



## Finding water and sanitation information on the internet

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*For many people, the Internet has become the first medium to turn to when they need information. Water and sanitation professionals are no different. Currently there are around 1 billion Internet users worldwide<sup>1</sup> who can access trillions of WWW pages with information. These pages are not indexed by subject headings, author or title as in library databases. So, how to find the information you are looking for? Is it enough to use Google? In many cases it is, but in many cases it is not and it would be better to use other search services.*

*This fact sheet focuses on water and sanitation information on the Internet. It gives insight in to what is available and what search tool you could use for which purpose. It also provides some tips on how to evaluate the quality of the information you have found and keep track of information in the water and sanitation sector.*

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### Search tools and search services

The main search tools and search services that you should be aware of in your search for water and sanitation information are:

1. Key search engines
2. Databases
3. Subject gateways or water and sanitation portals
4. Discussion Groups
5. Blogs

#### Key search engines

Search engines work with “robots”, which are indexing full texts (or large parts of it) of internet documents. While doing a search this robot is retrieving data from the indexes. The search system looks for documents with the best resemblance to your search question, and sorts the results based on resemblance. This is called relevance ranking.

Very often there is not much overlap in the results search engines come up with<sup>2</sup>, so it is worthwhile to try more than one search engine when you are not happy with the results you get. For an overview of search engines worldwide, you may want to check the [international directory of search engines](#).

Three search engines are suggested to support your searches:

Google, <http://www.google.com> is the most popular search engine. Google offers a good free guide

to help you in your searches: <http://www.googleguide.com>. To search for authors or scientific articles, Google has developed <http://scholar.google.com>

Yahoo! <http://search.yahoo.com>

Originally just a subject directory, it is now a search engine, directory, and portal.

Teoma, <http://www.teoma.com>

Teoma is a good search engine for identifying metasites and communities, for research in new areas, and for topics where you don't know yet who's involved.

**How to get the best results using a search engine?**

- use quotation marks to get more accurate results when searching for specific phrases or concepts.  
Example: "sustainable livelihoods"
- Search engines search on 'all of the terms'. This means:
  - you can reduce your search results by
    - choosing narrower topics. Example: domestic use instead of water use;
    - typing as many words for all elements related to your topic at the same time;
  - you can increase your search results by typing one or more general terms (start general and get more specific later on)
  - you can also refine your results, by using the option 'search within results'
- Be aware of synonyms; acronyms, and different spelling options. Try as many options as you can think of.  
Example: try both SSHE and School Sanitation and Hygiene Education; and both Ecosan and Ecological Sanitation
- Use the advanced search option and the help pages to improve your search results.  
Here you will find more possibilities to refine your search, for example by searching for specific language documents, for documents published after a certain date, or for a specific file type (e.g. PDF).  
You will also find information on how to include or exclude specific terms.  
Example: "School sanitation" AND (policy OR policies). These are so-called 'boolean' searches.

A search engine will often not be able to search for information:

- stored in database records (libraries, yellow pages)

**Types of online databases to be found on the Internet**

- Bibliographic water and sanitation databases.  
These can be divided into free databases, for example: the [Virtual Library on Environmental Health](#); the IRCD OC library database, <http://www.irc.n/virodoc>; and the [WELL Document Catalogues](#); free search and pay when you want to download fulltext articles, such as [PUBMED](#), a database of papers published in medical journals, and [IngentaConnect](#), and [Scirus](#) for multi-disciplinary, scientific and technical articles; and finally, subscription based databases.
- organisation directories
- statistical databases, including water and sanitation coverage per country
- water and sanitation equipment and products
- water and sanitation legislation

A selection of databases can be found at [Watsan databases](#), <http://www.irc.n/page/10890>

## Subject gateways or water and sanitation portals

Web sites or subject gateways providing a broad array of resources around specific topics are often called 'portals.' Water and sanitation portals are a good starting point for topics that are easily

classified or for new information on a specific topic. Many portals provide fact sheets, thematic overviews or technical briefs on specific topics<sup>3</sup>, see <http://www.irc.nl/page/10923>

### Discussion groups and communities of practice

A way to find more information on your topic is to ask other people or organisations interested in your topic. On the Internet you will find many groups that have emerged around a discipline or problem. They are called discussion groups or sometimes communities of practice. A small, but relevant group is the [water-and-san-applied-research discussion list](#).

Howto search for discussion groups and communities of practice?  
 Search for your topic at:

- JISC mail – includes also e-conferences, <http://www.jiscmail.ac.uk>
- D-groups, for an overview of groups and communities interested in international development, targeted at low bandwidth users in the South, <http://www.dgroups.org>
- Yahoo! Groups, includes, for example, SSHE Forward, a discussion group on school sanitation, <http://groups.yahoo.com>
- Topica – scroll down the page to go to the search box, <http://lists.topica.com>
- Tile.net, <http://tile.net>

Discussion lists are useful to keep up to date in your field of interest. Many lists offer the possibility to search the list archive.

### Blogs

A web log, or simply 'blog', is a web site for which an individual or a group generates text or audio-visual materials on a daily or otherwise regular basis.<sup>4</sup> More and more experts are using web logs to publish new insights, and to share their (personal) viewpoints. Many blogs are also just 'news aggregators', collections of news items based on topical web feeds (see 5.2).

Interesting water and sanitation blogs  
 Africa Water Journalists Blog, <http://www.africanwaterjournalists.org/acsblog/index.asp>

Private Sector Development Blog – Water and Sanitation, World Bank/IFC,  
[http://psdblog.worldbank.org/psdblog/water\\_and\\_sanitation/](http://psdblog.worldbank.org/psdblog/water_and_sanitation/)

Politics in the Zeros – Water Privatization, <http://polizeros.com/category/water-privatization/>  
 Note: keep in mind that blogs usually are biased towards the person's or organisation's view

You can search for weblogs using:

Feedster <http://www.feedster.com/>

Bloglines <http://www.bloglines.com/>

Google Blog Search beta <http://blogsearch.google.com/>

As blogs usually are personal, and not necessarily linked to an 'authority' or renowned organisation, it is recommended to check how widely known these bloggers are. A good example is Technorati (<http://www.technorati.com/>), where you can track what other people are saying about the author of a blog and how popular their weblog is. Just type the url of the blog you want to check, and you will get the number of links to that blog, sorted by 'newest posts' or 'most authority'.

## What to use

One way to set up your search strategy is to look at the number of elements a topic consists of. The following table is a free adaptation of this strategy, developed by Karen Drabenstott.<sup>5</sup>

What are you looking for?	Search strategy	Search Tool	Search word(s)
A unique concept or name eg NEWAH	Use one word	Google Yahoo! Organisation directories Bibliographic databases	NEWAH
Specific programme, project, concept, organisation, device or idea, eg Life Skills Approach	If you know the exact words enclose quotes for phrases	Google Yahoo! Bibliographic databases	"Life Skills Approach"
Particular viewpoint on a more general topic, eg how to include children in school sanitation	Enter many words and phrases for the first element. Evaluate the results and refine by doing the same for the second element	Teoma Google Yahoo! Discussion Groups Blogs	"school sanitation" SSHE "hygiene education"
Complex topic with lots of possible angles, eg cost recovery water supply, privatization	Enter many words and phrases for all elements at the same time	Teoma Portals and subject gateways Google Yahoo!	"Cost recovery" water supply "financing mechanisms" tariffs privatization public sector "community management"
Complex topic you are not familiar with (you cannot think of synonyms or related terms to use in your search) eg hospital waste	Harvest additional terminology from related web pages: enter words and phrases for some or all elements at the same time; inspect results and use relevant terms in subsequent queries	Teoma Portals and subject gateways Google Yahoo!	Hospital Waste
Specific topic related to water and sanitation, but only a general notion on what you are looking for, eg interaction of land and water, catchment areas, watershed	Use a subject gateway or portal. When you don't know how to phrase a query: choose a broad topic that represents the subject area; choose narrower topics as needed to arrive at a narrower subtopic that expresses your interests	Portals and subject gateways Blogs Discussion groups	Catchment areas; watershed; sustainable livelihoods; coastal zone management

Tip: documenting the source and the date it was downloaded for future reference, as well as the strategies used, is useful to write down! It helps when an exhaustive search is required. You can also build your collection of relevant web sites into a personalised web page, such as MyYahoo! or Google.

## Quality of the Information

When selecting Internet information to use in your research, training or project, it is important that you are confident about the quality of the information. A simple, basic check involves at least three key points:<sup>6</sup>

### Who?

Can you find out who has written the material? Is the author affiliated to a well-known organisation or is it a personal document? Is it reliable? Is it accurate?

### Where?

The domain part of the URL, that is the part of the URL before the first single slash / , can help you find out where in the world the service is. For example: .gov for governmental institutions; .org for non-profit organisations - they can be anywhere in the world! and .com for commercial sites - again, anywhere in the world. Furthermore, each country or territory has its own two-letter suffix for use in URLs. For example: .uk - is the United Kingdom; .nl - is the Netherlands; .in - is India; .de - is Germany; .th - is Thailand.

### When was the information created? When was the web site last updated?

Try your best to form an opinion about how accurate or up to date the information on a Web site may be before you start to use it for your work.

## Keeping track of new information

Keep up with new sites and resources in your field of interest. You can do this by using personal alerting services or by subscribing to web feeds.

### Personal alerting services

These are automated notices sent by publishers, databases and other entities to alert you to new publications or events in your field of interest. There are alerting services for journals, such as table of contents alerts, saved search alerts or new issue alerts. See for example Blackwell Synergy or Elsevier Science Direct.<sup>7</sup> A nice alerting service for conferences is Conference Alerts, <http://www.conferencealerts.com> It is a free service providing monthly or occasional emails, listing only events with keywords matching your interests and in countries you specify. iMorph's InfoMinder, <http://www.infominder.com> enables you to track web sites and get notification when content changes. It is not free. 'Watch that page' is free although less powerful, <http://watchthatpage.com/> . To keep track of a name or a publication, Google Alert, <http://www.googlealert.com/> is a good general way to keep track of new websites or new topics.

## Web feeds

Another way to keep on top of things is by subscribing to web feeds. They are a useful tool for receiving news, blog or web site updates, not just for text but increasingly also for audio and video broadcasts. Web feeds are usually offered in RSS or Atom format. In order to receive them you need special aggregator or feed reader software, which can often be downloaded for free – popular online aggregators include bloglines (<http://www.bloglines.com/>), NewsIsFree (<http://www.newsisfree.com/>) and My Yahoo! (<http://my.yahoo.com>), for more see [http://en.wikipedia.org/wiki/List\\_of\\_news\\_aggregators](http://en.wikipedia.org/wiki/List_of_news_aggregators).

Web feeds are preferable to (e-mail) newsletter updates because they are instantaneous; you don't have to wait until a designated day of the week to receive your summary. They will also never be held up by a spam filter.

### Examples of sector-related web feeds

AllAfrica News: Water and Sanitation - <http://allafrica.com/tools/headlinesrdf/water/headlines.rdf>

Development Gateway –Water Resources Management -  
<http://topics.developmentgateway.org/water/rc/publish.do>

Copy and paste these urls in your feed reader. Everytime a new item is published the title of the item will appear on your feed reader page. Just click on it to go to the fulltext article.

**XML** **RSS** The availability of web feeds is typically indicated by orange icons like these.

Click on the orange “RSS” or “XML” button next to the topic of your choice and copy the URL into your feed reader.

There are several search engines for web feeds such as syndic 8,

<http://www.syndic8.com/>, while Yahoo! advanced search offers an option to search on RSS/XML files (<http://search.yahoo.com/web/advanced?vf=rss>) (see Fagan Finder for more search engines - <http://www.faganfinder.com/blogs/>)

## Beyond the web

Last but not least, do not forget there is a world beyond the Internet! Web pages are generated by people, and sometimes people are the most valuable search resources you can find.<sup>8</sup> So, look at the contact details of relevant organisations (see <http://www.irc.nl/page/10860> for a selection of water and sanitation portals, check some organisations directories) or try to get your query answered by contacting a specialised help desk; such as:

Ask IRC <http://www.irc.nl/askirc>

GATE question and answer service, <http://www5.gtz.de/gate/gateid.afp>

Practical Action technical enquiry service, <http://www.itdg.org/?id=tes>

WaterAids technical enquiry service, [http://www.wateraid.org/international/what\\_we\\_do/how\\_we\\_work/sustainable\\_technologies/3133.asp](http://www.wateraid.org/international/what_we_do/how_we_work/sustainable_technologies/3133.asp)

This fact sheet is based on Krukkert, I., Dietvorst, C. (2003). How to find water and sanitation information on the Internet? Revised version, 5 Nov 2004. Delft, The Netherlands, IRC International Water and Sanitation Centre. <http://www.irc.nl/page/10742>

## Key resources

Feldman, A. Searching the Internet. South Africa, APC <http://www.itrainonline.org/itrainonline/mmtk/searching.shtml>

Gwynn, S. (ed.) Finding information on the Internet, selection of manuals, tools and resources, United Kingdom, INASP, <http://www.itrainonline.org/itrainonline/english/searching.shtml>

Selection of water and sanitation resources, The Netherlands, IRC, <http://www.irc.nl/page/7933>

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### Notes:

(1) Internet World Stats - Usage and Population Statistics, updated 31 Dec 2005, <http://www.internetworldstats.com/stats.htm>

(2) See SearchEngineWatch for the latest developments on search engines: <http://searchenginewatch.com>

(3) Effective Internet Searching: The Itrain Network Student Manual and Instructor Manual (2000), updated version, [http://www.bellanet.org/itrain/materials\\_en.cfm](http://www.bellanet.org/itrain/materials_en.cfm)

(4) Blog from Wikipedia, <http://en.wikipedia.org/wiki/Weblog>

(5) Drabenstott, K.M. (2001). Web search strategy: strategy development. In: Online, vol 25, no.4, p.18-27. Partly available at <http://www.hsis.pitt.edu/services/instruction/presentation/pophtc/websearching>

(6) Zussman, T. (2002). Internet for Development. Eldis, Institute of Development Studies, university of Sussex, <http://www.vts.rdn.ac.uk/tutorial/development>

(7) Elsevier Science Direct, <http://www.sciencedirect.com> Volume/issue alert service. Registration needed - free of charge; Blackwell Synergy, <http://www.blackwell-synergy.com> Table of contents alerts and saved search alerts. Registration needed - free of charge.

(8) Calishan, T. (2004). Web search garage. USA, New Jersey, Prentice Hall PTR, <http://www.researchbuzz.com/web-search-garage.shtml>