

Summary: Graeme Goldsworthy contribution to UWW's Earth Week (18 – 22 April)

Pax Ludens from the Netherlands, in conjunction with the Milwaukee based Greenman Alliance participated in the recent University of Whitewater Wisconsin's Earthweek event from 18th-22nd April, bringing their expertise and experience on water based issues from a distinctly European and global perspective in resource conflict and resolution, with a series of presentations and discussions.

The first event on the Tuesday evening began with an on campus dinner where students from the University Water Council shared study topics and ideas with experts from Pax Ludens and the Greenman Alliance. A varied and most fascinating set of topics were tabled, demonstrating how the water issue cross cuts as a multi-disciplinary issue in the academy aside of course from all aspects of professional and everyday life. Water is after all the *'Fons Vitae'* the Fountain of Life and indeed as we demonstrated in discussions of topics from water and human rights through water and communicable diseases (a public health perspective) to water and to real estate development planning and property valuation, that water really is the first organising principle of our human existence. The dinner event provided opportunities to for networking and we hope that these fascinating exchanges will continue.

The evening continued with three presentations and a panel discussion on water from three diverse but crucial perspectives. The three speakers were present among which Graeme Goldsworthy of Pax Ludens, who delivered his presentation on Water emphasising the Human Security aspect of water. Graeme made the key points and figures such as that Water consumption has almost doubled in the last 50 years and child born in the developed world consumes 30 to 50 times the water resources of one in the developing world. People already use over half the world's accessible freshwater, and may use nearly three-quarters by 2025. Humans are already appropriating more than half of all accessible surface water runoff, and this may increase to 70% by 2025. Important to note when we consider water and food production, is that the three largest water users in global terms are first agricultural use 67%, secondly industrial use at 19% and finally social use at 9%.

An Important point to emerge from the presentation is that in the past interest in water scarcity has focused mainly on blue (or 'freshwater') water scarcity from different angles. Human livelihood pre-conditions are, however, equally determined by green water scarcity that may generate basic blue water needs, such as for production of staple foods. In effect we need to clarify the organizing principles of the natural systems on which humanity depends on for water, for food, for fuel wood, timber and for energy. As Graeme pointed out, it is equally important that we analyse the organizing principles by which society intervenes in the landscape and in these natural systems. Therefore protection of the water cycle is critical in itself, not only in direct support of human activities intended to produce goods in demand, but also, even more so, for the functioning of the ecological life-support system. Part of this is that we must conceptually bridge hydrology and ecology, while also recognizing the links between these natural processes and society which is a matter of urgency in efforts to reach sustainability and security and to avoid scarcity, thus tension and conflict.

The presentation then continued with defining water security as;

"sustainable access on a watershed basis to adequate quantities of water, of acceptable quality, for human and environmental uses".

"a multi-dimensional concept that recognizes that sufficient good quality water is needed for social, economic and cultural uses while, at the same time, adequate water is required to sustain and enhance important ecosystem functions".

We are most familiar with terms such as water scarcity and water shortage, most people consider these to mean the same thing, but these issues are much more complex. Water scarcity often describes the imbalances between availability and demand or the degradation of groundwater and surface water quality. In many situations scarcity is a result of inter-sectoral competition, by which we mean between say, cereal and livestock farmers or the agricultural sector and industry. Scarcity often occurs during times of armed conflict, where water can be used as a strategic or tactical asset or weapon, where control and denial, rerouting of sources or destruction of delivery infrastructure can be deliberately initiated as well as occurring through collateral damage. Yet despite this, as Graeme pointed out, water is often seen as neutral in conflict so important as it is to human survival and functioning and more cases exist of water being used as a foundation for co-operation in some of the most war torn areas of the world.

Water Shortage on the other hand occurs when insufficient water is available to meet the present and anticipated needs of the system as a whole or when conditions are such as to require temporary reduction in total use within a particular area to protect water resources from serious harm. A water shortage usually occurs due to drought.

Graeme then moved on and introduced the audience to the concept and definition of Hydropolitics;

"Hydropolitics is the systematic study of **conflict and cooperation** between states over water resources that transcend international borders"(Elhance, 1999) **or** "...hydropolitics is the **authoritative** allocation of values in society with respect to water" (Turton&Henwood eds. 2002)

Graeme had earlier pointed out that water has been as much a source of cooperation than conflict in history and in more recent international politics. For example; the Nile Basin agreements have their basis in treaties drawn up by colonial powers in Africa over one hundred years ago and that the many countries that depend on the Nile waters, may disagree – often violently – over many other issues, but that one issue they will not turn to conflict over is water. This is because the idea of water as a 'human right' is not new, that people as consumers and 'managers' in their own right will always find common cause in sharing and distribution when survival is at stake despite legislation or control of infrastructure.

On the following Wednesday afternoon, 20th April, a presentation on the Rock River Basin was held on campus, here speakers with different backgrounds discussed the more specific challenges facing the Whitewater community itself.



The Netherlands: A Holistic approach

Graeme and Eric found this a fascinating discussion, since many of the challenges facing Whitewater, were similar to those tackle by the Dutch after independence from Spain in the 1620s! In fact, he remarked that it was a little bit like going back in time! Of course, from a European perspective, the Whitewater community just arrived, being only just over 150 years settled and using water in a ‘European’ way for agriculture, industry and social use. Holistic approach. It was at this discussion that Graeme was able to give the Dutch perspective to water use and management at the more local and indeed personal level.

The Dutch for example hold to the following basic principles in regard to water consumption:

- Beginners use must be respected
- End use and recycling must be planned
- Profit must be returned which can tangible or social
- Profit can be financial (Reverse tariffs)
- Water use itself must be a Public good
- Avoids conflict between competing interests
- Inter-Sectoral co-operation is mediated at all levels

Thanks to years of experience and co-operative practices despite high population density, intensive agriculture and industrial use the climate footprint of water production in the Netherlands is very small. The Dutch forbid groundwater extraction and since 1957, no more dune water extracted. In fact the Dutch are even re-liquefying their costal dune system as part of their flood defence system management, which also has a significant positive environmental impact, reinvigorating the biosphere. The Netherlands in co-operation with European partners, sources from River Rhine, which has never been fuller, no scarcity or shortage in the Netherlands. The Dutch are also looking at where to find new sources rather than simply rely on the existing ones. Since Holland is a country with a high population density (all of whom like to keep clean!) they know that eating water is the most energy inefficient use issue, so reducing

temperatures, recycling warm water through engineering solutions are the way forward and of course temperature is important to prevent bacterial growth, so solutions can be combined. An example of this is the Diemen to IJburg piping system has 25 degree critical level, so heat is withdraw directly from the water to heat houses. This Dutch initiative is an 'energy in water system ' using heat generated by sewage, the heat generated by used in aquifer systems is taken out so the water used as a battery water and as a transport mechanism itself. The idea of recycling water from sewage water (grey and brown water), repels many people, but in Singapore this is already the case. The Dutch even remind people with the joke that Dutch water is clean and efficiently produced as it has been through a German at least twice!

The Pax Ludens / Greenman alliance team are grateful to Linda, her colleagues and students for the kind invitation to this important event. Their hospitality too, was superb and we very much look forward to working with UWW again in the near future whether in workshops, courses in design and delivery and of course, the Pax Ludens staple of training through simulation exercises. Whitewater itself is a lovely town and we enjoyed a fun evening out in one of the town's hospitable watering holes serving fantastic burgers! The UWW campus is well appointed and as a professional venue as one could find anywhere in the world. Again our thanks for an excellent and important event, well organised and run with classic mid-western hospitality.

Graeme Goldsworthy

May 2011, Pax Ludens, The Netherlands