

Sharing knowledge and spreading information using the Internet. The case of the microhydropower.net web portal

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Introduction

In this article Wim Jonker Klunne illustrates how the Internet can be used, by describing the role played by the *Microhydropower.Net Web Portal And Discussion Forum* in sharing knowledge and spreading information.

Background

After having worked with ITDG Zimbabwe on the rehabilitation of a microhydro plant in the Eastern Highlands, I was approached quite often with questions regarding microhydro and its applications. The questions differed from very broad requests for general information, to very detailed technical questions. The general questions could be answered most of the time with a very general response, while some of the technical queries were really beyond my knowledge.

My first approach was to provide the people that came to me with questions, with a list of preferred books to read, as there are quite a number of good resource books available on microhydro (see Useful books at end of this article). However, people kept on coming back with small practical questions. This made me prepare some standard attachments that I could send to people in response to the more general information requests. With the Internet becoming more and more available, I started my first web pages on the web server of my employer. Instead of sending people attachments, I simply referred them to my web site. Gradually this web site started to grow, and with a move to a new employer, the web site was transferred to GeoCities, one of the free web space providers on the Internet.

While the general questions could be referred to the new web site, for the more specific technical questions another solution had to be found. Several e-mail discussion groups did (and still do) exist for solar energy, wind energy and other sources of renewables, but no such group existed for microhydro. Therefore, by the end of 1998, I set up a discussion group related to microhydro using *eGroups*, which was later incorporated in the Yahoo! family of web services now called *Yahoo! Groups* (Figure 1).

The microhydropower.net internet portal

The main aim of the internet portal microhydropower.net (Figure 2) is to bring the international community on

micro hydropower together. Several definitions of microhydro exist, but for the purpose of the web site no strict definition is being applied, although in general it is related to hydro systems up to a rated capacity of approximately 300 kW. The limit is set to 300 kW because this is about the maximum size for most stand alone hydro systems not connected to the grid, and suitable for 'run-of-the-river' installations.

The internet portal has the following sections:

- **Events:** this section gives an overview of events dealing with microhydro that will take place in the near future. Typical examples are, conferences, workshops and training courses. Information for

YAHOO! GROUPS Sign In
New User? Sign Up

Home
Messages

Members Only
Post
Chat
Files
Photos
Links
Database
Polls
Members
Calendar
Promote

Activity within 7 days: New Members New Members

Description
This discussiongroup focusses on technical and non-technical hydropower schemes.
More information at microhydropower.net

Most Recent Messages (View All)

looking for a contractor
We live in the northwest corner of Massachusetts. Near the town of North Andover, we are looking for a contractor to build a small hydroelectric plant. We are looking for someone who is experienced in the design and construction of small hydroelectric plants. We are looking for someone who is willing to work with us on a long-term basis. We are looking for someone who is willing to work with us on a long-term basis.

Long-Term River Flow Monitoring
Hey all, I am a student at MIT who is engaged in a research project on river flow monitoring. We are looking for someone who is experienced in the design and construction of small hydroelectric plants. We are looking for someone who is willing to work with us on a long-term basis. We are looking for someone who is willing to work with us on a long-term basis.

Re: Pipe Sizing questions
Hi Coby, How much power can you productively use at the site? We are looking for someone who is experienced in the design and construction of small hydroelectric plants. We are looking for someone who is willing to work with us on a long-term basis. We are looking for someone who is willing to work with us on a long-term basis.

Re: Pipe Sizing questions

Group Information
Members: 1525
Category: Energy
Founded: Nov 24, 1998
Language: English

Figure 1 Part of Yahoo! Groups page

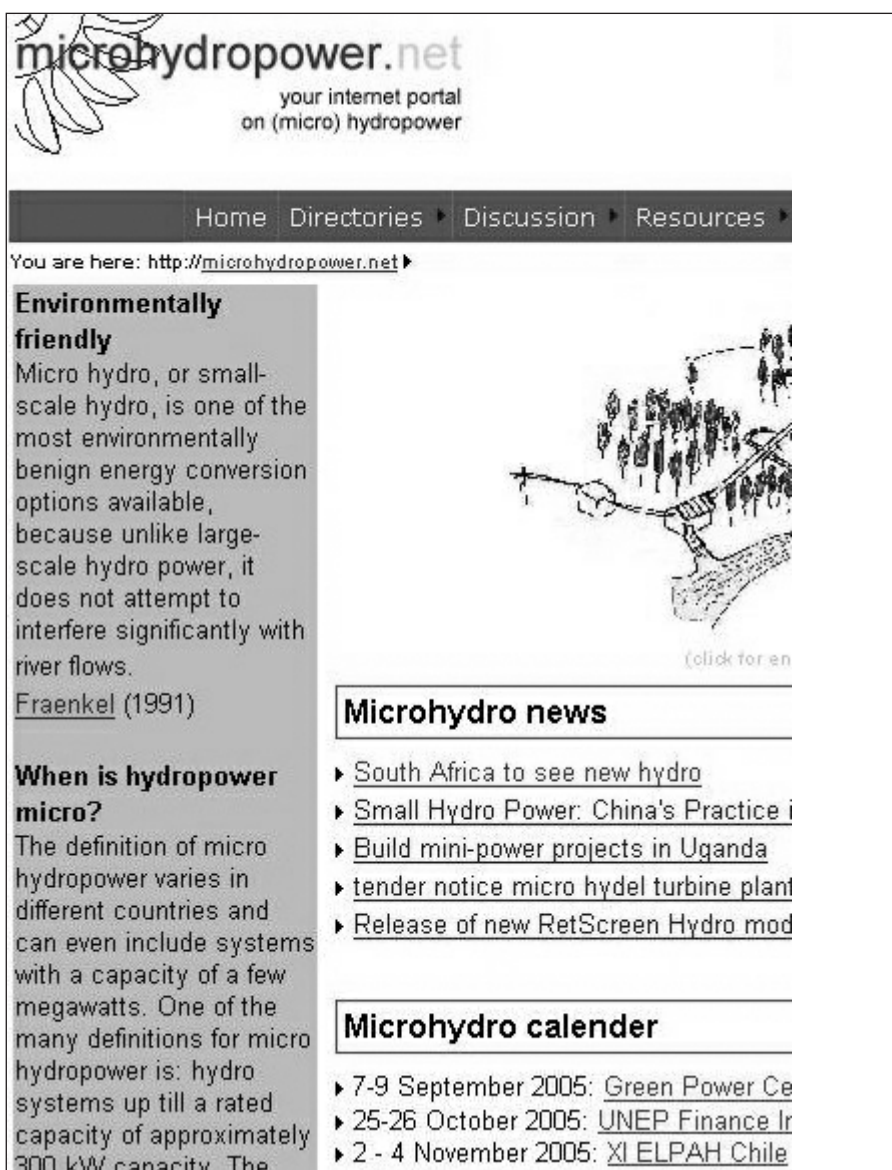


Figure 2 Part of opening page of microhydropower.net

this section is either received directly from the organisers or collected through scanning through renewable energy magazines and web searches.

- **News:** providing an overview of recent news related to micro hydropower, either supplied directly to me or collected from other newsletters, web sites and magazines.
- **Databases:** one of the main areas of the web site is the database with information on consultants, suppliers and organisations in the field of microhydro. Visitors to the website can register their company or organisation in the database and add themselves to the expert directory. Through logging in on the web site, visitors can manage their own entries on the database. To

prevent misuse of the database, the webmaster has to approve all new and modified entries before they

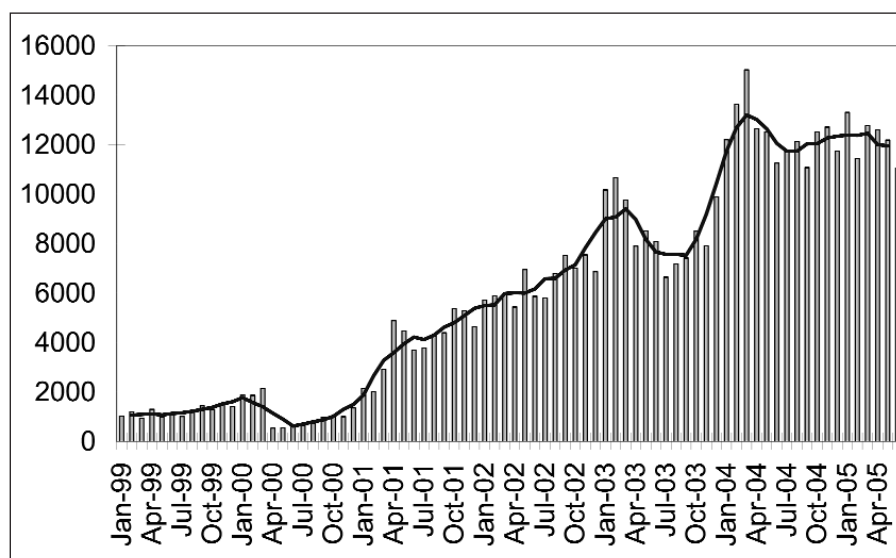


Figure 3 Monthly visitors to the web

are displayed on the web site. Unfortunately this results in a delay before an entry is accessible for visitors of the site, but proves a necessary safeguard against undesirable entries.

- **Downloads:** a popular area of the web site is the download corner in which software, manuals and full books can be downloaded. In particular, the Layman's Guide on Microhydro by Celse Peche and the ITDG/ESMAP publication on Best Practices for Microhydro prove to be very popular.
- **Literature overview:** an overview of titles on micro hydropower, with a short description of the books and possible links to web sites where the books can be ordered (Amazon, ITDG publications and others).
- **Internet links:** an overview of relevant links to Internet sites that deal with microhydro.
- **Case studies** of microhydro plants, that are described as best practices from which visitors can learn.
- **Basic theoretical background** of microhydro, describing all stages from site survey to turbine selection and the electrical installations.
- **Country pages:** for a number of countries a special section of the web site is being allocated that gives an overview of the state of affairs regarding hydro in that specific country, a selection of companies and experts from the

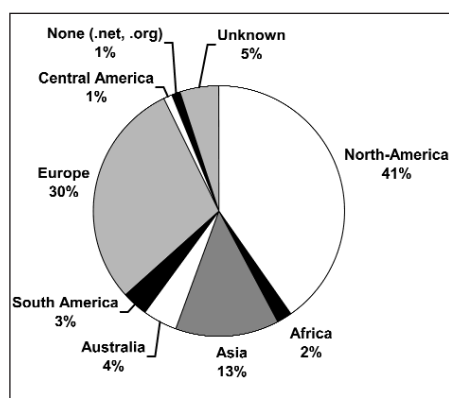


Figure 4 Breakdown of visitors by continent

country, as well as an overview of the hydro stations in the country. The section on country pages is still under development and only a few countries are available at the moment (South Africa and the Netherlands).

Approximately 400 visitors per day currently visit the web site. Figure 3 gives the growth of monthly visitors levels since the inception of the web site. A clear dip in the increasing visitors numbers was experienced when the web site was relocated from my previous employer's site to GeoCities. Clear increases of visitor numbers can be seen during the periods that I was more actively informing the participants of the microhydro forum of the availability of new resources on the web site.

At the start, the web site attracted approximately 1000 visitors per month, which is now stabilising at around 12 000. Since its inception, the web site has seen just over half a million visitors. A rough break down of the origin of visitors can be found in the Figure 4; it must be noted that the measurements on origin may be inflated towards domains in the '.com' domain.

Although set up with the original intention of promoting the use of microhydro in developing countries, the site and discussion forum attract considerable attention from individuals in remote areas of the United States that look to the exploitation of available hydropotential.

Since April 2001 the web site can be accessed through its unique domain name, which also facilitated a migration from the free GeoCities web

hosting service to a paid web hosting provider. This move allowed the web site to be redesigned using the *php-web* authoring language, which facilitate web site maintenance and allows the use of databases.

One of the main success factors in the development of the web site has been the open nature of the site, allowing visitors to add their contact details and the ability to share information.

The discussion forum

The microhydro Discussion Forum was set up by the end of 1998, using the free services of eGroups. The Discussion Forum offers the opportunity to send emails to all associated members, who can either receive them as individual emails, daily digests or access them through a web site. Most of the group members have opted for the individual email service. To facilitate participation of people with slower Internet connections, attachments are not allowed at the Forum, but can be posted in the files section of the message archive. An associated benefit is a lower risk of distribution of viruses through the forum as these are normally transferred via attachments.

The group has currently over 1600 members who have a personal and/or professional interest in microhydro. Issues discussed in the Forum vary from very general 'new person' questions on how to assess the potential of a hydro site, to very high level technical questions related to the operation of hydro installations. Nearly all issues tabled at the Forum will get an answer.

The Hydro Forum offers an ideal medium for matching projects with potential suppliers, consultants and contractors.

The Forum not only offers the option of sending out emails to all subscribers, but also features an impressive archive in which all past messages can be found. Usually a search in the archive provides answers to a large number of questions.

In order to avoid the dilution of the discussion at the Forum, all messages are inspected by the moderator to ensure that they really relate to the topic, do not include viruses, and are

not unsolicited emails (SPAM). This moderation process takes quite an effort from the moderator and might result in some delay in delivering the messages to the group; however it has proved very effective in keeping the members at the Forum and the Discussion focused.

Future

As already described in the section on the web site, continuously new content is being provided, as well as new entries into the databases, making the web site an excellent tool in spreading the word and disseminating information on microhydro.

Based on the success of the Microhydropower.Net Web Site and Discussion Forum, Wim Jonker Klunne is now setting up similar initiatives related to the use of renewable energy in Africa at <http://renewables4africa.net>

Internet links

Microhydropower portal: <http://microhydropower.net>

Microhydro discussion forum: http://microhydropower.net/mhp_group

Useful books

Harvey, *Micro-hydro Design Manual, A guide to small-scale water power schemes*

Fraenkel, Paish, Bokalders, Harvey, Brown, Edwards, *Micro-hydro Power, A guide for development workers*

Wim Jonker Klunne is working as an expert on sustainable energy and climate change and has a background in Civil Engineering and Management with specialisation into (renewable) energy in developing countries. Wim has worked on education, research and consultancy projects around the world. He has worked on implementation of renewable energy in southern Africa on behalf of the Energy research Centre of the Netherlands (ECN), the World Bank, UNDP, GEF, Danida and the private sector.

Currently Wim is working with the African Development Bank as Principal Renewable Energy Expert responsible for the ADB FINESSE Africa project. Detailed information about Wim at: <http://renewables4africa.com/klunne/>.