**The Psychology Behind Global Water Scarcity and
Methods of Countering a Future Crisis**

Grace Gegenheimer
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Dr. Frank Gonzalez
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Abstract

Water is this planet's most precious resource, and any future global water shortages will largely
be the fault of corporate greed, careless first-world countries, and a lack of international
governance. All of these are tied directly to group psychology factors such as evolutionary
theory, racism, and power basis theory. As troublesome as these are, there is still time for them
to be mitigated through careful coordination of ingroup/outgroup contact, deliberation, and shifts
in policymaking.

Introduction

       Of all the future international security problems that are likely to develop over time, one that needs to be at the forefront of policy discussions is global water scarcity. The idea of running out of drinkable water is terrifying, and it is not very far-fetched unless significant measures are implemented now. Failure to do so will induce worldwide panic and crises unlike anything we have experienced in recent collective memory – depletion of rivers and lakes, mass extinction of wildlife and habitat, and inter-/intra-group conflict in the form of water wars and forced migration. Throughout the course of history, with the earliest recorded case from 3000 BC, we have seen water being used as a weapon of war in addition to being a highly sought-after commodity to be taken away from others. Water is the planet's most precious resource, and we do not have an unlimited supply of it. In the future, the exhaustion of our freshwater will be the result of greed from large, powerful corporations, careless usage from first-world countries, and the inability of the international community to establish reasonable policies and regulations. All of these can be tied directly to group psychology factors such as evolutionary theory, racism, and power basis theory. However, these factors – which have already widely contributed to a variety of environmental and human security concerns, can be mitigated through ingroup/outgroup contact, deliberation, and shifts in policymaking.

Evolutionary Theory and the Marginalization of Developing Countries

       If the planet is ever at risk of severe water shortages to the point of mass migration, water wars and starvation, it will likely be human caused. Furthermore, this storm is brewing due to the carelessness of large, developed countries, ineffective elected bodies, and the interests of power-hungry corporations. When all is said and done, those in poverty – and especially those from developing countries, will be left behind and will suffer the most. This can be explained by an idea known as evolutionary theory, which is essentially "Darwinian theories of natural selection

applied to group dominance and conflict" that states ""the strongest have survived" – and so it has become adaptive for individuals and groups to adopt psychologies that reinforce ingroup favoritism and dominance" (Gonzalez). This favoritism propagated by the more dominant ingroup creates an "us versus them mentality" – one in which they seek to take care of their own while letting the struggling outgroup fend for themselves. When applied to international relations, and particularly when discussing the implications of something as fundamentally necessary as water, this can be seen as aggressive, irrational, and inhumane. So why does it happen? According to evolutionary theory and evolutionary psychology, the human brain is hard-wired "to respond reliably and efficiently to adaptive problems in our ancestral social and ecological environment." An adaptive problem is "any challenge, threat, or opportunity faced by an organism in its environment that is evolutionarily recurrent (i.e., not a onetime or otherwise novel problem) and affects reproductive success" (Lopez et.al. 50). A primary example of this is war, and violent water conflicts certainly fall under this category. In other words, when an ingroup – from the individual to nationwide level, feels that the security of their future is at risk, they will respond with any means necessary to have some control over their situation.

When an ingroup is put into such circumstances and they are forced to react, their actions can be detrimental and even fatal to weaker and more unprepared outgroups. In the case of water disputes and shortages, history has proven this to be undeniable. In order to have a better sense of what this looks like, this paper will now focus on just two examples, one from the 17th century and the other from the early 1950s. In 1642, an estimated 300,000 people were killed in the Chinese city of Kaifeng during the catastrophic Yellow River flood. After months of enduring a rebel siege from the Manchu and Ming dynasty forces, the governor of Kaifeng realized the city could not withstand any longer and ordered for the dams to be breached to force the intruders

into retreat. When the dikes collapsed, the citizens of Kaifeng were swept away and drowned, leaving it a population of just 78,000 – many of whom undoubtedly became environmental refugees since the floodwaters destroyed everything in their path (Georgiou). In more recent history, a conflict in the Middle East came to a head in 1951 when Jordan made the announcement that it planned to dam the Yarmouk River and divert it in order to irrigate part of the Jordan Valley. This did not sit well with Israel, who responded by draining the 15,000-acre Huleh marshes to construct their National Water Carrier – in a demilitarized zone (DMZ) along the Syrian-Israeli border (FAO). Military clashes between the two countries quickly ensued, and although no initial casualties were reported, "Israel retaliated by forcing 785 Palestinians from their villages in the central DMZ and bulldozing their homes." Several days after fighting broke out, "the crisis escalated even further, when seven Israeli soldiers on patrol in the southern DMZ were killed in an ambush by Syrian troops. The next day Israel launched an air strike inside the southernmost DMZ, killing two Palestinian women and wounding six civilians. Approximately 1200 Palestinians were forced out of their homes in the central and southern DMZs" (Hill 30). Growing violence prompted U.S. President Dwight Eisenhower to send an ambassador over to assist with an agreement. This was never fully settled, and water conflicts between the three countries continue to be a source of contempt well into the 21ˢᵗ century.

The second of these two examples can be described by what is known in evolutionary psychology as "coalitional intergroup aggression" in which resources or territories are held or taken and where one's participation depends on cues that relate to "relative formability, the distribution of risk, the value of the collective goal, and the probability of success" (Lopez 3). Strictly speaking, this makes sense in terms of efficiency and functionality, but does not make sense in a modern foreign policy context. However, what *will* continue to be a problem is the

defense of one's homeland and one's own kind to justify engaging in future conflict. Though the above examples do not necessarily reflect my previous argument that a future without water will be due to corporate greed, overuse by wealthy countries, and poor international governance, they do illustrate what can happen when the privileged want to exploit the disadvantaged, or what can happen when an outgroup is marginalized by an ingroup that puts their needs before anyone else's. At the very least, they demonstrate the sheer power, negative impacts, and loss of life that water issues can bring about to large populations as a result of human interference.

The Role of Racism in Environmental Issues

Distantly related to evolutionary theory, and another likely source of future global water scarcity are issues that stem from social dominance and racism. At its core, racism is the ""ideology of racial domination" in which the presumed biological or cultural superiority of one or more racial groups is used to justify or prescribe the inferior treatment or social position(s) of other racial groups" (Clair & Denis 857). Within the concept of racism are various *types* of racism, depending on why it is used, how it is used, and who the perpetrator is. Among those recognized in social psychology is aversive racism, a form of prejudice predominantly found in the racial attitudes of Caucasians who "genuinely regard themselves as non-prejudiced, but who have not entirely escaped cultural and cognitive forces that promote racial bias" (Gaertner et.al. 2). This is applicable to future water crises because it allows the dominant ingroup to make decisions and implement policies that are harmful and dismissive to minorities – under the guise of it being about anything *other* than race.

First-world, westernized, predominantly white countries operate with "isolationist foreign policy tendencies" to protect themselves from perceived threats and to secure their futures. There is an element of skepticism regarding other governments and other people – including minority

outgroups within one's own country. This is especially true when it comes to the outgroup's intentions and their level of involvement in public policy. Therefore, it is easy enough to shut them out almost entirely. This feeds into a concept known as *environmental racism*, a term coined during the U.S. environmental justice movement during the 1970s and 1980s. Essentially, environmental racism is "racial discrimination in environmental policy-making and enforcement of regulations and laws, the deliberate targeting of communities of color for toxic waste facilities, the official sanctioning of the presence of life threatening poisons and pollutants for communities of color, and the history of excluding people of color from leadership of the environmental movement" (Holifield 83). In addition to lawmakers from primarily first-world countries, it is also giant corporations that are largely at fault and need to be held accountable for perpetuating these damaging policies. Otherwise, this will continue to be the case unless significant changes are implemented to address them immediately. Two examples of this type of human security threat are the 2010 BP oil spill in the Gulf of Mexico and the ongoing water crisis in Flint, Michigan that started in 2014. Both cases demonstrate a "systematic failure of our legal system to protect vulnerable populations" in the event of an environmental disaster. Furthermore, "regulatory and human choices compounded to make low-income communities and communities of color more at risk of unequal impacts" in the aftermath (Osofsky et.al. 102). Therefore, in the event of a certain, impending global water shortage – and assuming history repeats itself, it is almost a guarantee that much of the African continent along with many other countries in the Global South will suffer tremendously because they do not fit the stereotypical white, educated, "civilized" individual that isolationist foreign policies aim to protect. Furthermore, countries that are more stable have the upper hand in securing the resources they need, so if the situation were to become desperate amid resource depletion and economic and

political collapse, it is with high probability that they will only be looking out for themselves.

Power Basis Theory as an Explanation for Water Resource Depletion

There are a number of other ways in which people can use water – and the environment as a whole – to their advantage. As previously explained, water (in addition to other resources) have been used as weapons of war and as a means of regulating and policing others. This is best summarized by a Henry Kissinger quote, which states "who controls the food supply controls the people; who controls the energy can control whole continents; who controls money can control the world." With regards to global water scarcity, it will be Western countries that dominate control over these resources, leaving almost nothing for those that are still developing. Those living in the United States and other industrialized nations can afford to take long, hot showers, do their laundry in a washing machine, maintain a swimming pool and a manicured lawn, while those living in poor countries do not have regular and reliable access to safe drinking water. Though attempts have been made to remedy these discrepancies in the form of international agreements, foreign aid, NGO work, UN Global Goals, and individual-level changes, there are still many elements of something known as power basis theory. In this theory, power is defined as the ability to meet one's survival needs, where "constructive power is the means of meeting survival needs, and destructive power is the ability to prevent others from meeting their needs" (Pratto et.al. 334). Decades from now – or maybe hundreds of years from now, the world could fall into chaos due to tyrannical, authoritarian leaders, climate change, water and food shortages, and/or overpopulation. Things like this have happened in the past, and history often repeats itself. If that is the case, we can expect to see further division among people, which includes institutional racism, marginalization, and the exertion of power over weaker outgroups. "Power is what enables groups to monopolize resources, to attack or ignore other groups, to privilege

[their] ways of living, to set agendas, and to live luxurious rather than marginal lives" (Pratto et.al. 332). Though this is a possibility and sounds incredibly bleak, there are actions that can be taken now to reduce the magnitude of these conflicts. One would hope that people of different races, ethnicities, geographical locations, or languages would be able to come together for the common good of the human race, and maybe that is exactly the message that needs to be shared.

Using Group Psychology to Prevent Global Water Scarcity

There are two different ways to use group psychology as a potential solution for global water scarcity – one is by looking at methods to *prevent* it from happening, and the other is to address it as it starts to become a reality. The most important focus would be to prevent it, and there are several measures that can be taken now in order to do so: social interaction and ingroup/outgroup contact, changing people's behaviors and beliefs with regards to water usage, deliberation, and shifts in policymaking. Social interaction and regular contact between ingroups and outgroups can be beneficial because it has the possibility to lessen or even eliminate stereotypes, prejudice and racism – all of which could be contributing factors for an ingroup to be unwilling to support minority outgroups. For social interaction and contact to take place, certain barriers (such as segregation) need to be removed. Similarly, there are things that need to be implemented such as equal status or co-operative interdependence (Gaertner et.al. 2). This can be accomplished through deliberation and international strategic discussions in which members of all willing and complying countries are represented and given a chance to speak and make their proposals. There are many negative connotations associated with deliberation in psychology, but if done correctly it can have very positive outcomes. "Many theorists emphasize that during true deliberation, people rely on reasons that speak to the needs or principles of everyone affected by the matter at hand. The promise of deliberation is its ability to foster the

egalitarian, reciprocal, reasonable and open-minded exchange of language" (Mendelberg 153). It is important for heads of state to take part in discussions that have to do with the long-term health, safety and well-being of their country, and it is also crucial that international entities like the UN play a role in facilitating these talks and holding each country accountable for what is agreed upon.

Two annual international conferences should be held – one for heads of state, and another for water policy experts from each country. Both of these would allow for diplomatic, mediated social interaction and ingroup/outgroup contact in which each delegate can express their concerns and propose measures to prevent global water shortages. It is through these conversations that representatives will get a sense of the others' needs and seeing how it aligns with their own. Having a level playing field makes everyone see each other as equals, as opposed to one country having power or control over another. Meanwhile, the United Nations needs to restructure and consolidate in order to be more effective and efficient. When the organization was established, its responsibilities were to maintain peace and prevent wars, which it has failed to do many times since 1945. Millions of people around the world continue to live without access to water and die of starvation and preventable diseases. The UN could be very successful with an organizational restructure and with formulating a plan to reinforce their 17 Global Goals and look at them more long-term. Furthermore, international courts must have a role in providing legal framework for all to abide by, as well as holding all parties accountable. If treaties or agreements need to be made between two or more countries to maintain or increase their water supply, it should be done so with at least some degree of oversight.

On a smaller (but still very important) level, each country should implement policies that limit household water usage and promote "smart" water use, as well as imploring corporations to

be more transparent with their water use and providing them with incentives to decrease this by a set percentage. Psychologically speaking, there is an opportunity for leaders and policymakers to denounce policies that institutionally provide certain people with access to clean water. Having black communities in the United States living with poisoned water or no water at all is not any more or less acceptable than black communities across the African continent living with these same conditions. There is a clear sense of aversive and institutional racism when it comes to who has water and where this water comes from. Water is a universal human right, and every single human being deserves not having to imagine a future without it. That being said, it is also our shared responsibility to ensure that our planet's most precious resource is cared for and shared instead of fought over.

Conclusions

Unfortunately, the above proposals are much easier said than done. As previously mentioned, water conflicts are engrained in human history and have been some of the biggest sources of violence and political and economic disputes. However, these proposals are not entirely impossible and should be strived for to the best of everyone's collective ability. People must realize what is at stake. "By 2050, more than half of the global population (57%) will live in areas that suffer water scarcity at least one month each year" and this may be an underestimation (Boretti & Rosa). If this prediction is accurate, then economic and political stability along with issues related to human rights and public health will deteriorate. Therefore, world leaders and policymakers, international organizations, and every single person needs to work to change their behavior, their preconceived notions of outgroups, and any prejudice they hold towards minorities or less-developed countries. Both short-term and well into the future, this will affect all people – from polluted freshwater sources, to mass amounts of environmental

refugees, to facing the extinction of humankind. This is not a conspiracy theory – it is a potential reality. With the right policies and regulations in place, and with a united effort to bridge the gaps that distinguish one group from another, we can tackle the issue of global water shortages and find the right solutions to address it.

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