WATER SCARCITY: CONNECTING THE DROPS FOR INSTITUTIONAL INVESTORS

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DO GREAT THINGS

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'Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. (FAO) Mar 17, 2015

Russian and Chinese drought, global wheat prices, security risks in the sub-Saharan African region, and the 2015 terror attacks in Paris may appear to be unrelated, but they are far more connected than you might initially think.

The common thread is the weather. First came persistently low rainfall in the Eastern Mediterranean region, starting as early as 2006. This was followed by a series of hydrometeorological (to do with the transfer of water between land and atmosphere) events in the 2010–2011 Northern Hemisphere winter.

In 2010, Russia and Ukraine suffered from excessive heat waves, fires and serious drought, causing wheat production in these countries to drop by 33% and 17%, respectively. On the other side of the Atlantic, cold and rainy weather in Canada resulted in a 14% drop in harvest; similarly, Down Under, excessive rain in Australia diminished production by 9%. The cumulative result was reduced global wheat supply and major price increases.

At the same time, starting in September 2010, China – the largest wheat producer and consumer in the world – experienced drought in its main wheat-growing eastern region, and by 2011 eight provinces were afflicted. And, although production wasn't as hard hit as feared by the Chinese government initially (wheat production fell 0.5% while wheat consumption only increased by 2%), China's long history of deep and crippling famines, most recently from 1958–1961, has made the ruling party hypersensitive to the risk of crop failure. This led the Chinese government to purchase wheat on the international market to compensate for potential losses.

What happened next exemplifies how a regional climate event can have both a regional and a global impact: a potential wheat crop failure contributed to a series of local government actions that influenced economic and political conditions in other parts of the world.

The grain of truth

As only a fraction (6% to 18%) of annual global wheat production is traded across borders, any decrease in world supply contributes to a sharp rise in wheat prices. This has a serious economic impact on wheat-importing nations such as Egypt, the largest wheat importer in the world (9.8 million metric tons in 2010). Egypt spends 3% of its gross domestic product (GDP) on wheat subsidies. Higher wheat prices affected the cost and availability of bread in Egypt, which in turn influenced citizen unrest, thus indirectly leading to its regime change.

This chain of events and reactions highlights how government effectiveness – or lack thereof – by two different countries resulted in opposite outcomes and reflects how, in today's interconnected world, natural hazards can influence economic (price), political (government stability), and human systems (food supply) on an international scale.

The Arab Spring dawned with the Tunisian bread riots of December 2010, and unrest spread rapidly across the Arab world, with the Syrian civil war flaring with the 2011 siege in Daraa. At that time, up to 60% of Syria's land was in the grip of one of the worst long-term droughts in modern history, and had been since 2006.[1]

This drought, combined with the mismanagement of natural resources by then-President Assad, who subsidised water-intensive crops, such as wheat and cotton, and promoted bad irrigation techniques, led to significant devastation, displacing 1.5 million people. This triggered civil war, which subsequently resulted in the rise of the militant group, Islamic State of Iraq and al-Sham (ISIS), and, eventually, in terror attacks as far afield as Kenya, Nigeria, Beirut and Paris. This war has also caused around 4.5 million Syrians to seek refuge in the neighbouring states of Lebanon, Jordan and Turkey, as well as in Europe. A further 6.5 million people are displace within Syria.

This devastating causal loop was well articulated by the Food and Agriculture Organisation's (FAO) Director-General, José Graziano da Silva, who said: "Rural development and food security are central to the global response to the refugee crisis. War causes hunger and hunger too, kills and forces people from their homes...

"Most of the displaced hope to return to their lands as soon as the conflict is over, but the impacts of conflict on food security often last long after the violence has subsided."

The truth remains that food prices have major sociopolitical impacts and that agriculture continues to be the economic backbone for the majority of people in conflict and post-conflict situations.

The local impacts

In such an interconnected world, it is clear that the consequences of seemingly isolated events cascade across countries and continents, shaping history before our eyes, rippling across the globe, including to South Africa (SA). This is especially apparent now as we face a challenging combination of a wheat supply crisis combined with a weak rand.

With the current *El Niño* effect impacting the agricultural industry in SA, certain areas of the country have been declared disaster areas as crop failure, livestock mortality and unemployment mount. Against this backdrop, long-term topics such as water infrastructure, food security and global warming are themes that have come strongly to the fore.

The outlook is indeed bleak, but, as Churchill famously said: "One should never waste a good crisis." This sounds cynical, but should be considered merely as a statement that these types of events in fact pose a good opportunity to address lingering challenges and provide genuine long-term solutions for issues that affect the whole of society, including investors.

SA's infrastructure challenge

It is evident that water is an increasingly scarce resource and that our water infrastructure needs urgent refurbishing, which, in turn, requires significant amounts of investment – to the tune of over R600 billion.

[1] The Arab Spring and Climate Change, A Climate and Security Correlations Series, Caitlin E. Werrell and Francesco Femia February 2013

Waste-water treatment plants have run into disrepair due to historical underinvestment, resulting in large amounts of effluent polluting our waterways. Recent studies have indicated that it is not so much a lack of water, but rather the actual pollution of the limited amount of water we do have that is exacerbating SA's water crisis. To illustrate the issue, one can say that it only takes one teaspoon of effluent to turn a 1 000 litres of ice cream into a 1 000 litres of effluent.

Can the private sector help?

The short answer is yes. For example, Old Mutual Investment Group is a long-term investor, and by its very nature is "wired" to identify trends and address them as part of its social mandate. When it comes to innovation, it aims to be a frontrunner on the African continent and play its rightful role as the long-term custodian of wealth and capital in the markets in which it operates. Promoting savings and converting them into good investments with both financial and social benefits is embedded in the company's 170 year-old DNA.

As part of the investment process, long-term investors need to be alert to and mitigate future risks in their portfolios, but they also need to be open to opportunities. For example, our infrastructure funds have the mandate to invest in waste-water treatment plants and irrigation schemes. Innovative techniques are available to extract biogas from waste water, creating local energy generation capacity for municipalities. This is a good example of converting the crisis into an opportunity for our investors, while creating employment for local communities, and making a contribution to a mixed-source energy supply.

Further innovation opportunities exist in the area of ecological infrastructure investments, which involves investing in naturally functioning ecosystems that deliver valuable services to communities. Although in its infancy, much co-operative work is being done by key stakeholders in South Africa to map out viable approaches to making institutional-grade investments into our key catchment areas.

Water – making every drop count

For agricultural funds, water literally means money, as the main asset in many of these investments is access and rights to water from permanent water sources. The bulk of our farms are linked to permanent water sources, such as rivers, dams, boreholes and large municipal irrigation schemes. Rain-fed farming can be very profitable, but as 2015–2016 has shown, it is a much more volatile yield, which means a more variable cash flow, so it doesn't lend itself too well to the requirements of institutional investors.

For this reason, investments made by agricultural funds involve significant capital outlays to finance dams and irrigation systems. Drip irrigation and new-tech spray installations are examples of measures one can take to use water more efficiently.

Land management also plays a key role, such as minimising and re-using runoff, while environmental restoration is also key. For example, on one of our farms in the Western Cape, simply clearing thirsty alien vegetation resulted in a long-time dry river starting to run again during the first winter after the clearing.

Innovation = investment resilience

These times of drought have tested our investments and they've come out unharmed thus far. Efficient usage has conserved our water resources in our dams and systems, keeping our farms at solid production levels, ready to take advantage of improved supply and demand levels, and grow further as soon as the drought breaks.

As our farms are able to evidence their water efficiency, we will be able to negotiate additional water rights with the local water boards overseeing the water distribution among agricultural users. By obtaining additional water rights, we will be able to expand the farms and contribute towards improving food security in Southern Africa, while generating good returns for our investors. Using a scarce resource responsibly and efficiently directly translates into the bottom-line in this example.

Conservation efforts

Another example of an investment opportunity is the prevalence of alien bush across the Northern Cape and Namibia, where over 30 million hectares of alien bush has overrun prime cattle ranching land as a result of overgrazing. This has dramatically increased water loss by as much as 50% of the annual rainfall, resulting in dropping water tables and soil erosion. Left unchecked, the invading brush multiplies at a rate of 10% a year. If you consider that the main culprit, blackthorn (Acacia Mellifera), transpires (gives off) about 65 litres of water per eight-hour day and that Windhoek's annual water consumption in 2015 was approximately 25 000 000 m^3, you will conclude that one day's worth of the total blackthorn water consumption could supply Windhoek with water for over 50 years!

Together with local and international experts, we are looking into an innovative approach to convert this vegetation and use it as an energy source for local power generation, while rehabilitating the land to its former cattle ranching glory. A pilot project has been successfully completed in the Northern Cape.

Good returns and social benefits through problem solving

By investing in efficient water usage we invest in the financial and physical health of our country, its political stability and its food security, effectively closing the loop of our investment story for our clients.

As custodians of pension fund capital from large groups of employees, our agri funds are a reflection of SA society and its employee base: through investing in farmland, we transfer land from individual ownership into collective ownership, effectively resulting in land reform, in a different and sustainable manner.

We invite institutional clients to embrace the abovementioned challenges, and jointly we can turn these crises into genuine investments that change people's lives and positively impact the country as a whole.

We invite you to become *as invested as we are.*

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