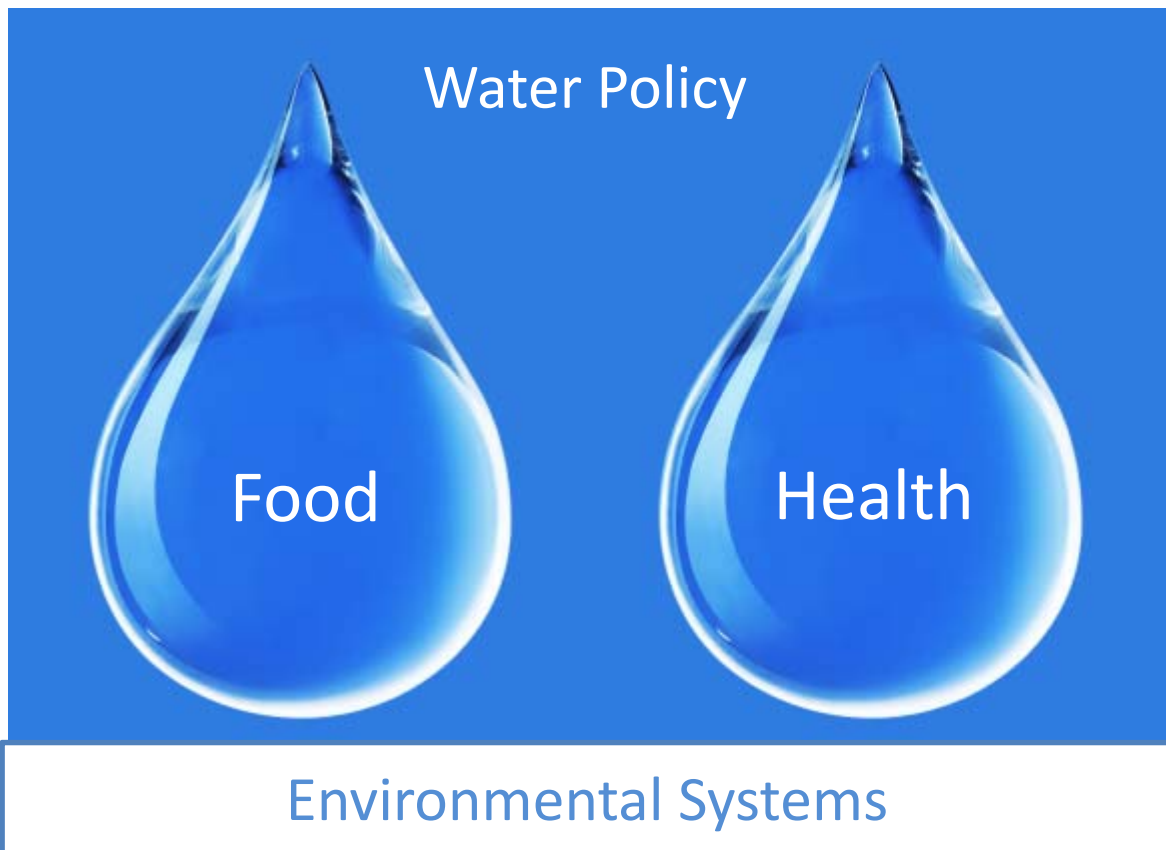


**The MSU Global Water Initiative
Priorities Forward
October 2011**



A Water Systems Mindset

The MSU Global Water Initiative was conceived as a means to address three broad priorities: water and health, water and food, and water and the environment. These distinctions help us to organize our thoughts and conceptualize water relative to our academic mindset and structure, but from a real world perspective, they are artificial. Water disrespects the boundaries between these categories, in the process serving as the critical resource for each.

It thus seems most logical for MSU to adopt a systems mindset as it approaches water challenges and considers how best to make investments. Although such a systems approach is consistent with planning conversations at faculty and administrative levels, it does not free us from the need to identify and articulate more research priorities.

Priorities

Much of MSU's current water expertise aims to understand water as a component of environmental systems. Enhancing this expertise will ideally position MSU to address two of this century's global mega-issues: the world's changing climate, and the need to use land for renewable energy production. There is increasing understanding among funders such as DOE, EPA, and NSF that water is a make-or-break issue for both mega-issues; research funding is increasing, and it will continue to do so. MSU researchers of international stature are working in these areas of overlap, and they have established a track record of winning major grant awards. The colleges believe that investments of the MSU Global Water Initiative offer a unique opportunity to deepen our expertise on water in environmental systems and more explicitly relate it to climate and renewable energy.

The colleges have also pointed out that such investments will at the same time undergird two of our greatest ongoing competitive research advantages. The first of these is food, where MSU has the opportunity to systematically incorporate water expertise into our longstanding strengths in food security—and to do so at a time when globally minded funders are recognizing that this must be done.

Our strengths in food security are based on comprehensive faculty expertise, a record of team-based discipline-spanning research approaches, strong regional experience in parts of the world that are increasingly recognized as water-challenged, external validation by organizations such as the Bill and Melinda Gates Foundation and USAID, and as a consequence—a decades long pattern of major funding success. The window of opportunity for MSU is to strategically complement food security with water expertise, just as the world is recognizing this priority.

The second competitive research advantage is water and health, which offers the unique opportunity to leverage the success of currently funded federal centers of excellence, including the Enteric Research Investigation Network, the International Center of Excellence in Malaria Research, CAMRA, and BEACON. These centers address the priorities of WHO, UNICEF, the

Gates Foundation, and other agencies that view water quality and quantity as key to meeting the UN Millennium Development Goals. They already are receiving significant funding from agencies such as NIH, DHS, and NSF, they are led by some of our most productive faculty, and they address areas identified by ISP as major future global funding priorities. The colleges recognize that these centers, and indeed our faculty in general, have not yet fully exploited opportunities to address water as a factor in human health. They view the MSU Global Water Initiative as an opportunity to do so.

In short, there are cogent reasons to view the match of water with food and with health as the centerpiece of MSU's future water investments—and to expect that investments in them will yield returns of external income and heightened institutional status. Water in the environment links both as a common, unifying factor.

In Summary

- ✚ Invest in sweet spots of convergence between water and our current strengths in food and in health
- ✚ Expand underlying expertise in environmental systems as a link between the two
- ✚ Balance these investments with enabling tools and technologies
- ✚ Translate research findings into practice via capacity in water policy

Enablers

There really is just one single water system that matches up with MSU's institutional strengths. But the colleges and faculty have reminded us about the importance of underlying, cross cutting capacity--capacity that exploits engineering, social, and the natural sciences.

Included here is a set of diverse technologies and tools that we have already created and that if nourished, will ensure that water systems research flourishes at MSU. Among them are membrane and allied technologies, hydrology, comprehensive modeling capacity, and expertise in global change science.

The colleges and faculty have also reminded us of the pressing need, both global and local, to assist in translating our research findings in water systems into sound public policy. This is another kind of enabler—not of the research itself but of the societal benefits that can be reaped from it.
