

Managing Water Resources for Happiness¹

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This paper explores how water resources can contribute more to human happiness. As numerous conferences and declarations have emphasized, water is an essential element for life. It is a precious resource that is fundamental to our very existence. The undisputed importance of water has generated a great deal of policy discussions about how best to manage water to ensure that there is a sustainable supply. A global vision for water, prepared for the Second World Water Forum in The Hague in 2000, articulated a happy future: *Our Vision is a world in which all people have access to safe and sufficient water resources to meet their needs, including food, in ways that maintain the integrity of freshwater ecosystems.*

When the principles espoused in the World Water Vision are applied in real cases, however, the values that dominate are almost invariably economic ones: How can water be utilized for the maximum economic gain? The logic for treating water as an economic good stems from the logic of development as defined by Western Capitalism: If the national economy is growing, then the citizens will benefit as they participate in that growing economy. This is the core principle of “conventional” approaches to water development.

There are other principles as well, which have become important secondary dimensions of the conventional approach. Recent discussions about the role of water management in meeting the Millennium Development Goals (MDGs), for example, go beyond pure economic thinking, to include an emphasis on poverty alleviation, gender equity and environmental sustainability. Yet even these rather progressive policies emerging from international water discussions are still rooted in the core principle of materialism, expressed as economic development. Water is viewed as a means of solving an economic problem of “under-development” defined in material terms. *This* value system

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is part of Western capitalistic culture, and is not necessarily consistent with the cultural values of non-Western countries. Indeed, the materialism expressed through international development policies is often inconsistent even with Western cultural values, and reflects, rather the values of a dominant subsector within Western societies.³

In contrast to the materialist logic underlying conventional approaches, water management oriented towards human happiness views market forces as means to a larger end – that of happiness. The material well-being of people certainly hinges on productive markets, but not to the exclusion of other dimensions of life such as social contentment, aesthetic appreciation, and spiritual growth.

Cracks in the Materialist Paradigm: New Trends in Water Policy

The recent evolution of conventional water policies – as articulated in the MDGs, and in the EU's new Water Framework Directive (see below) – reveals a trend towards opening the set of values that water policies are reflecting. In today's policy environment, the concept of happiness as a policy objective is not as far-fetched as it was a decade ago. This more open policy environment suggests there is an opportunity for engaging in a policy debate that is larger than economic growth vs. social equity, and brings in the fundamental questions of happiness as applied to water management. In this section we examine four very active policy arenas where values about water are being debated:

1. Water as an economic vs. a social good;
2. Environmental flows and water rights for Nature;
3. Indigenous cultural and spiritual values about water;
4. Multifunctional values of agriculture (and agricultural water).

The message that I hope to convey from these policy debates is that values about water are undergoing a healthy review among global water professionals and policy makers. The theme of “happiness” is not being addressed directly; indeed, most water professionals would probably view the concept as having nothing to do with water decisions. Yet the debates are very much about cultural values. The transition to a direct discussion about how water can enhance happiness is only a small step away.

1. The Debate Over Water as an Economic or Social Good

During the past two decades, there has been a growing consensus among policy makers that water should not be free; it should be treated as an economic good that has a monetary value. The alternative to this economic view is that water is a social good that can deliver benefits to particular segments of society. For example, free water supplies for poor urban neighborhoods, or free irrigation water for poor farmers, is viewed as a

³The Green political movements in North America and Europe, and the emergence of organized environmentalism at local, national, and international levels, attests to this diversity of cultural values.

social strategy for helping the poor. The down-side of the “water for free” policies is that financing for operations and maintenance was at the mercy of government subsidies, and in practice, the amounts allocated are either too little, or the funds are too easily diverted. The typical result is deteriorated infrastructure and inadequate water service.

Putting a price on water is an objective that makes sense to economists more than to policymakers whose jobs depend on popular votes. The debate over economic vs social approaches to water allocation have become polarized as structural adjustment policies result in water tariffs, often without effective safety nets to provide a minimum supply of water to those unable to pay. Charging for water –whether in cities or on farms -- continues to be a highly contentious issue in many countries, and in international donor policies, largely because of the way the two sides are approaching the issue. The economists emphasize the efficiency of the proper pricing policies, and argue that subsidies to protect the poor can always be added. Social advocates, on the other hand, argue that the poor should be guaranteed adequate water as a human right, and not subject to special policies and programs that may or may not work as intended. The debate about privatizing water services is related. Public water departments typically lack the financial resources to operate the existing infrastructure, much less to make repairs or build new water lines or treatment plants. Private companies which are granted the power to charge a fee for water, are able, in theory, to finance needed improvements and thereby deliver water more reliably. Much depends on the effectiveness of governments to regulate the private companies to ensure they are setting a fair price, and to protect the interests of the poor who are least able to pay. In practice, government agencies may be unable to meet their regulatory responsibilities, and the poor may become worse off than before.

2. *Environmental Flows and Water Rights for Nature*

The Earth Charter initiative promotes an environmental ethic that reveres water bodies as intrinsically important independent from their economic value to people.⁴ This ideology takes on a very practical tone in the debate about environmental flows and whether nature should be considered a water rights holder. An environmental flow is the water regime provided within a river, wetland or coastal zone to maintain ecosystems and their benefits.⁵ New water laws from Europe to South Africa to Australia, incorporate an environmental flow stipulation, as a safeguard against resource degradation. The South African *National Water Act* adopted in 1998 granted water resources the status of public good, under state control and subject to obtaining a license. The Act establishes a ‘reserve’ consisting of an unallocated portion of water that is not subject to competition with other water uses. It refers to both quality and quantity of water and has two segments: the basic human need reserve and the ecological reserve. The first one refers to the amount of water for drinking, food and personal hygiene and the second one to the

⁴ The text of the Earth Charter is available at www.earthcharter.org.

⁵For details, see: Dyson, M., Bergkamp, G., Scanlon, J.(eds). *Flow: The Essentials of Environmental Flows*. IUCN, Gland,Switzerland (2003); Available on-line at <http://www.waterandnature.org>.

amount of water required to protect the aquatic ecosystems.

In Europe, the EU Water Framework Directive⁶ enacted in 2001 represents a major advance in European policy with the concept of ecological status being included in a legislative framework for the first time. Member states will be required to maintain sustainable water levels and flows and restore riparian habitats. In Australia, the Murray-Darling Basin Ministerial Council is taking steps to restore the health of the River Murray system under the title, *The Living Murray Initiative*. The vision of this Initiative is, *a healthy River Murray system, sustaining communities and preserving unique values*. The Council's goal is to manage the resources of the River Murray to improve its environment, and also maintain the social and economic benefits of water use. Recovering additional water for environmental flows is one way of addressing this.

3. Indigenous Cultural and Spiritual Values about Water

The role of indigenous peoples in water planning and policy decisions is becoming increasingly visible. At last year's World Water Forum held in Japan (March 2003), indigenous participants drafted a Declaration summarizing their views on water, and articulating a spiritual and moral imperative to defend Mother Earth from the abuses she is incurring from conventional water development.⁷ The Declaration's introduction demonstrates the close connection that indigenous spirituality draws between people and Nature:

We, the Indigenous Peoples from all parts of the world assembled here, reaffirm our relationship to Mother Earth and responsibility to future generations to raise our voices in solidarity to speak for the protection of water. We were placed in a sacred manner on this earth, each in our own sacred and traditional lands and territories to care for all of creation and to care for water.

We recognize, honor and respect water as sacred and sustains all life. Our traditional knowledge, laws and ways of life teach us to be responsible in caring for this sacred gift that connects all life.

Our relationship with our lands, territories and water is the fundamental physical cultural and spiritual basis for our existence. This relationship to our Mother Earth requires us to conserve our freshwaters and oceans for the survival of present and future generations...

External conditions favorable to indigenous self-determination in water development were given a boost in Nov. 2000 with the report of the World Commission on Dams which called for "...distinct measures to protect [indigenous] rights. These measures include the free, prior and informed consent of indigenous and tribal peoples to developments that may affect them" (p. 216)."⁸ This report has shifted the paradigm of

⁶ For details of the Water Framework Directive, see: <http://europa.eu.int/comm/environment/water/>.

⁷ The full text of the Indigenous Peoples' Water Declaration, along with an overview of indigenous presentations made at the World Water Forum, is available at www.indigenouswater.org.

⁸ *Dams and Development: A New Framework for Decision-Making*, World Commission on Dams. London:

indigenous interests in water development from the realm of economic analysis (Do the benefits to the non-indigenous communities downstream outweigh the costs to the indigenous communities that would be disrupted?) to the realm of human rights (the right to remain on traditional lands and, in effect, veto power over dam development that would displace indigenous communities).

Internally, within the indigenous world, there is also an evolution of policy stimulated by the more supportive external conditions. The most obvious trend is that of legal and political activism, using national and international laws, as well as public demonstrations and in extreme cases, armed rebellion, to solidify and even reclaim customary rights to water.⁹ A second trend is an appreciation of traditional water management arrangements as having a future and not only a past, and in fact, comprising a key ingredient of sustainable development.¹⁰ A third trend is acknowledging the spiritual dimensions of water and bodies of water (e.g., rivers). A cultural/spiritual view of rivers as live beings, and constituting sacred places, is ubiquitous among indigenous societies, and is very slowly gaining legitimacy as an aspect of native religion and world view that has practical implications for water development.¹¹

4. Multifunctional Values of Agriculture (and Agricultural Water)

Since agriculture accounts for at least 75% of total water use in most developing countries, and since irrigated agriculture produces about two thirds of the world's food supply, there is a close correspondence between water and food. The concept of multifunctional values in agriculture, first articulated in the 1992 Earth Summit to refer to the environmental contribution of sustainable agriculture, was incorporated into development thinking through the publication of a recent OECD study on multifunctionality of agriculture.¹² Since then the concept of multifunctional roles has been applied not only to environmental benefits but to all the various functions of agriculture that extend beyond the production of food and fiber. These goods can include rural community values (e.g., family farms), strong local economies, rural employment, and the continued health of rural culture; environmental contributions to biological diversity, clean water and air, bioenergy, and improved soils; regional or

Earthscan, 2000. [Available on-line at www.dams.org.]

⁹For an overview of indigenous efforts to reclaim control of water through legal and political pressure in the Andean region, see the paper by Rutgerd Boelens presented at the World Water Forum: <http://www.indigenouswater.org/user/Boelens-Kyoto%20Paper.pdf>. For insights into armed resistance by indigenous communities in the Philippines, see Windel Bolinget, *Asserting Indigenous Peoples' Rights is Not an Act of Terrorism*, *Indigenous Affairs* 3/03.

¹⁰See D. Groenfeldt, *Building on Tradition: Indigenous Irrigation Knowledge and Sustainable Development in Asia*. *Agriculture and Human Values* 8(1-2), pp114-120 (1991).

¹¹See *Water Development and Spiritual Values in Western and Indigenous Societies* (by D. Groenfeldt) a paper which draws on the presentations made at the World Water Forum, available on-line at: <http://www.indigenouswater.org/user/Water%20Spirituality.pdf>.

¹² *Multifunctionality: Towards and Analytical Framework*. Paris: Organisation for Economic Cooperation and Development (OECD), 2001.

national food security, landscape values, food quality/food safety, etc.¹³

In the context of paddy cultivation in Monsoon Asia, the multifunctionality concept offers a useful perspective to capture the historical richness of the co-evolution of society and rice agriculture that has dominated the historical development of the region. The social foundation of Monsoon Asia was formed by the people who developed and are sustained by water and rice. Paddy cultivation in this region is intrinsically multi-functional, serving many needs of society.¹⁴

The role of religious rituals as an integral part of farming practices is also included in the multifunctional concept, particularly where such rituals are obvious enough that even development consultants become aware of them (e.g., in Balinese rice cultivation rituals). While spiritual traditions in irrigated agriculture have gained recognition as contributing to effective water management (for example, rituals associated with allocating water among irrigation diversions in Bali), the idea that water has a cultural utility in maintaining social-cultural traditions – a type of “happiness” -- is also implied by the multifunctional concept.

A Vision of Happy Water Management

The four policy trends discussed above are encouraging in that each addresses values beyond the purely economic; each deals with some aspect of life that overlaps with the concept of human happiness. However, each of these issues of debate falls well short of embracing the broad range of values that the happiness concept implies. The debate about whether water is a social or an economic good, for example, is primarily about social equity; the issue of environmental flows, in contrast, is couched largely in terms of economics (a healthy river provides a valuable range of environmental services) and only indirectly about ethics (the river's right to water). In contrast, indigenous values about water, as expressed in the Declaration on Water focus almost exclusively on ethics and morality; the river is sacred and our duty is to protect her. There is little guidance here about the type of development that might be consistent with these ethics: Can water be diverted for agriculture? How much water? What is the proper balance between human use of water and the river's intrinsic right to that water?

The multifunctional concept offers the broadest scope for linking with the concept of happiness, yet the multifunctional approach is also the least articulated. What does it mean that agriculture – or water – has many functions beyond food production, and that these encompass intangible social, spiritual, and aesthetic values, as well as more quantifiable environmental and even economic (rural employment) values? The good

¹³ DeVries, Brad (2000). “Multifunctional Agriculture in the International Context: A Review”. *The Land Stewardship Project*. [<http://www.landstewardshipproject.org/mba/MFAReview.pdf>]

¹⁴World Water Council 3rd World Water Forum (2002). *Proceedings of the Pre-Symposium for the Third World Water Forum, “Multifunctional Roles of Paddy Field Irrigation in the Asia Monsoon Region,”* Otsu, Shiga, Japan, 20 and 21 March 2002. Tokyo: Japanese Institute of Irrigation and Drainage.

news is that there are already efforts underway to find a new basis for making decisions about water use and development, and taken together, these new ideas provide a receptive terrain for discussing the concept of happiness as applied to water management.

In this section we explore what water management might look like with happiness as the over-arching objective. We begin with a working definition of happiness, then identify some key features of happy water management, look at a few cases where the happiness concept figures prominently, and then conclude with some suggestions for bringing happiness into water planning and management.

What is Happiness?

For our purposes here, defining happiness is the responsibility of the community of people within a given area. The boundaries of the community depend upon where the proposed water development will take place. Because of the nature of water – to flow downhill – the relevant natural boundary is normally going to be a watershed or basin. And because of the nature of human society, the relevant social boundary will be cultural – the community of people sharing a cultural worldview. The people in this community, sharing a common interest by virtue of living in the same basin, and sharing a common culture, are the ones who can best define what happiness means for them. They may require facilitation and guidance, and they may never be successful in reaching consensus, but they at least have advantageous conditions for achieving a shared vision about what comprises happiness.

Key Features of Happy Water Management

The basic feature of happy water management is that the use and management of water enhances happiness for the community concerned (i.e., not only the happiness of the farmer who uses water for his crops, but the happiness of the total community, however that is defined). Operationalizing happiness as an objective of water management presumes that the value components of “happiness” can be specified in some detail. This is why happiness needs to be defined within a cultural context. For a traditional Frenchman, for example, agricultural water should support a food system that will bring high quality, fresh produce to the kitchen where his meal is prepared. To a traditional Jain, on the other hand, there would be a high value placed on using agricultural water to support a food system that causes the least disturbance to animal life. To a conventional American, the water should support a food system that brings food to his table for the least financial cost. A Frenchman would not be happy paying low prices for low quality food, nor is an American likely to be happy paying high prices for high quality food.

Traditional societies that have been little impacted by outside cultural forces – e.g., isolated farming communities in Bhutan – are already practicing an agricultural tradition that reflects community values and is in this sense a “happy” solution to the challenge of obtaining food. This situation does not imply that there cannot be improvements to the

happiness of Bhutanese farmers. However, it provides a cautionary note to development ideas originating from outside the local cultural tradition. Efforts to improve happiness need to identify and preserve those elements that are already happy, and focus improvements on aspects that are not so happy, as defined within the local culture.

Happiness is dynamic, and cannot be defined only in terms of traditional values. Values also change, and traditions change in response to internal as well as external pressures. The annual cleaning of the irrigation canal, and repairing the diversion weir, is a social celebration in many irrigation communities, and a time of feasting as well as working; it is a valued tradition. However, even such a valued tradition may lose its value as more and more farmers become employed in manufacturing jobs and more of the farming work is done by hired laborers. In such a case, a permanent concrete diversion weir might be a welcome improvement to the brush and rock weir that requires annual repair. The key features of happy water management need to be defined – and periodically *redefined* – by the local community.

Illustrations of Happy Water Management

Any traditional community built around water management can provide an illustration of happy water management where the manner in which water is used supports the value system of the community. A classic example is the anthropological study of Pul Eliya (Sri Lanka) by Edmund Leach, in which he documents the central role of irrigated agriculture in the life of the villagers.¹⁵ But can happiness survive development? Are there cases of culturally-supportive water management to be found in the modern, globalized world? Here the role of happy water management is perhaps the reverse of the traditional context: Instead of water management reflecting the (happy) cultural values of traditional society, in the modern context, water management offers a means to consciously embody neglected cultural values which can thereby enhance the happiness of the community. This approach might be labelled, “Water Management with an Attitude” where the very fact of rebelling against the dominance of materialist values renders neo-traditional water management a radical statement. Rather than the traditional farmer passively reflecting traditional values, the modern (traditional) farmer is actively rejecting modern materialistic values in favor of certain elements of traditional culture which he or she views as “happier”.

An example of this type of neo-traditional agriculture (and associated water use) is the movement of community-supported agriculture (CSA) in North America, Europe, and Japan.¹⁶ The farmers as well as the community members supporting them, are very consciously working on integrating the process of agricultural production with social and spiritual practice. Similar efforts are being made by independent producers who are not

¹⁵Leach, Edmund R (1961), *Pul Eliya: A Village in Ceylon*. Cambridge: Cambridge University Press.

¹⁶For details about the CSA movement, see: Trauger Groh and Steven McFadden, *Farms of Tomorrow Revisited: Community Supported Farms and Farm Supported Communities*. Kimberton (Pennsylvania, USA): Biodynamic Farming and Gardening Association, 1997.

linked in any formal way, but whose collective approach within the USA has been labelled a “New Agrarianism” with roots to 19th Century American Transcendental philosophy.¹⁷

Examples of traditionally-oriented societies consciously using water management as a vehicle for cultural revitalization are more difficult to identify. There are many cases of indigenous societies fighting – either physically or through the courts – to maintain control of their water resources in order to continue their agricultural traditions, or in some cases to develop new agricultural practices. For example, indigenous farmers in the Andean region have made considerable progress in gaining governmental recognition of their customary water rights.¹⁸ And in Arizona (USA), the Hopi people are fighting for control of their groundwater that their own tribal government has leased to a coal mine company:

The Hopi tribe in Arizona (USA) is faced with an internal as well as external debate about water use and what constitutes “happy” management. This case illustrates the complexities of reaching consensus on what constitutes happiness, even within a single cultural group. An internationally owned coal company has a contract with the Hopi tribal government to extract high quality groundwater for its mining operations in Black Mesa. The aquifer which is being pumped for the coal operations also feeds the springs that comprise the sole source of drinking water for the entire Hopi tribe, and for the Navajo communities in this arid region. As a result of the pumping, which has gone on since the 1960s, the springs are starting to dry up, and the ceremonies that have always been integral to Hopi religion can no longer be performed.

How has the Hopi tribal government allowed this to happen? The tribal government is a relatively recent (1947) creation, imposed by the federal Bureau of Indian Affairs (BIA) partly for the purpose of having a convenient body to consent to a coal mine lease. There are legal barriers to breaking the contract and stopping the mine, and most importantly, there are financial considerations. The vast majority of the tribal government's budget derives from the royalties and fees collected from the mining operation. The tribal council is not in favor of rescinding the contract, apparently for this financial reason. In their view, the happiness provided by the contract outweighs the happiness provided by healthy springs.

While this appears as a failure of finding “true” happiness, the environmental and cultural threat posed by the coal mine has stimulated local opposition, and a new appreciation of traditional cultural values and water management. The opposition group is organized around the leadership of a former tribal chairman, and is mobilizing Hopi tribal members to re-discover the spiritual and cultural importance of the water that is currently being

¹⁷ See, for example, Eric Freyfogle (ed.), *The New Agrarianism: Land, Culture, and the Community of Life*. Washington, DC: Island Press (2001).

¹⁸ See the article by Rutgerd Boelens, cited above, and other material on the website of the Indigenous Water Initiative (www.indigenouswater.org).

sold for profit. While happy water management remains an elusive goal, there is an ongoing process of debating alternative views of what constitutes the greater good for the Hopi people, and how water management can contribute to that happiness.¹⁹

Conclusions: Finding Happiness through Water Management

Within the water sector, “development” is defined in terms of physical improvements to water capture and conveyance systems which result in greater economic production. It is mostly about material improvements leading to economic growth. Material well-being is, of course, essential to survival, but how much material is needed for well-being? Whose concept of well-being – or happiness -- is relevant? The recent history of water development reveals a remarkable acquiescence to Western cultural concepts of what constitutes happiness. Are traditional societies really so unhappy with their own values that they look to the West for a new form of happiness based on material acquisition?

My sense is that Western concepts of water development have been adopted uncritically by developing countries eager to gain the international status of being “modern” and “developed”. Agriculture that focuses on traditional foods is quickly, and even happily, replaced by crops – such as high yielding varieties of rice – that come with international cultural approval. Is this consistent with local happiness? The question is rarely asked. A systematic assessment of what kind of future local farmers would desire, and what aspects of their lives brings them personal happiness, would almost certainly lead to a different development scenario than the one on which they are embarked.

How can water management lead to greater happiness? By taking a very deliberate and conscious approach to water development; by identifying the elements of traditional life that bring happiness (as well as any elements that may no longer serve a happy function) and setting a course towards a shared vision of cultural, and personal, happiness. That path will certainly include material elements, but it will also include spiritual, social, and emotional richness which is now being denied in conventional approaches to water development.

¹⁹For details, see the website of the Black Mesa Trust: www.blackmesatrust.org.