January 2016
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Water is life.

It is within and all around us. It connects, sustains, heals, and transforms us—and the entire natural world. Humans need it to live. Industries need it to function. Entire ecosystems need it to thrive. We use it to move goods, grow food, generate energy, purify ourselves, and clean the environment. We are even searching for it on nearby planets. Water is perhaps the single most essential element for our existence and all living things around us and, yet, how often do we think about water? How often do we talk about water? Why don't we think and talk more about the governance of water?

Too often, freshwater resources are overused and contaminated. Too many diseases are spread by unsafe drinking water and a lack of water for hygiene and sanitation. Too many people carry water for miles just for household consumption. Too many international conflicts occur over water rights and usage. Too many waterways, wetlands, and watersheds are being destroyed. Too much water is simply wasted. While all of this happens, climate shifts are changing rainfall patterns, hastening glacier melt and increasing the salinity of aquifers. Our global water footprint is exponentially growing while our global water resources are becoming more and more threatened.

The pressing nature of this topic invites a series of questions for you to consider:

Who or what is responsible for the management of water? What kinds of rights might we have or want when it comes to water? What kinds of needs for water might we have as a society? Beyond human use, what are the planetary needs for water? Which values shape our thinking about water? How might the desire for water security change domestic and international relations? How has dealing with water supply and sanitation shaped cultures, including gender roles and public health? What role will science and technology play in water conservation for the future? What kind of choices might we make when it comes to thinking about policies surrounding water?

We could wait for these questions to be addressed by our politicians or water experts, but we invite you to discuss this topic with your friends, neighbors, or classmates now. These concerns affect all of us and shape how we interact with one another and live within our communities. Thinking about this topic and anticipating freshwater for the future will help us all become more engaged and deliberate participants in our democratic societies. Increasing democratic participation through engaged communication is one of our goals.

This guidebook helps us advance this goal, as it is also the product of exploratory discussions. Two discussion panels that met monthly over the course of a year created this discussion guidebook. One discussion panel was based in water-rich Wisconsin, and the other panel was composed of international discussants spanning four continents and convening through virtual meetings. Discussants had a wide range of expertise on water issues as well as a variety of experiences. In the spirit of exploration and collaboration, we began our work by broadly defining the areas of concern and imagining conceptual policies that could be implemented in a variety of ways to address these concerns. Additional feedback was acquired through a series of test discussions held throughout the United States and in Mexico. This discussion guidebook reflects hundreds of hours of facilitated conversation between people in the United States and around the world interested in the topic of freshwater.

The policy possibilities in this guidebook do not embrace any particular political perspective nor do they advocate for any particular political agenda. On the contrary, this guidebook offers contrasting policy possibilities to help explore the breadth of the issue. Some policies reflect values that center around individual freedom while others revolve around community interests and the public good.

Photo by Kris Eilers, St Louis River Alliance

Some policies call for regulation and others call for bottom-up action. Most of our policy ideas can be implemented on multiple scales: individual, local, state, regional, and international. Most of the policies would benefit from implementations that address the need to educate the population about water issues. As education is almost always an important aspect of policy implementation, we did not include a specific policy possibility to advance increased education initiatives around water issues. Rather, we hope that you discuss how education is relevant for each policy possibility.

As you review this guidebook, you may want to consider what else is left out or whose voices might be underrepresented. We encourage you to fill in the gaps and use this guidebook as a jumping-off point for continued conversation rather than a final destination. We encourage you to create your own discussion groups to keep this conversation, and conversations in general, an ongoing activity in your community, workplace, or household.

For more information about the Interactivity Foundation and our mission to increase community discussion, as well as access to our free discussion resources, check out our website at www.interactivityfoundation.org.

A Note of Appreciation

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Policy Idea	Description	Policy is motivated by the following desires…	Possible implementations include…
A. World Water Quality	• Promote higher standards for water quality used by humans and other living things.	• Building global consensus about water quality. • Building trust in water management and quality reporting.	• Prioritize the provision of safe water for all people as a development goal. • Recognize the water needs of other living things and ecosystems.
B. Water for the Heart, Mind, and Soul	• Develop ethical foundations for expanded concept of responsibility for water resources.	• Broadening our sense of stewardship and responsibility toward future generations. • Moving beyond human-centric focus on resources as commodities.	• Encourages the exploration of water values and the development of a *Water Ethic*. • Enlarges the "story of water" to include all cultures and all life.
C. Deepen Cooperation and Coordination	• Rely on systems and watershed approaches that overcome national boundaries.	• Building global understanding and cooperation. • Matching solutions to appropriate scales.	• International frameworks for compacts. • Increase resources available for international water resource development.
D. Empower Local Water Governance	• Keep water policy close to the people who need it.	• Rely on local mechanisms close to communities and water sources. • Build off proven traditional practices.	• Encourage cooperative management, adaptation, and experimentation. • Scale water projects to manageable size.
E. Fair Distribution of Water	• Ensure that all people have access to water for their drinking, domestic, and sanitation needs.	• Recognize water access as a basic human right. • Work to get water to where it is needed.	• Keep key water sources in the public domain and under democratic control. • Strengthen the equity provisions of public water governance.
F. Help the Market Manage Water	• Rely on generally understood models of cost and value.	• Expand availability of finance tools and leverage business connections. • Facilitate cycle of reinvestment and development.	• Harness consumer models to widen access to financing and credit for water supplies and products. • Leverage further investment and economic development through dependable provision of water.

What if… the drinking water in your community became contaminated? Local officials identify the source of the problem and stop further contamination. Policy makers call for stronger regulation to prevent such catastrophes from happening again. You and your neighbors, however, still feel uneasy. Is the water safe? You have lost confidence in your community's ability to provide clean water. You don't trust reports that the water is safe to use again. You begin to wonder about water quality in other places like where you travel, work, and vacation. You begin to wonder how other people around the country and the world live with these uncertainties. How do we know if the water is clean? Who defines clean? What can be done to promote water quality and regain trust?

This policy calls for the strengthening of water-quality standards that protect health, advance sanitation efforts, and encourage sustainable water practices. These standards would recognize water as a basic human need and essential element of environmental protection. Such standards would ensure the well-being of those who consume it, the aquatic systems that are supported by it, the lands sustained by it, and the agricultural and other commercial uses that depend on it. It calls for the establishment of universal standards for clean water and sustainable water practices that will provide for clean water in the future. These standards for water quality would be based on the cleanliness, clarity, and temperatures needed to sustain human and non-human life. This policy recognizes that access to quality water supplies may even become a flash point for conflict. We are all in this search for quality water together and we may let it unite us or divide us. This policy is informed by values such as the importance of transparency, clear communication, and high-quality standards that can be measured and regulated. This policy advances clean water security not just for individuals, but for communities, nations, and the global common good, which extends beyond immediate human use and benefit. This policy calls for clean water for the planet now and in the future.

Implementation: How might this policy idea be implemented?

1. Employ an international team of scientists and water specialists to define what is meant by "clean water" and "safe-water practices." This measurement would detect contamination as well as other factors that contribute to the health of water supplies, such as temperature, volume, impurities, etc. Water supplies would be rated and ranked around the world. Incentives could be created to improve water-quality rankings.

2. Develop clean-water literacy around the world. Educate people on what constitutes clean water, clean water practices for public health purposes, and individual responsibilities for maintaining water quality.

3. Hold governments, corporations, industries, and individuals accountable for protecting water resources and promoting water quality. Create strict regulations and steep fines to discourage abuse of water resources.

4. Enhance the capacity of natural-water systems to filter and balance damaged watersheds and wetlands. Partner with governments, individuals, nonprofit organizations, and even for-profit corporations to make this successful.

5. Embrace alternative technology that provides clean water to people in areas lacking a freshwater source.

6. Empower citizens to test, rate, and communicate about water quality through various forms of self-testing, social media, and smart communication.

7. Create the "International Water Challenge" campaign, which uses competition and gaming strategies to encourage individuals and groups to address water-quality concerns.

For Example

Wetland Renewal

*Wetlands play a vital role in the world's water system. They offer a natural filtration process by detoxifying wastewater. They also keep rivers from flowing too fast, lakes from being overburdened with organic matter, and coastlines from eroding. Their destruction is devastating not just for those who live in them and off them, but also for the entire water system that depends on this natural form of filtration. Efforts are being made to protect wetlands around the world. One example of this can be found in Veta La Palma, in southern Spain, where sustainable fish farms are thriving in renewed wetlands. To learn more about this sustainable alternative to draining wetlands, view **Dan Barber's TED Talk "How I Fell in Love With a Fish."***

Clean Drinking Water from Human Waste

*Treatment facilities have long turned sewage into technically safe drinking water. The process, however, of recycling dirty water into drinkable water can be more direct. The Janicki Omniprocessor, a project funded by the Gates Foundation, takes sewer sludge and turns it into drinking water through a relatively simple heating process. Steam that is produced through the purification process powers the processor and even provides leftover electricity for the community. Each machine is touted to provide continual water for up to 100,000 people. A pilot project was scheduled to launch in Dakar, Senegal, in 2015. To learn more about this clean water technology, see **http://janickibioenergy.com.***

Additional questions to consider:

1. How can we best engage other planetary issues that are directly or indirectly linked to jeopardizing water quality for the future? For example, climate change, population growth, poverty, and rapid industrial development are all global factors that may adversely affect water quality. How should we address these complex and interrelated issues?

2. What trade-offs might we face for water quality in light of other societal needs, such as the growth of industry, energy production, agriculture, or population growth in general? How might we avoid compromising water quality to provide for these other necessities? Or, how might we rethink what counts as a necessity?

3. If this policy were implemented, what might be some of the negative consequences or unintended side effects? What could be done to soften the blow of any negative effects? What trade-offs might be acceptable?

"Tanzania Typical Water Source." Photo shared by the Blue Planet Network.

What if… you were able to view Earth from outer space and your observations were able to span centuries? You cannot help but notice the most plentiful resource on the planet: water. You are able to watch how the water system changes over time and how humans interact with it. What do you deduce from these observations? What practices seem most common? What do these interactions say about the values of the human inhabitants of Earth? What do your observations tell you about nonhuman inhabitants and the overall health of the planet?

This policy encourages us to collectively and imaginatively reflect on our relationships with water. It recognizes that many humans feel deeply connected to water and are drawn to bodies of water again and again. That deep connection is increasingly extended to understanding of the human responsibilities toward other living things and ecosystems. Yet it also recognizes that these connections and understandings are often at odds with government actions and private economic activity. Water is a force for meaning in our lives. It has worked its way into various collective imaginations around the globe. And, yet, the intrinsic, spiritual aspects of water are often absent in our public discourse and decision-making processes. This policy is informed by the idea that our values not only shape our actions, but even our imagination. Values shape what can and cannot be imagined, communicated, and governed. More attention should be given to understanding our past and current values about water and what must be done to translate values into policy. This policy addresses the role of consciousness and mindfulness about water issues in ways that will assist citizens and policymakers to make ethical decisions about water.

Implementation: How might this policy idea be implemented?

1. Work on understanding historical and present-day human relationships with water and the responsibilities it entails. Take inventory of historical and existing values and beliefs about water and share this information with the larger population through art, media, reports, workshops, and entertainment.

2. Create public opportunities for hands-on explorations of the many ways that water connects us, sustains us, defines us, flows through us, transforms us, and heals us. Build public/private partnerships that bring together water experts, community organizations, faith groups, and indigenous peoples to act on the lessons of these explorations.

3. Promote periodic public conversations, forums, lecture series, reviews of public policies, and retreats that examine particular values, such as balance and interconnectivity in nature, including celebrating water as a sacred and a life-giving force. Enhance and deepen a sense of connectedness with water in our daily lives.

4. Support various modes of communication that allow individuals to share water stories in an effort to help establish our collective value framework. Create broadly participatory platforms to record and make these stories public.

5. Adopt provisions that give rights to ecosystems, rivers, watersheds, mountains, and other examples of non-human life. Shift the public discourse to take into consideration non-human water needs and interests.

6. Sponsor, fund, or subsidize water recreation. Acknowledge that humans are drawn toward water recreation and make this an accessible pastime for more people to enjoy.

For Example

Project WET

There seem to be gaps in knowledge about the roles water plays in human, animal, and plant life. An effort to fill in these gaps is illustrated by Project WET (Water Education for Teachers), a Montana-based foundation with national and international networks. WET's goal is to assist action-oriented education on water so that every child may understand and value water. Their materials include classroom tools, water games, online training, water education portals, and webinars. For more information, see **www.projectwet.org/teach-and-learn**.

Native Water Project

Human thinking on water increasingly involves looking at water as a web of systems, organisms, and communities that are linked in many ways. While such a view finds support in water sciences, there have always been deep intuitive understandings of these connections among some indigenous peoples. In many native communities, water is sacred and is readily seen as the source of all life. One intertribal cooperative in the Pacific Northwest of the United States attempts to integrate traditional knowledge and stories with earth sciences in the Native Waters project. For more information on this experience in the Columbia River Basin, see **http://earthzine.org/2009/03/30/native-waters-a-sacred-learning-place/**

Additional questions to consider:

1. How do we determine which values will make up our ethical frameworks? Which values will count? Why these values and not others? How do we ensure that this policy is inclusive and not oppressive? How might marginalized voices, dissenting opinions, and alternative views be considered? What happens when water values are in conflict? What happens when they are in conflict with our immediate self-interest?

2. Do you have a water story that might help us view water in a different way? Do you participate in a cultural practice that holds water as sacred? Can you share this story with the discussion group? How might you share this story with the community-at-large? Why would we want to share our water stories?

3. If this policy were implemented, what might be some of the negative consequences or unintended side effects? What could be done to soften the blow of any negative effects? What trade-offs might be acceptable?

Photo shared by US Army Corps of Engineers

"Jose Luies." Photo shared by the Blue Planet Network.

What if… your primary water source is a river? Your community has depended on this river for hundreds of years. As the regional population grows, other communities and industries have settled upriver. They are grossly depleting the river for their own essential needs but also for recreational use. To make matters more complicated, many of these communities and industries exist upriver in another country. The water shortage, however, is creating tension not just with your international neighbors but also internally, within your own country, as the shortage is creating competition between all those in need of water. There seem to be few ways to resolve this conflict. Communication about fair water use seems to fail. What do you do? Who do you appeal to? What can public officials do to resolve conflicts? What can you do as an individual? Should you relocate? What measure are you willing to take to stay and reclaim this water resource? Is it yours to claim?

This policy idea recognizes that water, unlike land, cannot be easily demarcated because it does not stay still. Borders between nations and domestic political jurisdictions complicate water governance in many ways. Some water conflicts arising from such circumstances can seem intractable. Water disputes can prove challenging even for good neighbors. Water is part of a closed system involving surface water, groundwater, ice, and atmospheric water. Human impact and natural occurrences create imbalances in this system. This policy calls for holistic and improved domestic and international approaches to treating the underlying causes of these imbalances. Good governance, integrated water management, increased communication, diplomacy, industry, and technology may all offer ways of addressing imbalances in the system and resolve conflicts that result from competing water interests.

Implementation: How might this policy idea be implemented?

1. Enhance international and local dialogue between individuals, groups, and industries to better address conflicting interests and cultural assumptions about water issues. For example, create a standing and impartial Water Mediation board that facilitates discussion between groups with competing water interests and negotiates fair and sustainable outcomes.

2. Expand the international judicial system and local conflict resolution systems to mediate conflicting water rights and interests between human and even non-human actors.

3. Encourage multi-national initiatives to address competing water interests. Make water a central factor in societal decisions about economic development, population, humanitarian aid, energy, agriculture, and other priorities.

4. Operate, expand, and make binding principles of water sustainability. Offer incentives to conserve water and put in place severe sanctions for the misuse or abuse of shared water sources.

5. Allow technology to be the international ambassador. Advance technological innovations to solve concerns about global water shortages and provide open source licensing of technologies to areas lacking the ability to pay.

6. Match water governance to appropriate and workable scales that align with natural systems, not arbitrary jurisdictions.

7. Create a rotating system of management for shared international or national water sources.

For Example

Sharing Water in a Conflict Zone

*In late 2013 Israeli, Jordanian, and Palestinian officials signed an agreement to develop new water sources for all three nations and to protect the endangered Dead Sea. The agreement includes short-term initiatives to build desalinization plants and pipelines, facilitate water transfers between the parties, and stop water loss in the Dead Sea. Longer-term possibilities under the agreement provide openings for the creation of artificial lakes, generation of electricity, and broader economic development cooperation. Under the plan, Jordan and Israel will share desalinated Red Sea water, Israel will release water from the Sea of Galilee to Jordan, and Israel will increase water supplies to the West Bank. Success is never certain, but the agreement is seen as a good start that could establish goodwill and a pattern for further cooperation. Source: **http://www.huffingtonpost.com/alon-tal/middle-east-water-agreement_b_4450304.html**.*

The Great Lakes Compact Experience

*In 2008, a Great Lakes Compact, between eight states in the United States and two provinces in Canada, was established to provide coordination of water issues in the watershed of the Great Lakes and St. Lawrence River Basin. The compact provides a framework for consistent water-management approaches, exchange of data, strengthening use of sound science, dispute resolution, and consultations on water withdrawals and losses. A council of state governors and province premiers implements the compact and promulgates additional rules. For more information, see **legis.wisconsin.gov/lc/publications/im/im_2008_04.pdf**.*

Additional questions to consider:

1. This policy stresses the importance of communication and coordination. What obstacles or challenges might this face? How might these be overcome?

2. The success of this policy largely depends on shifting mentality from "water as property" to "water as a shared global resource." How might this mental shift be encouraged? Can you think of examples of when people or countries come together to manage a shared resource rather than exploit that resource for their own interest?

3. If this policy were implemented, what might be some of the negative consequences or unintended side effects? What could be done to soften the blow of any negative effects? What trade-offs might be acceptable?

Photo by Jon Polka, "Students of Camoapa, Nicaragua Gather Around New Pump." Shared by the Blue Planet Network.

Photo shared by US Agency for International Development

What if…you could not count on centralized governance to provide water? After decades of poor management, underfunding, or lack of accountability, the infrastructure that provided water to your community, if it ever did, has deteriorated into shambles. You appeal to governmental agencies located in the capitol city, but they are unresponsive. You feel as if your community just doesn't matter enough to warrant action from central governing bodies or there is a general lack of political will. Either way, your community is faced with fending for itself. How might you employ a system of local and sustainable water governance? What could this model of participatory management and shared decision-making look like?

This policy recognizes the potential for managing water resources at a local or community level. Water issues of the future cannot be managed from above or through bureaucratic, centralized systems alone. Grand-scale mega projects and giant water-management schemes like hydroelectric dams, oversized pipelines, extensive water-carrier systems, and massive irrigation projects have contributed to the dimmuniation of the overall volume of fresh water available to the ecosystem. This policy opposes large-scale, one-size-fits-all approaches to water management. National and even international trends, standards, and implementations of technology fail to recognize local knowledge and practices that represent wisdom concerning unique situations and resources. This policy embraces the ingenuity and collective memory of people as well as micro-level extraction and management techniques. This policy empowers local governing bodies to achieve water security. It is based on the belief that decentralized and location-specific actions can be more effective than generic, top-down governance. After all, those who have a stake in the security of their water supply have the strongest motivation for participatory management and decision-making capacity.

Implementation: How might this policy idea be implemented?

1. Support traditional water management practices that have been used, in some cases, for centuries to collect rainfall, annual floods, groundwater, and surface water to satisfy needs. Learn from traditional and indigenous models and adopt them as best water practices in similar settings.

2. Encourage communication between local communities to share best practice strategies and make local conservation, water harvesting, and distribution practices more widespread in areas with similar water challenges and resources. Create incentives and establish infrastructure for these groups and peers to share resources and knowledge.

3. Embrace smaller water schemes that do not require the transportation of water over long distances and promotes low-impact water purification systems.

4. Advance representation of local communities needs in regional and national water forums to better represent local situations.

5. Advance specific programs for women and indigenous communities to strengthen water management schemes on a domestic level that recognize and capitalize on cultural practices.

6. Build local consciousness, community agency, and know-how through transnational networking with other water civil societies and local communities. Partner with NGOs to facilitate this communication and offer consultation.

7. Promote an international campaign that calls into question the ideas of development and economic growth at any cost. Instead of demonstrating political power through taming, controlling, and distributing the natural environment, encourage governance to acknowledge and legitimize the value of local beliefs and so-called unruly practices. Challenge the state's monopoly on rationality, efficiency, and legitimate culture.

For Example

Groundwater in Valencia

*Due to improvements in drilling technology, groundwater has been increasingly used for irrigation in Valencia, Spain. Traditional, local well societies—cooperatives in which farmers have pooled their money in order to drill and share the costs of additional water—have re-emerged to manage groundwater supplies. The use of the wells plays a crucial role in keeping commercial agriculture viable in the huerta (or garden) during droughts, such as the extreme event of 2006–2008. During this drought, the community decided through mutual accord to ration river water and use well water to supplement farming needs, keeping the overall watering frequency at an optimal level. Local farmers reported that this was done in a fair and transparent way. There are approximately 75 of these local well societies in Valencia. Farmers are either full members in a co-op, in which case they pay a fee for each allotment of well water, or non-members who pay a higher fee (roughly twice that amount). No one who wishes to purchase well water can be excluded in this system. For more information, see Managing Water Locally, **http://www.rural-water-supply.net/en/resources/details/400**.*

Water Security Planning in India

In the Bundlekhand region of India, groundwater demand, both for domestic and irrigation needs, has increased dramatically in recent years. This increase in demand, coupled with successive years of drought, has resulted in an alarming downward trend in groundwater levels. The resulting water stress at village level has had a negative impact on health and school attendance. It has increased the hardship experienced by women who have to walk longer distances to collect water. The poor and marginalized members of society are hardest hit by reductions in availability of water resources. WaterAid in India is working together with local NGO HARITIKA to empower communities to develop water-security plans that aim to reduce the risk of groundwater depletion, ensure reliable drinking water supplies throughout the year, and encourage equitable sharing of water for domestic and irrigation needs. This is achieved using a three-tiered water resource management approach that involves facilitating a water-budgeting exercise with all water users; establishing demand for water; and the availability of water resources to meet those demands, boosting the amount of available water by harnessing monsoon rainfall through a series of small dams and building community capacity to manage drinking water supply assets. The approach links water supply asset management to the management of water resources. For more information, see Managing Water Locally,
http://www.rural-water-supply.net/en/resources/details/400.

Additional questions to consider:

1. Empowering local decision-making and agency is a great idea, but how can it be scaled to meet our water demands of the future—especially with the global population estimated to rise to 10 billion by 2050? What other concerns might we have with decentralized local management? For example, what if an elite class develops around the localized control of water?

2. How might smart technology and communication enhance this policy idea by connecting localized water schemes around the world? What implications might this have for individuals, communities, economies, or the environment?

3. If this policy were implemented, what might be some of the negative consequences or unintended side effects? What could be done to soften the blow of any negative effects? What trade-offs might be acceptable?

Photo by Jon Polka, "The Community in San Isidro, Nicaragua Tries Out the New Faucet." Shared by the Blue Planet Network.

FAIR DISTRIBUTION OF WATER

What if… you had to walk several miles every day just to collect water for your household? You often delegate this task to your children while you go about other work. It is a tiresome, unreliable, and sometimes dangerous task. Sometimes your family has to go without clean water, and this increases illness in your household and community. You wonder how some people have an abundance of water while your family often goes without. You think that no one in the 21st century should be denied access to clean water, but how can this be achieved?

This policy recognizes water access as a universal human right. It is an essential need that binds all of humanity and life. This policy is based on the idea that all humans have an equal moral claim to water. This equal moral claim requires a great deal of changed thinking about who owns water and the idea of water being a commodity. It moves basic water needs outside of traditional market models. This allows us to apply principles of fairness in governance and redistribution of water in accordance to this need. This policy ensures water access for all people, but especially minority and vulnerable populations.

Implementation: How might this policy idea be implemented?

1. Modify the frameworks of "water as property" to "public trust" and "public purpose" doctrines. Restrict private ownership of water if it inhibits the necessary redistribution according to need.

2. Empower international organizations to help achieve water rights for people around the world and to adjudicate water disputes under fairness standards based on the idea of equal moral claim to water.

3. Prioritize immediate human need of water above all other claims to water sources, such as agricultural or industrial demands.

4. Launch an international campaign to educate people about what it means to claim water as a basic human right.

5. Adopt water charters at local, state, regional, and international levels that outline the rights and responsibilities of citizens and governments and provide legal standing to citizens and communities to enforce those charters.

6. Create regional compacts on water and mechanisms for division of water resources and the resolution of water disputes.

7. Increase regulation of water withdrawal and use, with emphasis on meeting basic needs and phasing out preferences and subsidies for industries and for-profit water corporations.

8. Use technology, governance, the market, and even large-scale water management and distribution schemes to provide all people with water, regardless of where they live.

For Example

Water as a Universal Human Right

Fairness and equity issues in water are often dealt with through local laws and customs. However, the human need for water is so obvious that many around the world consider access to sufficient supplies of safe, accessible, and affordable water to be a fundamental human right. The United Nations General Assembly recognized such a right in 2010 through Resolution 64/292. The human rights approach looks at water as a prerequisite to many other human rights and as essential to human dignity. The UN's Special Rapporteur on the Human Right to Safe Water and Sanitation *reports to international agencies and cooperates with member nations on water-related component of sustainable development goals.*

The Special Rapporteur's research and recommendations (and other UN water publications) are available at: **www.un.org/waterforlifedecade/human_right_to_water.shtml**.

Philippines Water Code

The Philippines has a national policy that recognizes its citizens' fundamental rights to water. The country has a National Water Code, with a National Water Resources Board, that requires water withdrawal permits for most uses of water. The permit system exempts drinking, cooking, bathing, and other domestic and household uses of water. Permits are also not needed to hand-carry water from rivers or lakes or to use these bodies of water for human bathing or washing or for watering of animals. The Philippines Indigenous People's Rights Act expands upon National Water Code rights by recognizing and protecting the traditional water supplies and practices of indigenous peoples. For more information on this and the recognition of rights to water in other nations, see **http://en.unesco.org/themes/one-planet-one-ocean**.

Additional questions to consider:

1. Under what circumstances might water be denied to someone or groups of people? For example, in the border region of the American Southwest, humanitarian organizations maintain permanent water stations in the desert and provide clean drinking water along well-worn migrant routes. Should people who are entering countries without proper documentation have a right to water? If a household can't afford its water bill, is it right to turn off the water? If a thirsty person appears on your doorstep, are you required to provide this person with a drink?

2. How does the notion of water as a human right relate to the private ownership or private control of water? Is privatization and industry a natural enemy of individual rights? How might they be partners?

3. If this policy were implemented, what might be some of the negative consequences or unintended side effects? What could be done to soften the blow of any negative effects? What trade-offs might be acceptable?

What if... you lived in a community that had little water infrastructure, poor sanitation, and few resources to pay for massive water projects? Government is unable or unwilling to provide much assistance. Community members spend a lot of time dealing with their families' water needs—time that could be spent more productively on generating income, pursuing education, or otherwise building community life. These water deficits also hold back economic development possibilities. You are interested in exploring how the private sector might help out your community. Private corporations seem to have the infrastructure, know-how, and will to satisfy your community's water needs. Why not let the market provide the water that your government has failed to deliver?

This policy calls for embracing private sector models of water management. Under this policy, water is a vital resource, but it is also a commodity for which a realistic price should be paid. Markets provide ways of harnessing the wisdom of crowds and responding to needs in flexible and more rapid ways than is often the case with government. Government intervention can distort accurate pricing of water use. It might shift costs or shield people from the true costs. Accurate pricing would discourage inefficient and wasteful approaches to water use and distribution. This policy invites entrepreneurs, innovators, businesses, and customers to set the framework of water management and distribution and thus harness the wisdom of the people. It looks to incorporate standard business practices of finance, consumer credit, and market development into the ways we distribute and pay for water. The policy is informed by the belief that the desire for an improved water supply can spur initiatives and investments and that competition and choice will benefit not just consumers but the overall management of water for the future.

Implementation: How might this policy idea be implemented?

1. Allow the market to function with limited restrictions and regulation when it comes to water management and distribution.

2. Eliminate water subsidies for industries like energy generation, mining, manufacturing, and agriculture in order to provide market conditions that can sustain small and medium-sized enterprises. Protections would be built-in to maintain a level playing field and to resist the power of monopolies and large, politically influential corporations.

3. Allow water prices and the prices of water-derived products to reflect the real costs of supply and distribution so as to reduce the need for public subsidies and encourage individual conservation.

4. Encourage the application of known best practices in private water management, especially those that reduce costs that may be passed on to consumers in the form of lower prices.

5. Utilize micro-financing and consumer credit tools at the community level and leverage larger business investments through a cycle of creating wealth in the community.

6. Recognize limits of disposable income and non-monetary aspects of local economy so that market pricing remains within reach of lower-income consumers.

For Example

Understanding Market Possibilities

Application of market-based solutions to water problems is sometimes hampered by a lack of experience and models. The Program for Appropriate Technology in Health (PATH) has a Safe Water Project that supports commercial enterprise in the sale, production, and maintenance of household water products in developing nations. PATH's efforts provide some initial market testing and customer evaluation of full-price sales, payment, consumer credit, and integration with other water products in India, Cambodia, Vietnam, and Kenya. See the market-based solutions study at www.path.org.

Water Financing

Wealthy societies are usually in a position to bear the costs of water sources and systems, be it by public revenues or private investment. Developing nations often have difficulty securing funds through either route. The WaterCredit program of Water.org uses microfinance tools to work on clean water needs in poor communities. The program identifies institutional investors looking to expand their sustainability portfolios and helps communities leverage additional commercial credit and social capital. It prioritizes small loans to women (91 percent of its 370,606 loans) in nine nations. For additional information, see www.water.org/solutions/watercredit/.

Additional questions to consider:

1. What are the risks of applying market principles to water supply and distribution? How might we anticipate and protect against those concerns?

2. Applications of market principles imply a functioning economy with disposable income. How do we deal with the water needs of those with no income? What happens in failed states or disaster areas?

3. If this policy were implemented, what might be some of the negative consequences or unintended side effects? What could be done to soften the blow of any negative effects? What trade-offs might be acceptable?

Glossary of Terms

Acceptable Water- Water that meets our expectations of color, taste, and odor.

Accessible- Most commonly water in the home, workplace, or school. Under World Health Standards, accessible water can be found within 1,000 meters of these locations with a collection time of no more than 30 minutes.

Affordable- Under United Nations development programs, water costs are not to exceed 3 percent of household incomes.

Agricultural Usages-Water used in farming and food processing.

Aquifer- Water within permeable rock, sand, or gravel (usually as a distinct body in a region).

Atmospheric Water- Water in clouds, fog, or vapor in the air.

Centralized/De-Centralized Management- Usually signifies the difference between national and local management of resources, but can also indicate the level at which infrastructure systems are planned and operated (governance, policy, and implementations may be mixtures of centralized and de-centralized management).

Clean Water- Water that meets local standards for consumption and measures of quality.

Compact- An agreement among multiple units of government concerning water usage and protection measures.

Contamination- Implies introduction of outside elements within water that render it unfit for use.

Cooperative Management- Governance of water by a variety of stakeholders and holders of legal interests.

Distribution (fairness and infrastructure systems)- In terms of fairness, distribution relates to access to water sufficient for drinking and sanitation and connects to the infrastructure systems that bring water to homes and work sites.

Economic Development and Water- The relationship between water and uses connected to commerce, industry, and community development

Energy Usages- Most commonly referring to water used in the production of energy (production of steam, cooling towers, mining, drilling, slurry pipelines, refining fuels, etc.). More recently, use of water in fracking, with additional references to water as a power source (hydropower).

Ethics/Values (water ethic, cultural perspectives, consciousness)- Emerging thinking on interrelationships between natural systems and our human responsibility for the care and restoration of those systems, with a water ethic assuming a central role in our ideas about biodiversity and sustainability.

Glaciers- Areas on land covered by ice that move down slope or extend outward as their mass increases, with many such ice bodies now shrinking instead of expanding.

Governance- The general political system that produces legislation and rules and guides administrative action, but also the broader realm of civil society and public conversation that, hopefully, creates a deliberative and responsive environment for policy development.

Groundwater- The water stored in soils and rock that is typically tapped by wells.

Hydrology- The science of water distribution and movement in and on the Earth.

Indigenous Society- Native, tribal cultures with water and other environmental practices that pre-date colonial or occupation experiences, often rooted in traditional beliefs, and sometimes recognized in formal agreements such as treaties.

Industrial Usages- Water as used in manufacturing and processing.

Irrigation Water- Water supplied to crops and plants, often in areas that otherwise would not support their growth, often diverted from non-adjacent sources or deep wells, and sometimes subject to property rights, priorities in usage, and other regulation.

Management- The general systems and practices applied to paying for and securing supplies of water and its treatment, distribution, and disposal/recovery—occurs under public, private, and nonprofit/cooperative models.

Ownership- The legal system of recognizing rights and protected interests in property, with major differences between individual ownership and public ownership

Planning and Water- A growing sense of the centrality of water and our land use and community development visions, with an increasing multi-disciplinary integration of urban planning, natural resources protections, aesthetics, economic development, and resiliency in the face of environmental changes—often summed up in concepts of sustainability.

Public Purpose- In the area of natural resources generally and water specifically, the societal value of common resources and water serving broad public and ecosystem purposes, not private interests.

Public Trust- A legal doctrine that takes public purpose values a step further through constitutional provisions, statutes, or court decisions that hold certain aspects of water rights or certain bodies of water to be held in trust by states or other political subdivisions for the use and enjoyment of the public—imposing certain responsibilities on those governmental units to protect such water from harm.

Quality- A general description of safety, acceptability, and local measurements for intended uses and consumption.

Quantity- Availability of supplies of water that meet the needs of communities and ecosystems.

Regional Compacts- Agreements between different jurisdictions concerning shared bodies of water or water supplies (may be between political subdivisions within a nation or between nations)—common example: Great Lakes Compact between U.S. states and provinces in Canada.

Regulation- Usually referring to the body of administrative rules, government agencies, and enforcement mechanisms that implement the laws.

Rights (property, agreements, human rights)- Originally seen as legal claims to water under common law and statutes (there is an entire body of law know as riparian law relating to water), includes societal rights concepts, such as public trust, and access to safe water for consumption and hygiene, increasing seen as a fundamental human right by international agencies like the United Nations.

Run-off- Water that does not sink into the Earth's surface, but instead is directed by gravity to bodies of water or low-lying basins (construction and agriculture account for increasing amounts of this).

Safe Water- Often used interchangeably with clean water, but sometimes implies a lesser standard that allows for the presence of organisms and contaminants at less than ideal levels, Does not pose imminent threats to health.

Salinity- Levels of salts or alkali salt compounds within water (relates to acceptability and safety, and is connected level of difficulty in desalinization—production of clean water from sea water).

Scarcity- Describes both conditions of short supply in areas of little rainfall and overuse in areas where demand exceeds natural replenishment (also associated with changes in climate that act on rainfall amount and natural replenishment mechanisms).

Standards- Established measurements of quality and quantity that allow for monitoring and corrective measures (sometimes developed by scientific bodies, but often incorporated into rules or regulations, and sometimes adopted as goals by international agencies).

Sufficient- In water usage, quantities at levels capable of supporting general societal and personal activities.

Surface Water- Water that on the surface of the Earth, usually meaning streams, rivers, lakes, wetlands, and seas.

Sustainable (sustainability)- Practices that can carry societies and ecosystems into the future without undue disruptions, frequently used in a particular context (sustainable economics, sustainable agriculture, etc.).

Systems (natural and infrastructure)- Used in water discussions to refer to both parts of ecosystems that provide "services" on behalf of continued supply of clean water (wetlands that filter sediments, vegetation that slows run-off, etc.) and human-designed systems that treat and distribute water. Increasingly viewed as an area ripe for integration of natural systems and human infrastructure.

Traditional Society- Often the same meaning as Indigenous Society, but may in some cases also refer to non-native, non-tribal cultures that practice forms of voluntary simplicity based on religious faith or cooperative values.

Wastewater- Water after usage (gray water from washing, sewage, industrial discharge, etc.) that requires treatment before returning it to groundwater or surface water or preparing it for reuse.

Water Footprint- The water embedded in food, products, and services that contribute to consumption patterns.

Water Law- Often referring to the body law relating to rights and access to water (as in riparian law), but now sometimes including laws and rules relating to systems, structures, and standards.

Watershed (divide, bioregion) Common- drainage areas shaped by the land as smaller streams flow into rivers, lakes, and oceans, with divides typically marking the higher ground where water on one side flows into different systems than water on the other side, and with bioregions often reflecting the biological and social impacts of those watershed features.

Water Table- The point below the surface where groundwater is freely available.

Water Treatment- The processes used to prepare water for consumption or use/re-use or disposal, treatments often addressing standards of acceptability and quality (may involve different and multiple processes: aeration, chemical treatment, filtration, etc.).

Wells- Originally a term referring to hand-dug shafts into the Earth to points below the water table for securing water. Now includes mechanically dug wells for water supply and sometimes heating/cooling/geothermal use.

Step One: Getting Started and Setting Up

≈ Create an invitation for six to eight people. There are all kinds of ways to bring people together for discussion. You can host a "Dinner Discussion Party" or organize a "Public Policy Potluck" with your neighbors. You could put a new twist on game night by introducing "Family & Friends Discussion Night." You could even create a monthly "Discussion Club" (like a book club for public affairs) or propose "Alternative Happy Hour" with colleagues.

≈ Pick a good location. Find a relatively quiet place where everyone can sit together around a table or be in a living room type setting. It is important that people can see and hear one another.

≈ Having food and refreshments at these gatherings helps to create an atmosphere of sharing. Decide what sort of refreshments you would like to provide and what, if anything, you'd like your guests to bring.

≈ Select a topic that you would like to discuss. For a list of IF Discussion Guidebooks, go to our website at www.interactivityfoundation.org. Download the discussion guidebook and make copies for your guests or encourage your guests to review the guidebook prior to the gathering.

Step Two: Introduce the Topic and Each Other

≈ If you and your guests are new to one another, spend 10 to 20 minutes introducing everyone. Try tying the introductions to the topic. For example, if you are discussing the *Freshwater for the Future*, then you might want to ask everyone to introduce him or herself by sharing a favorite childhood memory about water.

≈ Introduce the purpose of the discussion:
  • We are not here to debate, argue, or push any particular agenda.
  • We are here to help each other explore different perspectives beyond our own.
  • We are here to help each other stretch our thinking to explore alternative approaches to complex social topics.
  • The goal isn't to agree on a solution.
  • The goal is to open up new possibilities and new ways of looking at things.

≈ Introduce discussion guidelines:
  • To get things started, you can propose some basic ground rules, like talking in turn, making sure everyone participates, and trying not to dominate the conversation.
  • Practice saying "Yes, and…" Try to build on each other's ideas as they come up rather than evaluating or criticizing them right away.
  • Be yourself—and be someone else. Share what you think—then use your imagination to think beyond yourself. Imagine someone from another walk of life. What would they add?
  • Be generous in spirit. Help each other think through ideas. Focus on exploring the content of ideas rather than the people who introduce them. Help each other explore ideas even if you disagree with them.
  • Be bold and go deep. Bring up ideas regardless of whether you think they might meet approval or be successful ("That's so crazy, it just might work!").

≈ Put aside the guidebook and spend some time as a group exploring the topic:
  • What are some of other perspectives on the topic?
  • Beyond their own perspectives, what are other aspects of the topic that the group can think up? In what other ways might we face public choices about this topic in the future?
  • Once you've explored the topic as a group, compare the concerns you came up with to those explored in the IF guidebook.

Step Three: Discuss the Policy Possibilities

≈ Each IF guidebook includes a range of contrasting big-picture ideas for how our society might approach some complex topic. Each discussion guide has a summary of all the possibilities. Try starting with a short "lightning round" discussion as an overview. This gives everyone a sense of the range of ideas coming up.

≈ Select the top two or three policy ideas that you would like to discuss with your group (the first few tend to go slower). There is no need to go in order in the discussion guide and no need to rush. Once you discuss these policy ideas, you can allow your guests to select the next policy possibility.

≈ Try to understand each policy possibility (even if it's not to your, or the group's, liking). What does the policy mean? What does it propose to do? What motivates it? What concerns is it trying to address? What beliefs or values motivate it? What is its goal?

≈ Imagine its consequences. What would the world be like if we handled things this way? Try to imagine who might benefit— and who might be harmed. Who (or what kinds of people) would really like (or dislike) this policy approach? Why?

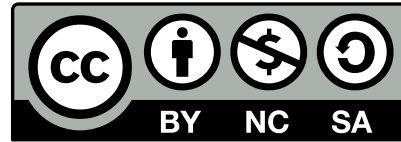≈ What are some different ways that the policy possibility could be implemented?

Tips for the Host: As host, you'll play the role of facilitator. Your goal is to encourage exploratory discussion around the chosen topic. You are not here to "lead" the discussion or to tell the group what to think. You're not supposed to be an expert on the topic. Your job is to help a conversation unfold that allows everyone to stretch his or her mind in a welcoming environment. Some tips:

- Keep the discussion on track and remind everyone to follow the discussion ground rules.
- Be prepared. It's good to have a few questions prepared to get the discussion rolling and to introduce when there is a lull. Try to avoid yes or no questions. The guidebook will give you ideas for good questions to ask.
- Discourage participants from dominating the discussion. You can sit next to an overzealous participant and gently remind him or her that others want to talk as well.
- Encourage quiet participants to talk more. You can do this by making eye contact and even asking direct questions. However, try to be subtle when you move participants in and out of the center of the discussion.
- Try to keep the discussion at a big-picture level. Keep the focus on the gist of a policy idea—not haggling over the wording or over one specific way the policy idea might be implemented.
- Encourage participants to explore different dimensions of the policy area—cultural, moral, economic, environmental, etc. How might a policy impact the social fabric or our sense of self? What might be its moral, legal, or economic implications?
- Allow the discussion to unfold. Don't rush it. Once it is going, allow it to run its course and intervene only when necessary.

Tips for the Guests: As participants, your role is really to help each other have a good exploratory discussion. Try to help your host by helping each other explore alternative ideas in a generous and cooperative way. A few tips that will help you elevate your discussion include:

- Learn from the ideas and opinions of others. This involves listening. Try not to be the person who dominates the discussion. Enthusiasm is great, but be sure to keep a space open for everyone to talk.
- Revisit your own assumptions, ideas, and opinions. Be willing to revise your own thinking about a topic. Don't set out to persuade others.
- Ask questions to draw out others' thinking and to check whether you understand them.
- Try to find the grains of truth in the arguments of others, especially if you do not agree with them.
- Practice the "Yes, and…" approach. Instead of rejecting an idea, try to build on it even if you disagree with it. Think of being "additive" rather than "subtractive."
- Be imaginative or playful rather than critical or defensive in your contributions to the discussion (remember, it's about exploring the content of different ideas, not about evaluating people).
- Try role playing in the discussion. Pretend to be someone else and make a sincere effort to represent the views of this type of person. Who is missing from your group? What different perspective would that person add to your group?
- Have fun. Discussion is a great way to connect with people and to stretch your mind. Enjoy yourself!

Feedback: These discussions are about learning and expanding our thinking. We would like to learn from you and your guests. Email us your feedback at **esw@interactivityfoundation.org** or **boyer@interactivityfoundation.org.**

Notes

Interactivity Foundation

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Printed in the United States of America by the

Interactivity Foundation

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Parkersburg, WV 26102-0009

www.interactivityfoundation.org

Discussion Guides

The Guidebook for Student-Facilitated Discussion in Online Courses
(Student & Instructor Edition; 2015)
Global Responsibility for Children (2015)
On the Move: *The Future Mobility of People, Products, and Ideas* (2014)
Invention, Innovation, and Intellectual Property (2014)
What Might Childhood Look Like in the Future? (2014)
Shaping Our Towns and Cities (2013)
Crime and Punishment (2013)
The Future of the Family (2013)
The Future of the Arts & Society (2013)
The Human Impact on Climate Change (2013)
Human Migration (2013)
Helping America Talk (rev. 2012)*
The Future of Higher Education (2012)
The United States' Democratic Promise (2011)*
The Future of Energy (2011)
Helping Out: Humanitarian Policy for Global Security (2011)*
Democratic Nation Building (2011)
Future Possibilities for Civil Rights Policy (2011)*
The Future of K–12 Education (2011)*
Food: What Might Be For Dinner (2011)*
Health Care: The Case of Depression (3rd ed. 2010)
Privacy & Privacy Rights (2nd ed. 2010)
How Will We All Retire? (2010)
Anticipating Human Genetic Technology (2009)
The Future of Regulation (2009)
Property (2009)
Science (2009)
Rewarding Work (2009)
* Also available in Spanish

Other IF Publications

Let's Talk Politics: Restoring Civility Through Exploratory Discussion (2013)
Julius "Jay" Stern: A Biography (2010)
Contrasting Possibilities and the Interactivity Foundation
Discussion Process (2nd ed. 2009)
Facilitation Guidebook for Small Group Citizen Discussions (2nd ed. 2009)
Support Materials for the IF Discussion Process (2009)
Teaching Tips (2009)
Guidebook for Student-Centered Classroom Discussions (2008)
Public Discussion as the Exploration and Development of Contrasting
Conceptual Possibilities (2008)
Facilitation Guidebook (2005)