Water, Vital Need and Global Justice

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W4W
Workshop for Water
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The W4W Group's Members

Annie Balet is a doctor of ecophysiology at the Orsay Faculty of Sciences (Paris-Sud). She worked on environmental problems, then taught biology at the secondary-school level. She has collaborated in writing a pharmacopoeia to facilitate dialogue between traditional African medicine and scientific medicine, with the goal of promoting improved access to health care.

Benoît Girardin is currently the president of PIASS, a private university in Rwanda, and a professor of political ethics at the Geneva School of Diplomacy and International Relations, a university institute. He has extensive international experience, having in fact been responsible for Swiss cooperative development efforts in Cameroon, Pakistan, and Romania, then later for evaluation, finally serving as the ambassador to Madagascar. Initially, he had earned a doctorate in theology at the University of Geneva in 1977.

Evelyne Fiechter-Widemann holds a master's degree from New York University. She is currently a legal counsel for non-commercial partnerships, a Swiss Bar Association mediator, and a doctoral candidate at the Geneva Faculty of Theology. She served as a deputy judge on a judicial commission of CRUNI (Geneva's administrative court) and taught Swiss and international law at the Collège de Genève. She was a member of the Swiss Church Aid (EPER) foundation's board and also that of the International Museum of the Reformation.

After studying at the University of Geneva, **Laurence-Isaline Stahl Gretsch** spent fifteen years as an archeologist specializing in prehistory, both in Jura Canton (for construction related to the Trans-Jura freeway) and at the University of Geneva. Following the defense of her dissertation in sciences, she was hired by Geneva's History of Science Museum, which she has headed for seven years. In 2009 the museum created an exhibit on hydropower in Geneva.

After earning a master's degree in civil engineering at the Swiss Federal Institute of Technology in Zurich, **Christoph Stucki** initially specialized in analyzing the behavior of materials at the Swiss Federal Laboratories for Materials Science and Technology (EMPA) before joining an engineering firm in Lausanne. He then developed a railway network planning model at the Swiss Federal Institute of Technology in Lausanne. In 1980 he became the general manager of Geneva's public transport system. Currently, he is the president of Unireso, the cross-border transport fare network for a basin encompassing parts of France, Vaud, and Geneva.

Gary Vachicouras, a doctor of theology, studied at the Holy Cross Greek Orthodox School of Theology (Brookline, Mass.), the University of Paris IV-Sorbonne, and the University of Athens. He was a teaching fellow at the Ecumenical Patriarchate's Orthodox Center in Chambésy-Geneva and the executive director of the Foundation for Interfaith and Intercultural Research and Dialogue. His involvement in higher education has touched on human security, especially through his teaching, innovative research, and intergovernmental dialogue.

After being trained as a professional IFR pilot, **Renaud de Watteville** traveled and created Swissmate, an event company. For over 20 years he managed projects for various companies in Switzerland and abroad. In 2008 he started Swiss Fresh Water, which developed a low-cost decentralized desalination system intended for use by low-income populations. This was an opportunity for him to make a real human difference by making his experience available for a high-impact industrial project.

W4W (Workshop for Water Ethics)

The W4W is an apolitical civic-minded interdisciplinary platform that brings together notable figures from the theological, ethical, political, scientific, economic, and legal spheres who share a common concern for water challenges in a globalized world.

Water is a natural resource that was long considered a free good. Its status is changing as awareness of its increased scarcity grows, and especially as it is used abusively (polluted and wasted, especially in agriculture).

Indeed, this resource is increasingly threatened not only by increasing demand from the public, agriculture, and industry, but also by climate change.

To meet the demand and avoid "water wars" by defusing water-related conflict, the public sector-in partnership with the private and community sectors-must create appropriate conditions for managing this resource fairly and sustainably.

It has set the following goals for itself.

1. Conceptualize and explain the ethical dimension-essential for identifying and implementing solutions-of fair and sustainable water management in a globalized world.
2. Contribute original thoughts that could influence the creation of a favorable environment for implementing development goals 3 and 7 of the Millennium Declaration.
3. Take these solutions' interdisciplinarity into account.
4. Using a pluralist and ecumenical approach, establish contacts with existing ethical focus groups, for example IRSE, Gloethics.net, the Institute of Business Ethics, and similar entities abroad.
5. Involve influential private-sector players, university researchers and students, and civic-minded associations.
6. Organize colloquia on the topic of water's ethical challenges in a globalized world, provide targeted information to decision-makers and influential stakeholders, and exchange thoughts in networks and on blogs.

Speakers

For a list of W4W members, see above.

Laurence Boisson de Chazournes is a professor at the University of Geneva's Law Faculty. As the senior counsel to the World Bank's legal department (1995-99), she collaborated with various other international organizations. She is an expert in dispute settlement (ICJ, WTO and investments) as well as the author of numerous publications concerning, in particular, international environmental law and water management.

Christian Häberli is a researcher and teacher at the World Trade Institute. He studies the interface between commercial, agricultural, and development policies and its associated challenges, about which he writes and speaks at the WTI and around the world, focusing on food security from a commercial and investment standpoint and incorporating a human rights perspective. His professional career at the International Labor Office and in the Swiss government led him to the chairmanship of the WTO Committee on Agriculture and in that capacity he has been a panelist for about fifteen dispute resolution cases.

Christiana Peppard is Assistant Professor of Theology & Science in the Department of Theology at Fordham University, Lincoln Center campus. Her current research and book projects focus on valuing fresh water in an era of economic globalization, the value of water and the Catholic imagination and divergences and convergences in the concept of nature through scientific, theological, environmental, and ethical lenses.

Aline Baillat holds a PhD in international relations (2008) from the Graduate Institute of International and Development Studies (IHEID) in Geneva. In her dissertation, "International Trade in Water Rights" (IWA publishing, 2010), she analyzed the consequences of recognizing water as an economic good for the purpose of managing international watercourses. She has worked for the Global Policy Forum in New York, IHEID, and the Kurt Bösch Institute in Sion. Since January 2012 she has been a researcher at WaterLex.

Stéphan Ramseier Gentile holds a doctorate in sciences and is currently at Services Industriels de Genève as its environmental office's scientific advisor for potable water, wastewater, and waste reclamation. He has presided over or is still serving as a member of various national and international committees, including CIPEL, SSIGE and the International Water Association. He has also been the Swiss representative to EurEau and has cooperated with the water services association for AWBR.

Emmanuel de Lutzel is the head of microfinance for the BNP Paribas group. Since 2007 he has been developing a microfinance portfolio for the bank, in eight countries and with 17 microfinance institutions, for a total of 50 million Euros, reaching 350,000 micro-entrepreneurs. He helped shape a new regulatory framework for microfinance funds in France and Europe.

Paul Dembinski, economist and political scientist by education, after studies in Poland, Switzerland, Cameroon and UK, is Professor at the University of Fribourg (international Competition and Strategy). He is initiator and Executive Director of the Observatoire de la Finance promoting ethical concern in the financial sector, and editor of "Finance & Common Good".

Following studies at HEC Paris and an advisor position at Arthur Andersen, **François Dermange** took up theology, first in Paris, then in Geneva. He earned a doctorate in commercial ethics before becoming a professor of ethics at Geneva's Faculty of Theology, of which he was the dean from 2005 to 2009.

A pluralist, believing in consensus and respect for the other, **El Hassan bin Talal, Prince of Jordan**, believes in societies in which all peoples can live, work and function in freedom and with dignity. This goal has been the moving force behind his interest and involvement in humanitarian and interfaith issues, with particular stress on the human dimension of conflicts.

Water, Vital Need and Global Justice
Ethical and Interdisciplinary Intent of the Colloquium

The W4W group wished to continue the reflections it began at its 2011 colloquium, on the subject of water as an unpredictable vital resource, through an ethical and interdisciplinary consideration focusing on the human being grappling with global justice in the context of a vital need: water.

So after an explanation of three values or "universals"-the Golden Rule, human dignity, and capabilities-our first session moved on to legal, theological and economic perspectives with presentations by Professors Laurence Boisson de Chazournes, Christiana Peppard and Christian Häberli.

Following a lively discussion moderated with wisdom and assurance by former Ambassador Benoît Girardin, the colloquium's second session explored the real world situation through many examples furnished by Emmanuel de Lutzel and illustrated with the help of Renaud de Watteville through an actual project in Senegal. The roles of NGOs such as WaterLex, Services Industriels de Genève in Geneva, and the financial world were ably discussed by Aline Baillat, Stéphan Ramseier and Professor Paul Dembinski, all committed to water's cause and to communicating its complexity in the twenty-first century. As the high point, in less than ten minutes, El Hassan bin Talal, Prince of Jordan, powerfully summarized the entire issue of water's challenges, specifically in the Arab world, with his striking English slogan "W.I.S.E." Unknowingly, he was also echoing the end of Dr. Christiana Peppard's talk where she invited us to follow the six principles of wisdom suggested by Catholic social teaching.

A large audience came to hear the various presentations. It included notables, doctoral students, young people, and friends whose names can be found at the end of this publication. The listeners expressed great interest in the talks and contributed relevant questions to the discussion.

I express my sincere thanks to everyone for the time spent, not to mention the encouragement and support I received from my dissertation director, Professor François Dermange of the Autonomous Faculty of Protestant Theology in Geneva and from the W4W group-of which all of the members, along with my daughter Gwendoline, helped not only with preparations for the colloquium but also with logistics for the March 20 event. Warm thanks are also due to Laurence-Isaline Stahl Gretsch, who graciously did the layout for these *Proceedings* and, with Christoph Stucki's help, added a summary of the morning and afternoon discussions. I am also grateful to Dora Nicolopoulos for carefully rereading the text.

In addition I would like to express my deep appreciation to those who made the event possible, namely CUSO (the University Conference of Western Switzerland) and IRSE (the Swiss French-Language Institute of Systematics and Ethics), and to all those who provided the magnificent venue for the colloquium: Laurence-Isaline Stahl Gretsch and the staff of Geneva's History of Science Museum. The technical aspect (projector for PowerPoint and photos) was smoothly handled by Gary Vachicouras and his assistant Panagiotis Adamantiadis, who filmed the entire event with unfailing patience. I owe them a real debt of gratitude.

The third colloquium, on the topic of "responsibility," which is so central to a true ethic of water, will be held in 2013.

Evelyne Fiechter-Widemann

Water, Vital Need and Global Justice: Ethical Perspective

Evelyne Fiechter-Widemann, Attorney and founder of W4W

Introduction

Let us attempt to draw an ethical connection between the two concepts of "water as a vital need" and "global justice."

It is tautological to say that if daily water needs are not met, a host of crises will follow: food and social crises, insecurity, war, famine, and even death. Experts say the threat is very real.

Inequality in human access to water has in fact been documented and acknowledged. UN sources say that a billion people lack access to potable water and 2.6 billion to sanitation. Only one out of every two people has a household tap.

The inequality is growing worse every year. It has multiple causes, of which I will mention only one here: the political system. It is easy to determine that democratic countries such as the United States and Australia have better tools for mitigating water shortages or surpluses than "vulnerable" countries such as some African and Asian nations.

In 2000, the international community set some Millennium Development Goals (MDGs) for poverty reduction and water. Implementing them remains problematic, however.

Should we throw in the towel, or instead explore another path-that of practical wisdom, of an ethic that could guide twenty-first-century humankind in handling the very complex challenges posed by water?

Let us choose this approach-which aims to honor the self, the Other who is close by, and the Other who is far away-in order to give alterity the leading role, a requirement which I believe is vital in this case.

With the aim of discovering a kind of justice, which I would characterize as global, for water as a vital need, I will analyze three values-the Golden Rule, human dignity, and capabilities-in light of this criterion of alterity or "otherness."

The Golden Rule As a Basis for Justice As Solicitude

As explicated by sixteenth-century English pastors, the Golden Rule corresponded to the rule that Jesus placed at the heart of the Sermon on the Mount (Matthew 7) and the Sermon on the Plain (Luke 6): "Do to others as you would have them do to you."

At first sight, the maxim represents justice as equality or reciprocity between the two partners present, the agent and the patient, that is, the person who acts and the person who is being acted upon. This equivalence is reminiscent of the *lex talionis*, "an eye for an eye, a tooth for a tooth."

Paul Ricoeur suggests reinterpreting the Golden Rule to avoid a utilitarian drift into "I give so that you might give to me." Through the lens of love, the formula becomes unselfish: "I give because it has been given unto me."

This French philosopher's take emphasizes generosity and the gift, empathy even, that encourages us to put ourselves in others' place. So in a way, the Golden Rule conceals an obligation, where the agent becomes the patient's debtor. This is also marvelously illustrated in the parable of the Good Samaritan (Luke 10:25-37).

In the context of water as a vital need, the maxim can serve as an invitation not to remain indifferent, and even to seek ways to act toward the billion individuals who struggle to procure the twenty-five liters per day of water they need to survive. Further yet, it can invite us to consider ourselves the debtors of future generations.

In summary, while the Golden Rule demands justice, it also-if we truly put ourselves in others' place-demands acts of solicitude: "Do good, and lend, expecting nothing in return" (Luke 6:35).

Let us again cite Ricoeur, who pleads for "tenacious incorporation, step by step, of a supplementary degree of compassion and generosity in all of our codes."

Even if the task remains "difficult and interminable," it is our responsibility to undertake it in order to acknowledge the dignity that human beings should be accorded.

"Human Dignity" As a Basis for Justice As Equality

There can be no justice without concern for the human being, or even without an "idealized value (…) of the human being."[1]

The concept of human dignity, mentioned by the biblical prophets, was first formulated by Pico della Mirandola during the Renaissance. It was then vigorously defended by Kant, who believed that all individuals should be treated equally simply because they belong to the human race. Equality was becoming a criterion for justice.

"Human dignity" went through many forms before becoming a key value in the Universal Declaration of Human Rights of 1948, the writers of which were still living with the shock of World War II's horrors. Their intent was to protect people against an arbitrary government.

Once the UN General Assembly had given water the status of a human right in 2010, the concept of human dignity was updated to encompass not only rights and freedoms, such as freedom of conscience, but also the real-world consideration of a decent life: quenching one's thirst and enjoying the benefits of good hygiene.

How is a life with dignity defined? Can we accept the fact that Americans consume a thousand liters of water per day while others elsewhere scarcely have access to the basic minimum of twenty-five liters per day? Or does the concept of human dignity depend on context, to the great detriment of a kind of justice that has equality as a criterion?

Let us attempt to get beyond this dead end by exploring a third value, capabilities.

Capabilities As a Basis for Justice as Freedom

The capabilities concept was introduced some years ago by Amartya Sen, the 1998 Nobel laureate in economics.

It allows us to consider that two individuals with access to the same resource, a condition called "formal freedom," will not have the same "real freedom" of converting it into well-being or action. For example, a disabled person will be able to do much less than a non-disabled person, because he or she will have to spend more to achieve equivalent mobility.

In terms of potable water, this new approach to freedom seems to me to be relevant, as illustrated by the case of a village in sub-Saharan Africa. Having been made aware of the water problem, members of the village assembly decided to sell a few head of livestock to buy water pumps. This strategic choice created a new "capability" for women, who had previously had to bring water to their homes from several kilometers away. The pumps freed up time for other pursuits, for example, devoting more time to teaching the children, or taking training that could help them get a job.

As we can see, capabilities have two essential characteristics. First, they convert expertise or income into accomplishments ("functionings," such as educating the children in the above example, or income). Second, the capabilities approach is directly concerned with the human beings, especially by personally involving them in the issue of access to water, thus giving them a chance to independently set their own priorities.

Conclusion

Would it be better to focus on solicitude, equality, or freedom in trying to best meet the bewildering challenges that fresh water and potable water present today? In my opinion, these three key concepts are essential, but must not become divisive. While equality was given priority in human rights doctrine following the atrocities of the Second World War, we should open a discussion with Eastern thinkers such as Amartya Sen, who seem to favor freedom. Meanwhile I think, along with Paul Ricoeur, that it is absolutely necessary to once again make a place for solicitude and love, especially through the Golden Rule.

In this way, we could lay the foundations for a kind of global justice worthy of the name. At least, that is the prudential path that I suggest for a new ethic of water as a vital need.

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[1] Bioy Xavier. "La dignité: questions de principes" [Dignity: Questions on principles], in: *Justice, éthique et dignité. Textes réunis par Simone Gaboriau et Hélène Pauliat* [Justice, ethics, and dignity: Texts collected by Simone Gaboriau and Hélène Pauliat], Ed. Pullim, Limoges, 2006, p. 59, citing Mourgeon, Jacques.

Water, Vital Need and Global Justice: A Legal Perspective

Professor L. Boisson de Chazournes, Platform for International Water Law, http://www.unige.ch/droit/eau/index.html

In 2010, both the United Nations General Assembly and the Human Rights Council noted the need to recognize and protect the right of access to potable water and sanitation. Though the reasons for which each resolution was adopted may have differed, the stated objective was to provide every human being with access to potable water and a sanitation system.

The fact that the General Assembly and the Human Rights Council passed these resolutions sent a powerful political message about the importance of this right. Certain of its legal components are acknowledged by some international instruments and implicit in others. For example, according to the comment on the right to water in the International Covenant on Economic, Social, and Cultural Rights, this right ensues from the right to a decent living. The UN resolutions mentioned above made it possible to take a political inventory of the situation while helping to give this right a place of its own on the international agenda. The work done by the Human Rights Council's Special Rapporteur on Human Rights helped refine its content and reveal the gaping holes in the international community's responsibility with respect to sanitation and the inequalities that prevail.

Promoting the right to water in international human rights law helps shape an egalitarian discourse about access to water. Governments are reminded of their responsibility to meet this goal. They are obligated to respect the law and to ascertain that non-governmental entities under their jurisdiction or supervision also respect it. Consequently, private and public entities responsible for distributing water are subject to the provisions of this law, and more specifically to the requirement that associated services be furnished to everyone under decent social and legal conditions.

Access, quality, availability, and affordable cost are among the conditions for implementing the right to water. Sufficient water must be available to each individual to meet his or her personal needs. The quality must be such that it does not endanger the recipient's health, and the means of supply must be accessible. The cost of facilities needed to implement the right and furnish service must not be prohibitive. In fact, the cost should be reasonable in view of the relevant population's resources.

Governments are obligated to ensure everyone access to water without excluding groups that are marginalized for social, economic, or cultural reasons. Indeed, implementation of this right must meet the requirements of the principle of equality and non-discrimination, which demands that implementation be by means of proactive strategies aiming to fulfill the rights of disadvantaged and vulnerable populations. In this respect, promotion of the right to water complements the Millennium Development Goal concerning water and sanitation by calling for a non-discriminatory approach to meeting this goal.

At the international level, policies on development, aid, and cooperation cannot be dissociated from these ambitions. Lack of access to water and sanitation is often tied to questions of poverty and social or political organization. Where public assistance and development are concerned, promotion of the rule of law should guide normative, institutional, and operational activities in the area of water and sanitation access. In this regard, achievement of the Millennium Development Goals will benefit from the promotion of human rights, and human rights will benefit from the momentum imparted by the UN General Assembly in 2000 to meet the 2015 goals.

Human rights bring justice at both the national and international levels. They ought to inspire national and international action in this area and serve as parameters for evaluating its merits. National laws that apply to public and private operators must meet these standards, especially where universal access to water is concerned, including access for the most vulnerable people. Aside from their cooperative and aid efforts, international organizations use their various activities to help reinforce the content of the right to water and sanitation through the adoption of quality standards, by ensuring that vital aquatic ecosystems are protected as water sources and that operations do not hinder implementation of the right to potable water and sanitation.

Water, Vital Need and Global Justice: Economic Perspective

Right to Food and Right to Water: Are They the Same Challenge?

Christian Häberli, PhD, Senior Research Fellow, NCCR Trade Regulation World Trade Institute (WTI)

My research at the WTI focuses on trade and investment rules relevant for food security. Together with you I would like to explore the parallels between the regulations applicable to the Right to Food and the Right to Water which both have been enshrined in national and international human rights law.

In a chapter for a book on poverty and trade, entitled "God, the WTO and Hunger," I show the fragmentation existing between human rights and economic treaty law. I start with an analysis of three monotheistic religions, Judaism, the Christian religion, and Islam. All originated between the large river systems of Mesopotamia and Egypt, in a region forever focused on access to water, and where hunger was a well-known phenomenon and cause for migration and exodus.

The common element in all three theologies is the notion of distributive justice. Not in a simple sense of charity but as an inherent obligation for all members of the compact, of the ecclesia, or of the Dar al Islam: almsgiving for Jews and Christians, or zakat based on the Islamic law sharia is an obligation beyond charity, directly derived from God's love for the people and his commandment to love one's neighbor.

Interestingly, the world's very first constitutions (Ukraine 1710, Preussisches Landrecht 1794) recognize social rights and obligations on precisely the same premises. This then goes on until today, with the new Constitution of Kenya recognizing the Right to Food, or the Constitution of Cambodia recognizing traditional, communal land rights including access to water.

In the UN system, in respect of poverty and hunger, we now have the International Covenant on Economic, Social and Cultural Rights (ICESCR) which entered into force in 1976 and which finds its roots in the 1948 Universal Declaration of Human Rights. Article 11/2 reads as follows:

"The States Parties to the present Covenant, recognizing the fundamental right of everyone to be free from hunger, shall take, individually and through international co-operation, the measures, including specific programs, which are needed to improve methods of production, conservation and distribution of food [in order] to ensure an equitable distribution of world food supplies in relation to need."[2]

Professor Boisson de Chazournes has just shown us the corresponding UN treaty law for water. Is it the same? At least on the face of it, yes. First, though, let us look at how these noble goals and words translate into international economic law.

I will address, first, the rules for trade and, secondly, for investment applying to hunger and food and then return to water. I think you will easily see how close we are to water, and where the differences lie.

For trade, I will start with the WTO.

The objective of the WTO Agreement on Agriculture (AoA), according to its preamble, is 'to establish a fair and market-oriented agricultural trading system', where 'commitments under the reform program should be made in an equitable way among all Members, having regard to non-trade concerns, including food security and the need to protect the environment.' The Doha Round negotiating mandate has the same objectives (Häberli 2012).

For the first time in history world agricultural trade is now regulated in basically three disciplines (the so-called "pillars" of the AoA): (i) all production support measures with a price support effect are limited, (ii) historic amounts and volumes of export subsidies have been reduced and new ones are prohibited, and (iii) all border protection measures must now consist in tariffs only; these tariffs were somewhat reduced and can no longer be freely increased.

The problem now is, while both export and domestic subsidies were (somewhat) reduced, other competition-distorting instruments remain largely unregulated, in particular international food aid, export credits, state trading in exports and export restrictions. These policy instruments have an obvious bearing on the famous 'level-playing field' by which an optimal level of global food security could be achieved. When the food crisis occurred, many commodity markets were shut off, without developing countries being able to buy their food import requirements on the world market. Rich countries did not face such problems. By reducing their applied import tariffs they were able to import food and feed at affordable prices and without hurting their own producers.

[2] Adopted by UN General Assembly resolution 2200A (XXI) of December 16, 1966; entry into force January 3, 1976 (emphasis added).

For investment, the dichotomy between human rights and economic law is even bigger. Distributive justice seems to be even more remote here than for trade rules. WTO offers no investment disciplines in a food security context. The relevant, mostly bilateral investment treaties protect even investors who violate human rights and environmental norms and who can benefit from the over-protection and under-regulation provided for in these agreements. This is a shocking case of rules fragmentation, because neither the home nor the host governments can have an interest in so-called "land grab" investment projects. A valid argument could perhaps be made here in favor of "public interest" protection under these treaties.

Overall it appears that present international trade and investment rules are ill-suited to address food trade issues which have a negative impact at the national and household levels. These shortcomings can be said to violate the right to food laid down in human rights treaties. What is clear, however, is that we are in presence of a job half-done—and one, for that matter, which even the results envisaged in the now dead Doha Round negotiations would not really have improved! Actually, some significant loopholes could be getting even bigger, impairing both global and national food security especially in times of high food prices.

A way forward

Possible trade and development-related solutions would ideally be forthcoming in a package of coordinated measures. I see four such measures which together would fulfil the obligation of the international community laid down in the human rights treaties.

1. Poor developing countries must retain policy space for at least temporary protection of fragile agricultural producers. Regional trade agreements may in any case leave them eventually with few options in terms of effective border protection.
2. The absence of new disciplines in export restrictions and export competition, including especially food aid, are the most blatant threats to food security. These problems must be addressed in the WTO. As a minimum, the November 2011 G20 decision to exempt food aid supplies from export restrictions should have been made mandatory without delay.
3. International finance institutions need to review their investment policies and lending priorities, including for their research and development programs.
4. The same goes for the bilateral investment treaties, at least in respect of agricultural land acquisitions in vulnerable countries.

In conclusion, and to open the discussion, let me ask you what all this means for water?

The main parallel, I believe, is the fragmentation between what I call the over-protection and under-regulation of FDI in food and water. Economic law allows "to do harm," something which human rights provisions explicitly forbid. John Ruggie, the Special Representative of the UN Secretary-General on business and human rights and transnational corporations (TNC) and other business enterprises, developed a tripartite framework on business and human rights including (i) the state's duty to protect, (ii) the TNC's *responsibility to respect,* and (iii) *appropriate remedies* for human rights violations.[3] He pointed out that one social norm "has acquired near-universal recognition by all stakeholders, namely the corporate responsibility to respect human rights, or, put simply, not to infringe on the rights of others".

[3] See http://www.business-humanrights.org/SpecialRepPortal/Home (accessed January 5, 2012).

The main difference, as I see it, is that an even greater share of responsibility and "distributive justice" than for food lies at the national level. Food which is traded across borders much more than water—and as you know it even includes impressive amounts of "virtual water" (e.g. coffee from Ethiopia contains 150 liters for a cup: an issue of access, and allocation). On the other hand the question of water allocation, including for irrigation, is at the national level. This works more or less well everywhere. The teachings of the Old Testament have been mentioned. As the lawyers here know it has also been the object of numerous Roman Law provisions, and of disputes throughout the Middle Ages.

Today, it is an especially burning issue in so-called weak states.

Water never flowed freely and it flows even less free in times of globalization and in situations of extreme poverty where water prices are highest![4]

WTO and other trade agreements have improved the opportunities for efficient agricultural producers, however they have not even addressed the Right to Water. There are no commitments under the Services part of market access negotiations (GATS).

This is where I think research and policy at the national and international levels is most urgently needed. The international human rights obligations all of our governments have subscribed to in New York must guide this search for solutions. All stakeholders must join this interrogation. We all must contribute here.

[4] A very recent and very shocking report says more Indians have a cell phone than access to a latrine. An even more shocking fact is not that the citizens of Israel use more water than the Swiss, but that they have four times more than the Palestinians in the same area.

Water, Vital Need and Global Justice: Theological Perspective

Valuing Water: Theology, Ethics and Catholic Social Teaching

Christiana Peppard, PhD, Assistant Professor of Theology & Science Fordham University, New York, NY

What is water?

This basic question is a foundation of today's colloquium. We can conjure many senses of fresh water: H O, for example, or commercialized bottles of water; the meteorological images of hurricane or rain; a little girl playing in puddles with an umbrella; a mother, bent over a dirty stream, collecting water for her family while carrying her young child on her back.

Water is full of relationships. Water means many things. Water mediates many things.

Recently, water has been in the news:

- It was announced that one part of MDG 7c—"to reduce by half the number of people without access to safe water and sanitation"—had been achieved ahead of schedule. There are important critiques of this statement, including the fact that this statistic includes industrialized nations, for example, and primarily urban but not rural areas; and the "achievement" does not mean that water and sanitation have been universally achieved! (Or, in the timely words of the Catholic Church's Pontifical Council for Justice and Peace, "it should be kept in mind that the figures regarding such access usually put forth in international venues do not reflect the complexity of the phenomenon. The geographic distribution of the people still in need of adequate access to water makes the solution to the problems even more difficult.")
- The 6th World Water Forum (F) occurred from March 12-17, 2012, in Marseilles, France, with the theme of "solutions."
- The Alternative World Water Forum (FAME) also occurred in Marseilles as a protest against the corporate governance models emphasized in the WWF, with the motto, "l'eau, source de vie, pas de profit", http:/www.fame2012.org/fr/.

Among these discourses, there is always the question of justice: for humanity, for the environment, for the present and for the future. This is not merely a question of water's importance for us today, or next week, or next year. This question is the question, our question, today and for the coming century. And it is extremely complex: it will be the most complex question that our world has yet discovered.

Why? Because water is, precisely, a vital need. In my research, I argue that water is morally significant because it is sine qua non and sui generis, and simultaneously universal and contextual.

- *Sine qua non*: Fresh water has played a role—and continues to play a role—in the evolution of life on earth. It is a baseline requirement (i.e., *sine qua non*) for human, societal, and ecosystem existence. The availability of fresh water undergirds every kind of human activity, from bodily existence to agriculture and industry.
- *Sui generis*: Fresh water is non-substitutable. There is no replacement that can be found for fresh water.

These two features—*sine qua non* and *sui generis*—are universally true. Yet they are also contextually mediated. That is, the availability of fresh water is shaped by many factors, ranging from geography and hydrography to technology, social status, culture, gender, infrastructure and political economy. These variables matter. In fact, they prevent us from identifying any easy, universal approaches to the problem of fresh water. Put simply: there is no "one size fits all" solution.

How ought we to approach the question of "l'eau, besoin vital et justice globale" in such a situation? I suggest one theological and ethical approach from "Catholic social teaching". Of course, I know that we are in Geneva, home of John Calvin! In addition, I know that the Catholic Church has its problems. In this instance, however, there are also very important theological and ethical contributions to consider.

Every third year beginning in 2003, the Pontifical Council for Justice and Peace has issued a letter to the World Water Forum. (The most recent one was released in March 2012 at the start of the WWF in Marseilles.) Together, these four letters indicate the significance of water from a Catholic perspective. I would like to highlight six important principles in these letters.

1. Integral Development

The aim of development efforts should not be only economic. Development must encompass the whole person, in all her aspects. This includes her bodily well-being; her economic opportunities; her environment; her spiritual well-being; her social and political opportunities; her educational opportunities.

2. Goods of Creation Meant for the Benefit of All

Fresh water is a "good of creation" that is meant for the benefit of all. This means that it must be shared equitably around the world, and it must be preserved for future generations. By extension fresh water cannot be treated primarily or exclusively as a commodity; it cannot be controlled for the benefit of a few at the expense of many.

3. Preferential Option for the Poor

People living in poverty are the first to suffer when fresh water becomes expensive or unavailable. For this reason, there is a "preferential option for the poor," which requires us to make sure that the least among us are provided with sufficient, clean fresh water.

4. Human Right to Water

Access to clean, fresh water is a fundamental human right. It is even a "right to life" issue in the view of the Catholic Church. Therefore, fresh water should be considered a public good, over any possible designation as an economic good. (The Catholic Church staunchly supports the Right to Water and Sanitation codified by the U.N. General Assembly in 2010.) Yet the private sector has its role to play.[5]

5. Ambiguity of Technology

Human innovation is important. However, technology will not save us from fresh water crises. Technological innovation is one aspect of possible solutions to fresh water problems. It must always be used prudently, in the service of an ethical vision of justice in access to fresh water.

6. Culture of Water

We must realize how vital water is, for every aspect of life. We must adopt a "culture of water" that recognizes this.

What is water? What is the value of water? How do we understand "justice" in light of fresh water as a vital need—one that is sine qua non and sui generis, universal and contextual? I suggest that there is wisdom in these principles drawn from Catholic social teaching, and we would do well to take them seriously in an era of economic globalization.

[5] With the understanding that the public authority reserves for itself the normative and oversight function (…), the authority must, through *ad hoc legislation,* guarantee that water's use by everyone be preserved, "devoting special attention to society's most vulnerable sectors. Private participants play an essential role in implementing the development of natural resources and managing them, and they must also not be excluded in principle […] from water distribution services that meet the requirements of a common good."

Morning Discussions

Summarized by L.-I. Stahl Gretsch, W4W member

Two points made by **F. Dermange**:

- Concerning the issue of global justice with respect to universal justice: water's challenges call 1648 and national sovereignty into question, since national and international justice are based on different things.
- When we differentiate between water uses (agricultural, potable, sanitation, etc.), is it all the same water and therefore the same rights?

A member of the audience added to this by mentioning States' responsibility to their citizens. This exchange ended with a remark concerning the difference between a State as a guarantor of rights and ultraliberalism, which attacks State sovereignty.

E. Fiechter-Widemann came back to the issue of water uses. When water is a vital need, it is a human right, so the State must ensure that everyone receives the minimum. For other uses-luxury uses, for example-water becomes an economic good and is no longer a human right.

Concerning the uses of water, L. Boisson de Chazournes added that ethics goes beyond the question of supply and demand, and must concern itself with, for example, the issue of protecting the biodiversity of wetlands (recent wake-up call), which leads to the sustainable development aspect. So, taking our cue from J. Attali, we must rethink international governance in order to guarantee justice and allow everyone access to water, because there is a great deal of inefficiency.

Liberalism influences the exercise of State sovereignty. The way water is being managed is unsatisfactory. Governments strongly resist thinking about these issues in a universal context. Policy leans toward regional and watershed-based approaches (as with the Mekong River).

We need to think generally about the water cycle as a whole (water sources are connected to each other), and there are no legal instruments for managing this.

Ch. Häberli made some comments about the relationship between consumption and sustainable development. Switzerland may be Europe's water tower, but it imports a large amount of fodder and meat. So, according to the WTO, this would be a quid pro quo situation that would have an impact on sovereignty.

Do we have public goods, and if so, what are they? It would be up to the State to protect them. According to the Nestlé model, the minimum is free and the rest becomes a marketable good. Yet what are we to think of aquifer degradation (due mainly to overconsumption) and the monopolization of international watercourses?

E. de Lutzel reminded everyone that the vital point is the removal of wastewater, which generates bacterial pollution, and that 2.5 billion people do not have access to this.

Question by J. Zwahlen concerning the geostrategic idea of water: what attitude is shown by the great powers who monopolize water for national purposes? What are the reactions to national resolutions (for example, China and the Mekong or Sudan and the Nile)? Water has become a geostrategic factor.

L. Boisson de Chazournes responded that wastewater is a crucial issue and an enormous problem that must be solved first.

The logic of human rights focuses on the individual (the water he or she needs to survive). How can watercourse management be coordinated with human rights? What they have in common is that 40% of the world's population lives near watercourses.

So governments are responsible for what they do with their available water-responsible to their own people and to neighboring populations. A great deal of work needs to be done in this emerging area. Attempts have been made to set up rules, but as yet none is specific enough.

M. Veuthey stressed how vulnerable our access to water is, being highly dependent on electricity (you can't have one without the other).

Ch. Häberli replied that the same is true for electricity, water, and petroleum. No one spontaneously agrees to give them up: rules have to be made. Liberalization of water-related services helps reduce waste. Countries have not gotten the WHO involved in this, although doing so would serve the greater good.

C. von Gunten commented on two points:

- the role of the religious in better incorporation of ethical questions in the forums
- the capabilities concept for collective adaptation to change.

E. de Lutzel emphasized the distance between the principle and reality, for example with regard to the preferential option for the poor (who in reality pay five to ten times more for water than the rich).

Taking this further, J. Zwahlen wondered why the Catholic church does not use its own rules to reprimand.

Ch. Peppard answered that there is a baseline: each person should have access to water at an acceptable cost (maximum 10% of income). What if there is no income? She quoted Mark Twain, "Water flows uphill towards money." The value of water is not solely economic. Political and economic issues go beyond the individual.

E. Fiechter-Widemann noted that capabilities do not apply to individuals alone, but also to communities. Communities must become aware of water's value. When one does, it will find its own way to confront the issues and find solutions that work for it.

B. Girardin offered a challenge by asking whether they would not suffer from the lack of a market. He gave the example of wealthy neighborhoods that were equipped using public funds, and when the poor asked for the same treatment, they were told that the market would have to meet their demand.

M.-L. Sturm asked whether the market is really the best principle for managing water distribution (with for example 20 liters guaranteed, then additional amounts having to be paid for). What should we think about countries that sell pollution rights to survive? Should water be a good sold for profit?

F. Dermange came back to the position of the Catholic Church, which does not want to quantify. There is a right to survival, but is there also a right to development? People have a right to live and develop economically.

L. Boisson de Chazournes commented that only about 7% of the world's water concessions are private, the rest involve public entities. So we need to focus on the State's sovereign powers and clearly bring out the balance between rights and responsibilities.

Ch. Häberli brought up the market again. It is a choice by society (one can choose pollution). Public goods (which the economy cannot supply) must be distinguished from private goods, which can be used to make a profit.

The problem arises from abuses and when we call one thing the other. If water management is to be left in private hands, then responsible concessions must be developed, with terms and conditions as well as time limits.

He came back to development law and made a distinction between individual law and community law, which does not currently exist (and falls more under charity). To set it up, one could devise a world "balancing out" tax or auction off development aid…

Ch. Peppard spoke about the form of international financial institutions such as the WTO and their highly protectionist vision. Moreover, she reminded everyone that profit is what drives the economic system. What profit? Who sets the limits when it comes to water?

V. Ruffy wondered whether private companies manage water as well as public authorities, and cited examples from France and Great Britain, cases in which the government took back water management. If there is a profit, to whom should it be repaid-to the users, or to the stockholders? Who keeps track of the services that have set up the water system?

Ch. Häberli replied that the changeover to private companies is not relevant for countries that would have a choice, but it is for those that would not, which would have to proceed via invitations to tender.

Photos

Speakers: Ch. Peppard, Ch. Häberli and L. Boisson de Chazournes

In the first row, from left to right: J. Zwahlen, J. Barras, A. Petitpierre-Sauvain, G. Petitpierre, F. Dorsaz, F. Dermange and L. Boisson de Chazournes

In the center: A.-M. Pavalache and Ch. Häberli

L. Boisson de Chazournes and B. Girardin

C. Sommaruga, G. Petitpierre and A. Petitpierre-Sauvain

From left to right: E. Fiechter-Widemann, N. Georges, L. El Bachiri, V. Evola, R. de Watteville and F. Schwab

Governance for Water in Light of the Sixth World Water Forum

Aline Baillat, PhD, WaterLex

The Sixth World Water Forum was held in Marseilles from March 12-17, 2012. For the first time in its history, the forum was truly open to civil society organizations, which were represented on most of the panels. WaterLex, an international NGO created in 2010 to promote better governance for water by adopting a human-rights-based approach, was able to take part in both the preparations for this forum and the sessions. In our presentation for the March 2012 Workshop for Water, after recalling the origins of the World Water Forum and discussing its legitimacy as an authority for global governance, we stressed that opening the forum to civil society (at various access points) represented a major advance. We then attempted to give an initial assessment.

The World Water Council (C), based in Marseilles, was created in 1996 through a private initiative. It is an NGO accredited by the UN's ECOSOC. It comprises 300 entities representing sixty countries that are grouped into five "colleges" within the WWC: intergovernmental institutions, governments and government authorities, enterprises and facilities, civil society organizations and water user associations, and professional associations and academic institutions. Its President is Loïc Fauchon, who is also the CEO of Groupe des Eaux in Marseilles, a subsidiary of Veolia (50%) and Suez (50%). The WWC has held the World Water Forum every three years since 1997.

Civil society's participation in the forum was a great innovation. There were three points of access: the political process (comments on the draft of the ministerial declaration, support for the "Blue Group"); the process for the topical sessions (gathering of good practices, especially for the sessions on Target 1 "guarantee universal access to water," and some sessions on good governance); and civil society processes (sessions organized entirely by civil society: messages about the "butterfly effect," discussed and developed at two sessions on human-rights-based governance for water).

The Forum's ambition was to be the "forum of solutions." Today, the 1500 solution initiatives are accessible on the website's "solutions for water platform," which above all lists technical achievements that unfortunately may not be easily reproducible and applicable on a large scale without adopting restrictive legal standards (which exceeds the scope of the forum). Furthermore, by neglecting to refer to various international legal instruments such as the UN Convention of 1997 or the Hyogo Framework for Action, the ministerial declaration does not place itself within an international legal context. This clearly illustrates the need for an institution or mechanism that would make an intersectoral approach to water governance possible on an international scale. Water governance issues could be decided in a more legitimate and certainly in a less restrictive way within a new World Environmental Organization that would be the WTO's counterpart. This topic was to have been discussed at the next Conference on Sustainable Development for Rio+20.

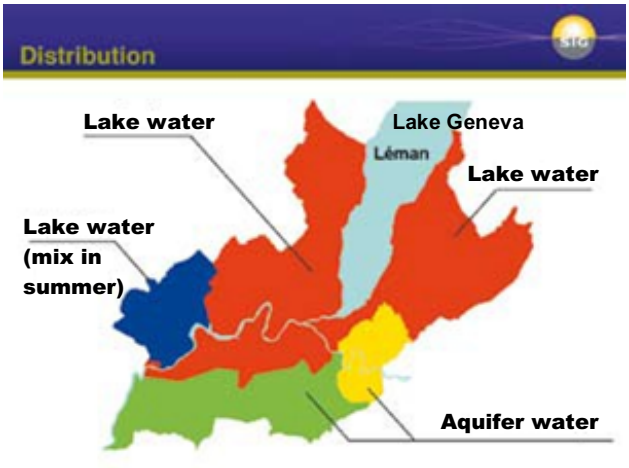
Potable Water in Geneva

Summary of a PowerPoint Presentation by

Dr. Stéphan Ramseier, Scientific Advisor, Services Industriels de Genève Environmental Office

Mission of the Water Supplier

The mission is to supply Geneva's population and economy with potable water[6] in sufficient quantity, at adequate pressure, of impeccable quality, and at a reasonable price[7] while respecting the environment.



SIG has two resources for achieving this objective: Lake Geneva, which supplies 80% of the water distributed, and a deep aquifer for the remaining 20%. The water from the aquifer is of excellent quality and requires no treatment, but because the water from Lake Geneva is in direct contact with the outside environment (human activities, weather events), it must undergo a complex treatment process to make potable water that fully meets the law's strict requirements at all times.

Complex Treatment

The treatment procedure consists of removing large matter (in suspension) through sand filtration, which at the same time eliminates finer colloidal substances by causing them to aggregate (coagulation) into larger particles by means of flocculating salts.

Ozone (activated oxygen) treatment then thoroughly disinfects the water by eradicating pathogens (bacteria, viruses) and inactivates undesirable substances dissolved in the water (via oxidation).

The next step uses the phenomenon of adsorption to remove all dissolved foreign substances (pollutants, various types of organic matter) as the water percolates through beds of activated charcoal. Finally, a disinfectant is added to ensure that water quality remains optimal all the way to consumers' taps.

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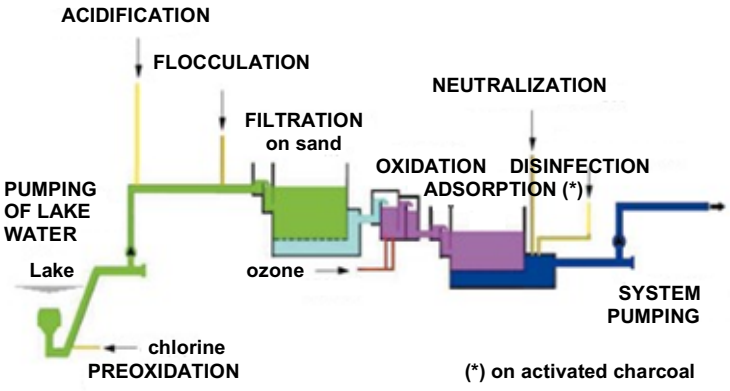
[6] Federal Department of Home Affairs order concerning potable, spring, and mineral water. Art. 2: "Potable water means water which, in its natural state or following a microbiological, chemical, and physical standpoint."

[7] The total average cost per person per day in Geneva in 2012 was on the order of 3.50 francs. The cost breakdown includes a monthly flow charge, a consumption charge assessed per m^3, the purification tax, and associated VATs.



A Priceless Legacy for Future Generations

Lake Geneva may appear to be an "inexhaustible" source of water. However, if we could reduce the lake's size (75 km long) to the dimensions of a conventional bathtub (1.5 m long), we would see that the average depth of the water in our bathtub would be only 3 mm (150 m x 1.5/75,000) and the maximum depth would be 6 mm! At that point, we might reconsider and see the lake as being more like a puddle than a giant bathtub. This virtual representation increases our appreciation of this resource's value and ought to make us more responsible when it comes to conserving this priceless legacy for future generations.

Price of Water	Francs
Monthly flow charge	14.21 per m^3/hour
Price for potable water used	1.29 per m^3
Purification tax	1.70 per m^3
Total average price of water	X.x per m^3

2012 rates for water supply in Geneva (VAT: 2.5% for storm-water, 7.6% for wastewater)

The Right to Water: What Solutions, Whose Action?

Emmanuel de Lutzel, head of microfinance for the BNP Paribas group, speaking in a personal capacity

Introduction

What can a banker specializing in microfinance contribute to this interdisciplinary colloquium on access to water throughout the world? Well, first, this topic is related to microfinance insofar as it concerns the world's four billion poor people who currently live at the "bottom of the pyramid" (BoP). Second, financing is a prerequisite for the access to water that will make this right a reality.

Not being a legal scholar, ethicist, or water specialist, I will rely heavily on the Hystra consulting company's report of December 2011. Written jointly by a consortium consisting of Veolia, Suez, the French development agency Agence Française de Développement, Aqua for All (Dutch water sector) and the Children's Investment Fund Foundation (British), this document is based on an initial report by the Swiss Agency for Development and estimates that an investment of 6 billion dollars would make it possible to reach one billion of the two billion people who have no access to potable water, and to reduce mortality from polluted water by on the order of 300,000 deaths per year. 6 billion dollars is a relatively modest amount, since only about one-third of it, or less than 2% of the annual budget for public development aid, would have to consist of subsidies or gifts. The remaining 4 billion dollars would be financed by loans or investments in equity capital.

After analyzing the various existing technical solutions, we will allude to the main agents of change who might drive effective implementation of the right to water.

A Range of Technical Solutions

There is not one single solution, but rather a range of technical solutions that would provide access to potable water for the two billion poor people at the bottom of the pyramid. They vary depending on the quality of the untreated water and on population density. Innovative solutions exist in both the macro (infrastructure) and micro (village or household level) domains.

- Pumping systems: For 570 million to 650 million people living in rural areas with low levels of pollution, such systems are among the most economically effective solutions, but this assumes ongoing maintenance. In fact, more than a third of the 800,000 pumps installed in Africa are no longer in working order. The investment for a pumping system ranges from 30 to 40 thousand dollars.

- Filters and tablets: For 740 million to 830 million people living in rural areas where the water is moderately polluted, household filters or bottles with chlorine tables are suitable. Basic filters cost from 20 to 40 dollars for equipment that lasts two years on average. In this case, two factors are essential to success: educating the public about the importance to health of treating drinking water, and the existence of a product distribution network. We can build on Unilever's experiences in India and those of NGOs in Africa and Asia.

- Mini-plants: For 44 million to 52 million people living in metropolitan areas or on the urban fringes, small treatment plants (commonly called water kiosks)-often using reverse osmosis technology-supply water in quantity at the kiosk or in bottles at the residence. The investment for a mini-plant comes to about 3 thousand dollars. Several promising experiments with this kind of social business are underway in India (Naandi, Sarvajal).

- Mini-systems: For 410 million to 480 million people living in metropolitan areas or on the urban fringes in neighborhoods not currently covered by public water services, small decentralized systems (managed by local entrepreneurs) can be a solution. Up to 500,000 people can be served for an investment on the order of 8 to 10 million dollars. Examples are Balibago and IWADCO in the Philippines.

- Public urban systems: Expanding and improving the public water system is also an alternative for these same urban populations. Both public and private operators have had some success in this area (investments of several hundred million dollars). These developments frequently make use of cross-subsidization (wealthier areas are often assessed a surtax to fund investment and cover shantytowns). Examples: Veolia in Morocco and Suez Environnement in Jakarta.

Who Are the Agents of Change?

Traditional providers of development aid, for example the World Bank, regional development banks, and national development agencies, are naturally a driving force. Here I will focus more on innovators working in this sector, which to date has been dominated by large financial or corporate entities.

- Traditional or social business: Many of the solutions mentioned can be run as social businesses. The goal of such an enterprise is not to maximize profit, but to try to make a social difference. We must distinguish between two types of actors: (1) local operators (for example, water kiosk operators or filter manufacturers), which must be for-profit businesses if they are to attract entrepreneurs capable of taking the risks; and (2) the organizations responsible for developing networks of these operators (by providing them with technology, financing, training, etc.), which can only be social businesses.

- Microfinance: Microfinancing institutions can finance connection to the system (about 200 dollars) and local entrepreneurs (for up to a few thousand dollars). They can also be associated with equipment distribution (filters, tablets) and customer education efforts. This kind of diversification assumes a suitably adapted business model and a staff dedicated to this type of products.

- Impact investing: This type of specialized fund has been developing over the past decade. It seeks a moderate yield and maximization of social impact. About 200 of these funds exist in the world, half in microfinance, which manage over 10 billion dollars in assets. This sector is in a strong growth phase due to heavy demand from private clients. Geneva is a world hotspot for impact investing, which could reach a level of over 500 billion dollars in the next ten years according to estimates in a 2010 report by JP Morgan. However, this figure is based on an estimate of financing needs, and assumes the existence of the necessary entrepreneurs. The difficulty experienced by existing funds when it comes to identifying projects worth financing shows that this assumption is far from being confirmed.

- Philanthropy: Here we are not talking about emergency aid (for example, reconstruction in Haiti), but about programs structured for the long term, especially for financing field studies and the massive social marketing campaigns (on the order of 1 dollar per person) needed to create a real demand, as well as health education.

- Large companies: Companies such as Veolia and Suez Environnement have started experimental projects-Veolia with the Grameen group in Bangladesh, and Suez in Indonesia. Such programs are part of the company's corporate social responsibility efforts, while still keeping to its core areas of business. Even though they make up only a tiny fraction of the companies' activities, we should welcome this trend of working with social entrepreneurs to experiment with innovative models. Hystra's report recommends the creation of a BoP Utility with hybrid (private/public) capital, to be used to develop mini-systems that might present an additional opportunity for large companies in the sector.

- Local communities: An African proverb says that the hand that gives should not be above the hand that takes. Development aid projects have often suffered from not being rooted in the local communities. Major players such as Suez and Veolia have understood this, and called upon anthropologists, not solely technical and financial experts, to ensure that they will be supported by the relevant communities.

Concluding Remarks

Free access to water falls within the realm of a Platonic utopia. As you accurately commented at the previous colloquium, water has a cost. We must leave Plato's cave and enter Aristotle's world, or that of Leibniz, "the best of all possible worlds." The question is, who should bear the cost and what is a fair price. Must we make users in wealthier areas pay so that we can give water to the poor? Should the government subsidize the rates? What if the government has no allocated budget and is being monitored by the IMF?

So this is not a choice between good and evil (with free water being good and paid water being evil), but between a lesser evil (paid water but at a low cost) and a greater one (seeing one's child die of dysentery, paying for expensive medications, buying bottled water for 1 Euro per liter).

The ethical debates over water are akin to the discussions that have been going on in the world of microfinance for the past four centuries. After the first institutional pawnshops were created in Italy in 1462, a fifty-year debate ensued in the Church, pitting the Dominicans against the Franciscans over the question as to whether such enterprises could legitimately lend to the poor with interest. In 1515, the Lateran Council and Pope Leo X decided the issue: making the poor pay interest was legitimate, but the rate must be reasonable.

The discussion about interest rates that has been going on in the world of microfinance for four centuries could enlighten the water sector and help it leave Plato's cave to provide access to water for the greatest possible number of people.

Swiss Fresh Water: From Plan to Reality

A Summary of the PowerPoint Presentation by Renaud de Watteville, Founder of SFW

Last year, R. de Watteville introduced us to the Swiss Fresh Water project. Today, this endeavor is on its way to becoming a reality. A pilot project is underway in Senegal.

The system offered by Swiss Fresh Water is based on desalination by reverse osmosis using simple equipment.

This low-cost, decentralized desalination system relies on two main components:

1. A machine that is appropriate for the end user-
   - it has solar panels and
   - produces potable water at a rate of 90 liters/hour, or up to 2000 liters/day.
2. A local maintenance concept is provided:
   - it is proactive thanks to the use of telemetry,
   - it generates many jobs,
   - the machine is sold with a maintenance contract,
   - the machine is guaranteed as long as maintenance is kept up to date.

This system ensures top-quality water. It eliminates

- bacteria, viruses,
- fluorine, arsenic, heavy metals,
- salts.

The water undergoes laboratory testing to WHO standards

- when the machines leave the factory in Switzerland, and
- before the machines are put in service, by a local laboratory.

So the system has an impact on diseases such as

- diarrhea, cholera,
- fluorosis,
- hypertension, etc.

The system is sustainable, and its cost appropriate.

Today water, often of uncertain quality, is sold locally for,

- in bulk, 2.1 euro cents per liter,
- bagged, 20 euro cents per liter, or
- bottled, about 1 euro per liter.

SFW water is offered at

- 2.1 euro cents for top-quality water.

This price includes

- 1/3 for maintenance,
- 1/3 for rental,
- 1/3 for local wages, that is, a profit center for everyone.

Planned	Today	Tomorrow
50 liters per hour, 1,000 liters per day	90 liters per hour, 2,000 liters per day	
0.7 euro cents per liter (over 10 years)	0.3 euro cents per liter (over 10 years)	
	Team of 10 people	
	2 machines in Senegal since June 2011	The first stage's success has generated strong demand in the Sine Saloum delta region, which has 300,000 inhabitants spread among 397 villages.
	12 machines installed in April 2012 in Djirnda, Maya, Fambine, and Bassoul in Senegal	Potential: 600 machines
	Once depreciated, the machine is donated to the Access To Water Foundation, which will rent it out for maintenance costs only in Sine Saloum's case.	The machine will be rented to villages in two stages. During the first four years, the rent will include depreciation on the machine plus maintenance. From the fifth year on, the rent will decrease by half

Water, Vital Need, and Global Justice: In Search of a Fair Price

A summary of the PowerPoint presentation by

Professor Paul Dembinski, University of Fribourg, Director of the Observatoire de la Finance, www.obsfin.ch

1. The Water "Market" in the United States

- It costs 29 billion dollars to maintain supply infrastructure.
- Sales figures for bottled water: 21 billion dollars, which is a yield of 40-60% in terms of value.
- Volume: 200,000 liters per person per year in the United States (the number for Germany is 50,000, source UNDP, 2006), compared to 120 liters of bottled water.

Potable water is a "paradoxical" good in northern countries, being both a luxury good and one of vital necessity. In the United States, the price of a liter of bottled water is 1700 times greater than that of running water. In Europe the ratio is significantly lower (on the order of 400 times).

2. The Market Price

In prevailing economic thought, the market price is the only "real" price. The issue of justice as such is shrugged off: only the justice of the merchant agreement is recognized. The main idea is that competition will discipline both those who are too greedy and those who are too stingy.

Filtration costs rise as pollution increases.

In the OECD countries, bottled water sales are skyrocketing (rising by 15% per year according to some sources)-price does not seem to be a barrier. The result is an extremely lucrative business, but one for which the numbers are buried in figures for conglomerates (Danone, Nestlé, etc.).

Given this approach, competition regulators will need to make sure that market discipline is operating effectively.

3. The Idea of a Fair Price

Christian tradition has disseminated the concept of "fair price." Price is not strictly a "mechanical" matter, it always has an "ethical" component, even if it is not regulated.

Every transaction implies a responsibility on both the buyer's part and the seller's. Justice is not strictly corrective, it can also have a distributive dimension that can imply price regulation or even a stronger redistributive aspect (taxation).

The medieval idea of justum pretium is that it must ensure each party to the exchange a "life with dignity," and that therefore it must protect the community from fragmenting because some people are denied access to essentials.

4. Toward a Fair Price

Challenges and Problems

- There is a danger that potable water access in cities (quality and quantity) can be manipulated to "force" the purchase of water. Example: have you noticed the faucets in service station restrooms along the freeway and in public buildings? It is impossible to use them to fill a container. This might require a government policy.
- Monitoring of profit levels-a question of market discipline and the effects of competition. The dangers of misdeeds in the area of water branding are not great as long as access to running water remains guaranteed.
- From the standpoint of inequalities in potable water access between northern and southern countries, the search for a fair price, or rather, fair prices, should involve self-taxation by the consumer and producer, even a public tax on bottled water (in the north and south alike). This would be a kind of "solidarity tax" to finance infrastructure for access to running water in developing countries; micro-credit funds that would help set up suitable solutions at the local level (for a "luxury" good a 10% tax should not pose any problems); and the establishment of an agreement among the major players on the world market, which would be very important.
- Get a grip on the danger of financialization of water resources (their conversion into financial assets due to pollution-related costs)

Water, Vital Need and Global Justice

W4W Summary of the Presentation by El Hassan bin Talal, Prince of Jordan, Chairman of the West Asia-North Africa Forum (WANA)

Introduction

El Hassan bin Talal, Prince of Jordan, mentioned that during the last century, the world's population tripled while the demand for water increased sixfold.[8] He stressed that in the Arab world, 300 million people may have to live with only 500 m^3 of water per person per year by 2025. This amount is below the water poverty threshold, which is usually considered to be 1000 m^3 per person per year.

W.I.S.E.

To remind us of the challenges we now face for "water as a vital need," El Hassan bin Talal suggested that we use the four letters of the word "wise" as a mnemonic device, W.I.S.E., as follows.

- W for "Water management and technology." A management system and technology must be put in place to minimize losses and stimulate the flow of surface waters and international sub-basins. The reversible slogan "water for the people and the people for water" applies.

- I for "Imbalance in the population/resources equation." Huge imbalances in the population/resources equation exist in most of this region's lands, which imposes water constraints on the respective societies and leads to a scarcity of native energy resources. A distressing combination of water poverty and energy poverty exists in many of this area's countries, while others enjoy a surplus of both resources.

- S for "Social and economic development," including the distribution of development advantages. Income must increase so that consumers can pay the true cost of water services. The slogan "water for development and development for water" also applies.

- E for "Energy and conservation of the environment." Water and energy are inextricably linked. Energy can be generated from waterfalls and, conversely, potable water can be made from salt water through the use of energy. Water is necessary for a clean environment, and a clean environment is necessary for water. Two more reversible slogans apply here: "water for energy and energy for water," and "water for the environment and the environment for water."

If we are wise, a path to peace may open before us. For that to happen, we must transcend our geographical boundaries and seek to cooperate in order to find a solution in the form of a strategy for the future.

The Helsinki Process

El Hassan bin Talal suggested that such a strategy could be inspired by the 1975 Helsinki process, focusing on "security" areas with "the economy, sciences, technology, and environment," and on "humanitarian areas with their corollaries of information, education, and culture."

Water As a Human Right

Then El Hassan bin Talal recalled the UN General Assembly's 2010 decision to give water the status of a human right. He recalled five arguments that inspired this resolution, as follows.

1. Recognizing a right to water encourages the international community and governments to join forces to ensure that citizens' basic water needs are met.

2. Recognizing a right to water is an invitation to define duties and responsibilities at the national and international levels. UNDP representative Richard Jolly stated "to emphasize the human right of access to drinking water does more than emphasize its importance. It grounds the priority on the bedrock of social and economic rights, it emphasizes the obligations of states parties to ensure access, and it identifies the obligations of states parties to provide support internationally as well as nationally."[9]

3. Recognizing a right to water keeps attention focused on the deplorable state of water management in many parts of the world.

4. Recognizing a right to water makes it possible to focus attention on the need to take action if there are disputes about sharing water, and to resolve such conflicts about sharing by identifying the minimum amount of water that

[8] http://data.iucn.org/dbtw-wpd/edocs/EPLP-051.pdf.
[9] Quoted in Scanlon, John, Cassar, Angela, and Nemes, Noémi, *Water As a Human Right?* (Cambridge: IUCN, 2004), p. 22.

should be allocated to each part of a watershed.

5. Recognizing a right to water allows us to set priorities for water policy. In particular, allocation of minimum water needs should take priority over every management and investment decision made with regard to water.

Water Management and Religion

To a great extent, water management in the United States results from Christian tradition, which has formed the basis for the issue of transboundary resources. This assumption is stated here to help with the comparison between the Judeo-Christian and Islamic viewpoints.

El Hassan bin Talal reminded his listeners that as the moderator of the World Conference of Religions for Peace, he worked with nine families of believers.

Water management is largely a government matter. In the United States, the First Amendment establishes the separation of Church and State: "Congress shall make no law respecting an establishment of religion or prohibiting the free exercise thereof." The Islamic world follows a different path. In Islam, divine law is supreme and the laws of the State reflect it. Some liberal Islamic groups advocate separation of Church and State. This debate may come to play an increasingly important role in the near future.

To understand water management according to Islam, we must refer to the collective work Water Management in Islam,[10] specifically the explanations offered by Naser Faruqui in chapter 1, which is an overview entitled "Islam and Water Management."

1. Water is a social good, a blessing from God that gives and sustains life.
2. Water belongs to the whole community, not to any one individual.
3. The first priority for water use is access to potable water of sufficient quantity and quality to support human life, and every human being has a right to this basic requirement.
4. Animals have second priority and irrigation comes third.
5. Humankind is the steward of water on Earth.
6. Nature (both plants and animals) has a legitimate right to water and it is essential to protect the environment by reducing pollution. Individuals, companies, and governments are responsible for the damage they have caused to both the environment itself and to environmental rights, including water rights.
7. The management and use of water resources must be sustainable.
8. In the final analysis, sustainable and fair water management depends on universal values such as fairness and respect for others.
9. Water is considered a gift from God to the whole community. The arid conditions that prevail in the Islamic world naturally lead to water conservation, which is in fact a central tenet of Islam. Though water belongs to no one, water suppliers' costs must be covered. At the same time, it is up to the governments to ensure a fair relationship between the price and the service.[11]
10. "Custodianship" and "stewardship" express a sense of responsibility for resources such as water. These concepts cover sustainable management of the natural resource and its management using available expertise (to take into account local values and broader communities), for both the present and the future.

In conclusion, El Hassan bin Talal recalled that the fourth WANA forum's theme[12] was identity, and it took as its central focus the concept of HIMA (from Akkadian, a language spoken over five thousand years ago), which is a love for the natural and human environment-a basis for human dignity, for justice for water, and for justice the environment.

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[10] Biswas, Asit K., Faruqui, Naser l., Bino, Murad J., *La gestion de l'eau selon l'islam* [Water Management in Islam], Karthala Ed., 2003, chapter 1.

[11] Water Management in Monotheistic Religions, http://www.ce.utexas. edu/prof/mckinney/ce397/Topics/Religion-Clark.pdf.

[12] WANA: The West Asia-North Africa Forum, which was held on June 1, 2012 in Amman (Jordan)

General Discussion

Summarized by W4W member Christophe Stucki

Following the afternoon's presentations, a lively discussion ensued, led by Professor F. Dermange.

To begin, he posed the question as to whether Nestlé had found the right solution when it proposed 20 liters per day free for everyone, with payment for any consumption beyond that.

Professor P. Dembinski did not answer the question directly but said that today, potable water is practically free in the northern hemisphere. Would a doubling in price be accepted? This would cause difficulties in several sectors of the economy-particularly agriculture and some industries-but there would not be a revolution.

F. Dermange replied that the issue of need does not come up in the north, but in the south. Does the theory seem valid, knowing that a true market does not exist?

P. Dembinski responded that implementing such a solution would amount to imposing a totalitarian system on the world without competition. A regulator would be in charge and set the price. But watch out for the black market.

A. Baillat of WaterLex changed the subject and said that today, 90% of wastewater is not treated. However, given the wealth of recoverable material and potential energy, will there not be a grab for these materials and energy in the future, and consequently an enormous increase in the price of purification?

According to P. Dembinski, there are no signs of such a trend on today's financial markets.

S. Ramseier thought that materials recovery would certainly be very expensive, and therefore of no economic interest for the moment. It would be possible to develop it in the northern parts of the world. However, it would be better to focus on improving purification to eliminate microbes, bacteria, and phosphorus.

Professor A. Petitpierre-Sauvain came back to the term "water market." She asserted that it is ludicrous to speak of it. There simply is none at the global level. There are often limited, captive markets connected to a distribution system that functions poorly or not at all. So how should the price of water be set? Price should be a function of environmental impact with application of the polluter pays principle, taking into account the entire chain of use all the way through the water's return to nature. Purified water should remain or become a resource that re-enters the cycle.

Ch. Häberli considers South Africa's rule for household distribution, namely 6 m^3 free and the rest at a cost, to be of interest, and in any case better than charging Vittel an extra centime of tax.

R. de Watteville explained that Nestlé's real competition is not the water carafe, but Coca-Cola. Water carafes are no longer common in restaurants. Our drinking water tastes very good. In southern countries, it often tastes vile, because too much chlorine is added. Consumption of bottled water would certainly be lower if the water were correctly treated.

E. Fiechter-Widemann felt that people currently focus too much on bottled water, especially the media. It is not a question of making consumers feel guilty, but of teaching them to drink tap water and not to waste this vital resource.

With regard to another form of waste, leakage from water systems, S. Ramseier gave some numbers to show how "watertight" the systems are. System losses need to be considered in relation to the length of the pipe network and the volume consumed. In Geneva, leakage ranges from 7-8%, which is a good result.

He added that making a bottle of water creates losses of about 60%. Of course, most of this returns to the system.

In Geneva, SIG supplies 1 m^3 of cold water to the tap for 3.50 francs, even at midnight, he added.

E. de Lutzel stated that agriculture, which consumes about 70% of the world's potable water, often overuses aquifers, which then have to be recharged. Beef production, especially, requires enormous amounts. S. Ramseier clarified that 90% of the water used by agriculture leaves the system, while household consumption puts nearly 100% back into it.

F. Dermange held that agriculture's needs must be taken into account. Would it be possible to create a typology of consumption and gradually change some consumption habits?

E. Fiechter-Widemann added that a forum such as the one in Marseilles is there to call our attention to the consequences of our habits and behaviors. We came back to the question of communicating relevant indicators and educating future generations about these issues.

The rest of the discussion was devoted to global justice.

A. Baillat pointed out the two dimensions of justice. The right to potable water has two dimensions: the normative (right to a certain amount and quality of potable water for personal and household use) and the procedural (the right of affected communities to be informed and participate in water infrastructure projects). The procedural obligations

arising from the right to water bring up the need for capacity-building among local populations so that they can participate effectively and so that local elected officials' negotiations with multinationals occur in a balanced power context. The World Bank and other development banks are incorporating this dimension of "effective" participation into their investment policies with increasing frequency. Private investors are also paying more attention to participation and involvement by the local public in their water infrastructure projects prior to implementation (noting that in this way they have a better chance of being sustainable).

E. Fiechter-Widemann wondered whether distributive justice, as described by Rawls, could bring us closer to global justice? F. Dermange restated Rawls' thought that improvement of the lot of the most advantaged is legitimate, provided that it goes hand in hand with an improvement in the lot of the disadvantaged.

However, the great philosopher was inclined to think that global justice would never exist because most of the world's peoples do not share identical values. Such sharing is *sine qua non* if restrictive rules and international treaties are to be accepted by all.

The challenge now is this: are water distribution and access tied to global human dignity-or, if one did not subscribe to this statement and the question of dignity were set aside, would we then have to settle these issues within and between States?

According to A. Baillat, a truly international organization responsible for water access issues would be necessary. Though the World Water Forum in Marseilles gathered many heads of state and government under one roof, it does not have the legitimacy of an international organization created under the auspices of the United Nations. Will the United Nations Conference on Sustainable Development Rio+20 be able to meet this challenge?

Are we moving towards creating an international organization for the environment that would be able to make restrictive decisions where water resources governance is concerned?

In conclusion, B. Girardin stressed three aspects.

- The legal approach will need to combine rights and responsibilities; the two are inseparable.
- The regional approach (not to be confused with a local approach) seems more realistic and positive than the global approach, but tools are lacking.
- The pricing approach must define a real price that internalizes the external costs and also takes into account the long term and reinvestment. On this basis it will become possible to effectively compare processes for treating and distributing potable water and for cleaning up polluted waters; and to know their true price.

From left to right: Ch. Haeberli, L.-I. Stahl Gretsch, E. Fiechter-Widemann, G. Vachicouras, S. Ramseier, Ch. Peppard and B. Girardin