



A peri-urban water distribution/sewerage website

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CITIES IN THE less developed countries of the world have been growing very rapidly in population. Piped water supply and sewage disposal for these populations – both long settled and newly arrived – are often rudimentary at best, if indeed they exist at all. This lack of adequate sanitary services has caused severe public health problems. Children and adults are constantly victims of diarrheal diseases and are also at much greater risk for many other illnesses which are either waterborne or transmitted by the fecal-oral route.

Although such problems exist throughout the less developed world in rural as well as urban areas, the closer quarters of city living require special attention. By extension of this logic, even more attention is needed by the world's largest urban settlements – for instance, those of 2,000,000 or more persons. There are currently 162 such cities, more properly called “urban agglomerations.”

In the year 1999, 107 of such cities were located in the less developed world. Within these urban agglomerations, communities without adequate piped water supply or sewage disposal services exist in several forms and go by many names: Barrio, bidonville, bustee, edge city, favela, gecikundu, illegal settlement, informal settlement, kampung, legal settlement, pueblo invisible, pueblo joven, shanty town, slum, squatter settlement, tugurio, villa miserere, or some other term. Such settlements may be large, or they may be small. They may be longstanding, or they may be of recent origin. They may be officially recognized or they may be ignored. Most of them may be grouped under the rubric “peri-urban,” meaning an area located on the periphery or outskirts of a central urban core. At the present time, one out of every 12 persons on this earth lives in the 107 cities. Many, if not most, of these people live in peri-urban communities.¹

Data is not easy to come by on the extent to which adequate water supply and sewage disposal services are available to such people. Although data was first obtained in the 1980s under the auspices of WHO, efforts to update these data have been spotty and uneven ever since. Most of the updating appears to have been done by the UN Centre for Human Settlements (UNCHS) - (Habitat) since 1995, using the Global Urban Observatory (GUO) and the Urban Indicators Programme.

This website was designed in order to seek more recent data specifically on urban piped water supply and sewage disposal services. The site was begun in 1999 and launched in late February 2001, under the name of www.saniplan.org. The formatting of the site (HTML language and images)

was intentionally kept simple and unadorned, in order to enable the widest possible access worldwide. Thus, for instance, animation and large photographic images were avoided. This enabled speedier access to the site, without requiring the user to have a computer with a great amount of memory (RAM) or a web browser with lots of software add-ins (such as Java or Shockwave). The urban population data used for the website was “World Urbanization Prospects: The 1999 Revision. Urban Agglomerations 1950-2015” from the United Nations.

Financial costs associated with this website

The SANIPLAN website was designed by the author, thus avoiding the expense of paying a professional website designer. The site was prepared to be accessible in four languages – English, French, Portuguese, and Spanish. The intention was to make the website available to many more persons than would have been able to use only a single language site.

The author's native language is English, but he has a good working knowledge of French (both written and spoken) and a slight working knowledge of Spanish (spoken more than written). He knows almost no Portuguese, but was able to figure out some aspects of it by relating it to Spanish.

Realizing his linguistic limitations, the author initially was advised and intended to purchase the services of professional translators. However, the cost (well over \$1,000) compelled the author to change his mind and attempt the translations himself. To do this, he used a combination of web-based machine translation (Systran) free of charge, and language dictionaries. Naturally, the machine translation required a good deal of “tweaking,” some of which the author was probably not fully capable of accomplishing well. The results were mixed. Responses have been received from person using the website in all four languages. Apparently, people viewing the translations have found them to be readable and reasonably intelligible, even though obviously prepared by a non-native speaker. One Spanish-speaking responder noted the awkwardness of some of the expressions used, and graciously took the time and trouble to make a more accurate translation and communicate it to the author. One French-speaking responder noted many grammatical errors in the French version.

The annual costs of operating the website in the U.S.A. have been moderate, and are approximately as follows:

- 1) Placing a website into operation with an internet service provider (ISP): \$240 (about \$20/month)
- 2) Purchase of a unique web address (domain name): \$40

The goals of the website

The *SANIPLAN.ORG* website has two goals:

- 1) To contribute to existing databases on the adequacy of piped water supply and sewage disposal services in larger cities of the less developed world.
- 2) To build capacity by developing an international group of people dedicated to focusing on improvement of piped water supply and sewage disposal services in these cities.

What is innovative and unique about the website

The *SANIPLAN.ORG* effort is innovative because it relies almost exclusively on the World Wide Web and e-mail to accomplish its mission of data collection and capacity building. In addition to enabling the site to be accessed through the usual search engines on the Internet, the author has periodically communicated by e-mail with persons and organizations engaged in related water supply and sewage disposal services work, informing them of the site's existence and purpose, answering their questions, or responding to their comments. Names for such persons and organizations have been obtained from the Source Weekly issued by the Water Supply and Sanitation Collaborative Council (WSSCC) and the IRC International Water and Sanitation Centre. There have been four principal mailings: April 2001, throughout the summer of 2001 (principally in July), October 2001, and early April 2002. The number of persons or organizations so contacted was approximately 230.

The website is believed to be unique in its focus, being limited to cities with a population of at least 2,000,000. Each city listed was the subject of a survey.

The survey questions were kept short and, in some cases, open-ended. They are as follows:

- 1) Total city area [in sq. kms]
- 2) % total population served by community piped water system
- 3) % total population served by community sewerage system
- 4) Peri-urban population [as of 2000]
- 5) % peri-urban population served by community piped water system
- 6) % peri-urban population served by community sewerage system
- 7) What activities have recently been completee in this city's peri-urban areas to increase the supply of:
 - a. community piped water?
 - b. community sewerage?

- 8) What activities are underway or already planned in this city's peri-urban areas to increase the supply of:
 - a. community piped water?
 - b. community sewerage?
- 9) The source of your information
- 10) Your name
- 11) Your email or other mail address
- 12) Comment

Until August or September of 2002, the website has been and will continue to be focused only on the 102 urban agglomerations currently located in the less developed world.² However, in order to avoid unnecessary disagreements about what is less developed and more developed, and also to encourage benchmark comparisons, the website will be modified. By the time the WEDC Conference is held in November 2002, the *SANIPLAN.ORG* website will have been updated and will also include population information and possibly also surveys about the remaining 60 urban agglomerations of 2,000,000 or more people located in the more developed world. The website will then be truly worldwide in its scope.

Monitoring and evaluation of the results

As of May 2002, 16 individuals (mostly professionals in the water and sanitation fields) and representatives of six organizations have expressed interest in joining the work of *SANIPLAN.ORG* as members. This seems to the author to be an indication of at least a modest success.

By way of contrast, almost no surveys (only 2 or 3) have been returned in completed form for any of the 107 identified cities (although a much larger number have been returned either empty or containing only a person's name). This leads the author to conclude that the survey aspect of *SANIPLAN.ORG* has not gone well and must at this time and in this form be considered a failure. Reasons for this are a matter for some speculation, but could be as follows:

- 1) Few people seeing this website have the knowledge to respond to the survey questions.
- 2) Persons having the knowledge are reluctant to share it through the *SANIPLAN* survey, possibly because this is not a known, official website of an established international organization.
- 3) Similarly, the site is considered superfluous because of the existence of the Global Urban Observatory (GUO) under the auspices of UNCHS (Habitat) and its urban indicators (although the *SANIPLAN* survey asks some qualitative survey questions not asked by the GUO).

Website usage software has been installed for *SANIPLAN.ORG* since its inception in February 2001. Usage data from late February through the end of April, 2001 are probably not useful as indicators, since they reflect usage without significant publicity during only the first few weeks after start-up. However, for the year beginning with May 2001 and ending at the end of April

2002, the follow monthly trends of steady increase in use appear from the usage data:

- 1) The number of visits to the website had increased from 626 to 1,518.
- 2) The number of site pages (some internet authorities consider these as “pure hits”) accessed increased from 1,721 to 4,542.
- 3) The number of files sent by the site back to site visitors increased from 2,395 to 8,121.
- 4) The number of kilobytes sent back to site visitors increased from 14,021 to 40,298.
- 5) Finally, the number of other sites visiting SANIPLAN.ORG increased from 205 to 1,011.

All increases were incremental and generally from month to month. However, there was a noticeable spike both in access to and requests from the website in September 2001. The author surmises, based on a review of the type of other sites accessing SANIPLAN.ORG at that time, that the events of September 11 raised the level of curiosity, both official and unofficial, on the World Wide Web for any websites containing names of cities in Afghanistan or the Middle East generally. Fifteen such cities are listed on the SANIPLAN.ORG website: Afghanistan (Kabul); Egypt (Alexandria, Cairo); Iran (Esfahan, Mashhad, and Teheran); Iraq (Arbil and Baghdad); Lebanon (Beirut); Morocco (Casablanca); Syrian Arab Republic (Aleppo and Damascus); and Turkey (Ankara, Istanbul, and Izmir).

The impact of the site to date

The fact of few completed surveys returned to the author indicates it may have been presumptuous to have expected such survey responses so early in the new “cyber-life” of www.saniplan.org

A number of e-mail comments on the SANIPLAN.ORG website have been received both from individual professionals and representatives of organizations already at work in the area of water supply and sanitation. For the most part, these comments have been positive and encouraging.

Conclusion

In the author’s opinion, the SANIPLAN.ORG website makes a difference because its ideas and techniques may be applied elsewhere as follows:

- 1) For a modest cost, information may be obtained, interest encouraged, and joint effort enabled through the World Wide Web.
- 2) The World Wide Web provides a relatively simplified, easily accessible method of communicating internationally potentially with an enormous number of people. This is limited only by persons’ computer literacy and access to a computer connected to the World Wide Web. Nor need the computer be personally owned. Any computer will do, such as those increasingly available in public facilities such as libraries and community centers, or at internet kiosks and cafés.

This website, www.saniplan.org will be continued as a website for the indefinite future. After several minor updates, it is now time for it to receive a major update, to include the newer United Nations urban statistics (the 2001 Revision), addition of the larger urban agglomerations from the more developed world, and a thorough rethinking of the survey and whether or not to continue it in any form. This update should take place in summer or early autumn, 2002.

Notes

- 1 This was first addressed by this author in an article written 13 years ago: Cohen, Arthur “Urban Unfinished Business” *Journal of Public Health Policy*, Vol.10, No. 2, pages 214-21, Summer 1989.
- 2 The difference between the 107 urban agglomerations in the less developed countries listed on the website and this number of 102 is due to current UN population data (the 2001 Revision) indicating that 8 cities formerly listed in the 1999 Revision no longer have a population of at least 2,000,000, while three new cities now have 2,000,000 or more people for the first time.

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