated well. The “Low Cost National Sanitation Program” gives a lower distance of **30m**, but states that groundwater flow should also be considered. It was not clear which of the two documents represented the national standard.

Informant: Carla Costa, Maputo Project Manager, WSUP

Nepal

No distances are listed in the “National Urban Water Supply and Sanitation Sector Policy”.

Nigeria

The Standards Organisation of Nigeria and the Public Health Law **do not make any reference to a safe distance** between latrines and waterpoints.

Informant: Grace Oluwasanya, PhD student, Cranfield University

Pakistan

There is **no recommended distance** that is known to practitioners, although most people use a pour-flush latrine connected to an open drain or sewer; there is relatively little on-site sanitation. No distances are defined in the “National Sanitation Policy” or the “National Drinking Water Policy”.

Informant: Kevin Tayler, Independent consultant

Papua New Guinea

There is **no official national recommended safe distance** between latrines and water points. Some practitioners use 25 metres as a guideline.

Informant: Richard Gillett, Consultant

South Africa

A detailed procedure for doing a hydrogeological assessment is described in “A protocol to manage the potential of groundwater contamination from on site sanitation, Edition 2” published by the Department for Water Affairs and Forestry in March 2003; **no specific distances are given** in this document. However, the “Guidelines for Protecting Springs”, published by the Department for Water Affairs and Forestry and the Norwegian Agency for Development Cooperation in March 2004 define a minimum set-back distance of **100m** for a waste disposal site from a surface water body.

<http://www.dwaf.gov.za/Groundwater/Documents/GWprotocolMar03.pdf>

<http://www.dwaf.gov.za/groundwater/NORADToolkit/3.2%20Guide%20for%20protecting%20springs.pdf>

Tanzania

No reference to the existence –or non-existence- of national guidelines could be found within the time available for this research.

Timor-Leste

No reference to the existence –or non-existence- of national guidelines could be found during the research. Having gained independence from Indonesia in 1999, the country is still a very young nation.

Uganda

The “Report on the workshop to raise awareness on water resources regulation and applying for and complying with drilling permit conditions” presented at the Sports View Hotel in Kirkeea on 9th August 2006 by Otedor Samuel, WatHab FO states that “The well should be drilled at least **50m** away from pit latrines and where possible on a higher ground than the pit latrines”. This is also the regulation understood by local practitioners.

http://www.watsanuganda.watsan.net/redir/content/download/429/4600/file/Drilling_Permit_WS_Report.doc

Informant: Reuben Byoumuhanji, Programme Manager, Diocese of Kigezi Water and Sanitation Programme

Zambia

The Zambia Bureau of Standards have **no design criteria** for latrines, although they do hold standards for drinking water quality, consumption and demand.

Informant: Reuben Sipuma, Lusaka Programme Co-ordinator, WSUP