CHAPTER 2. WATER

Water is an essential resource for people and FMCG companies but shortages can have significant impacts. Here a boy pumps out water for his bath in Donsol Sorsogon, Bicol, Philippines

1. INTRODUCTION AND SUMMARY

FMCG companies across Asia are benefiting from rising populations, and the changes in lifestyles and diets that accompany urbanization and growing wealth. However, these shifts, particularly the move toward eating more meat, are putting significantly more pressure on water resources.

Globally, 2.8 billion people already live in areas of high water stress. This will rise to 3.9 billion by 2030 – representing more than half of the expected population of the world.[179] By the same year, global demand for food is projected to grow by 40 per cent.[180]

Pressure is acute in both India and China. Some of India's most populous river basins could face severe depletion by 2030, including the Ganga, the Krishna, and the Indian portion of the Indus. In China, current water supply is just over 618 billion m^3 – but demand is expected to reach 818 billion m^3 by 2030.[181]

Water issues are creating mounting problems for FMCG companies, particularly in Asia. FMCG companies are heavily reliant on water through their supply chains, and face many water-related risks and issues – its availability, its quality, how it is governed, and whether organizations are seen to be fair and responsible in their water use. All these can have physical, regulatory and reputational impacts on a business and its supply chain.

ASIAN FMCG COMPANIES HAVE ONLY STARTED TO IDENTIFY AND MANAGE THESE RISKS AND GENERALLY THEY REMAIN BEHIND GLOBAL LEADERS

Current business-as-usual water management practices and levels of water productivity will put approximately US$63 trillion at risk by 2050. That is 45 per cent of the projected 2050 global GDP (at 2000 prices), and equivalent to 1.5 times the size of today's entire global economy.[182]

Asian FMCG companies have only started to identify and manage these risks and generally they remain behind global leaders. The strongest approaches they can employ include significant engagement with stakeholders in the basins they rely on.

Globally, FMCG companies that have started to address water-related risks are finding that it is not enough to only reduce their direct water use since corporate water supplies are affected by upstream users who in turn affect downstream users. They are also increasingly taking action to reduce water risks in their supply chains associated with manufacturing and raw material supply. Companies have to better understand stakeholder needs and work more actively with other water users in their water basin to reduce their water risk exposure.

Global investors and banks are also concerned about water-related risks, as evidenced by the rise in respondents to, and investors involved in, the CDP Water

Questionnaire. They are concerned about systemic risks to portfolios as well as risks to specific companies. In many cases investors and banks are working individually and collectively to ensure the companies in their portfolios are addressing water risks – improving earnings quality.

This chapter:

- Highlights key environmental and social concerns around water and why water is a local and temporal issue;
- Reviews finance sector initiatives related to water management;
- Highlights water challenges in Asia;
- Explains the importance of water risk management for FMCG companies;
- Sets out the steps required to effectively manage water, and solutions and existing market practices to overcome potential hurdles companies may encounter.

THE VALUE OF WATER

Despite the low pricing of water, the value it delivers to business is extremely high. All businesses harness natural resources in some way, but often do not pay for their full value.

In Asia, the natural capital cost of water use is US$1.15 trillion.[183] This factors in local water availability to provide a more accurate price for water and represents the currently unpaid and unpriced natural capital input to production. This is a significant amount of value at risk across Asia, and represents half of all these unpaid costs (or risks) globally. Asia is therefore facing by far the largest risk of any region.

The following table identifies, based on public disclosure, a number of large Asian FMCG companies that have already taken some steps to address water issues in their operations and supply chain. These range from simple water use reduction goals to water stewardship programmes by the Asian companies which are part of global multi-national corporation groups.

Companies with 'yes' have disclosed some steps to address the issues around water, although most are focusing on water footprint rather than water risk.

Figure 10: Companies' disclosure of their steps to address water issues

	Direct water use	Indirect downstream water use (consumers)	Indirect upstream water use (commodity supply chain)
Amorepacific Corp*	YES	YES	
Charoen Pokphand Foods PCL	YES		
China Mengniu Dairy Co Ltd	YES		
Dutch Lady Milk Industries Bhd	YES		
Emami Ltd			
Fraser & Neave Holdings Bhd	YES		
Fraser & Neave Ltd	YES		
Godrej Consumer Products Ltd	YES		
Hindustan Unilever Ltd	YES	YES	YES
Indofood CBP Sukses Makmur Tbk PT	YES		
Masan Consumer Corp			
Mayora Indah Tbk PT			
Nestlé Malaysia Bhd	YES		YES
Orion Corp/Republic of Korea*			
Petra Foods Ltd			
San Miguel Corp	YES		
Super Group Ltd/Singapore			
Thai Beverage PCL	YES		
Thai Union Frozen Products PCL	YES		
Tingyi Cayman Islands Holding Corp	YES		
Tsingtao Brewery Co Ltd			
Ultrajaya Milk Industry & Trading Co Tbk PT			
Unilever Indonesia Tbk PT	YES	YES	YES
Universal Robina Corp			
Vietnam Dairy Products Joint Stock Company	YES		
Want Want China Holdings Ltd	YES		YES

*The asterisk indicates companies which answered the CDP Water Questionnaire in 2015.

WATER RISK MANAGEMENT: THE BUSINESS BENEFITS

Preventing supply chain disruption

Companies that consider the embedded water risk in their supply chains will be more likely to avoid disruption. The FMCG sector depends heavily on water in its agricultural supply chains, to grow and produce key soft commodities. While this initially appears to be an issue for suppliers to manage, the risk transfers to FMCG companies if their suppliers are unable to deliver products at the required price, quantity and quality, and FMCG companies cannot feasibly hedge against fluctuations.

Mitigating operational risks

FMCG companies that manage water well can also prevent their processing and production operations grinding to a halt. These can be strongly affected by reduced water availability, whether due to groundwater depletion (sometimes requiring company investment in additional boreholes or infrastructure to withdraw the same volume of water), surface water reduction, municipal water supply cost increase or growing local community needs and conflicts.

Maintaining a good reputation

Companies can suffer huge reputational damage on water issues, either locally near operations and supply chains (including reputational damage via suppliers' actions and practices), or at a global and brand level. Managing water well can avoid this.

Staying in line with regulations

Regulatory risks are connected to unstable or poor regulation of water use and lack of positive water management processes. For a company or its suppliers, this can mean instability, uncertainty, higher costs and a lack of balanced decision-making on water rights and allocations. Companies that stay in line with regulations and back strong water management institutions can ensure that water allocation and quality are sustainable and balanced. This is needed at the water basin level.

Cotton, rice and sugarcane all require a large, steady supply of water to grow

THE FIVE-STEP PLAN FOR WATER STEWARDSHIP

Water risk mitigation for FMCG companies requires individual and collective efforts. The first three steps below relate to internal measures, the fourth and fifth to external. Water stewardship is the best way for companies to ensure their long-term viability and the questions below are useful for understanding how well an FMCG company is addressing water risk.

1. Water awareness: build awareness within the company of water issues and exposure to physical, reputational and regulatory risks.

- Has the company developed training programmes for relevant operational and purchasing managers?
- Has the company obtained access to or developed appropriate expertise to assess its impacts, dependencies, and water-related risks in its operational river basins and raw materials supply chain?

WATER RISK MITIGATION FOR FMCG COMPANIES REQUIRES INDIVIDUAL AND COLLECTIVE EFFORTS

2. Knowledge of impact: understand what and where the water impacts of the company and its supply chain are and identify priority water-risk hotspots.

- Is the company using water risk tools such as the Water Risk Filter (waterriskfilter.panda.org) to assess its impacts and prioritize issues and risks?
- Are water risk assessments for operations and suppliers conducted at a water basin level?
- Beyond immediate requirements, is the company factoring water issues into its growth strategy – both for sourcing and production at current and potential sites?
- Does the company disclose its risk exposure to water through annual reports, sustainability reports or disclosure platforms such as the CDP *Global Water Report*?
- Does the company transparently report its performance on water?

3. Internal action: outline actions, targets, goals and plans to tackle water issues under the company's immediate control, including engaging employees, suppliers and buyers.

- Are policies and management systems in place to manage water-related risks?
- Are there targets for operational and supply chain water management, such as commitments to standards and certifications that address water stewardship?
- Are all operations and suppliers in full compliance with relevant water permits and laws?

THE VALUE OF THE SERVICES PROVIDED BY FRESHWATER ECOSYSTEMS IS EXTREMELY HIGH FOR ANY OPERATION, ESPECIALLY ONE DEPENDENT ON AGRICULTURAL PRODUCTS

4. Collective action: work with others at various scales, from local water user groups to international fora, to improve water management – find out what collective action initiatives are already under way in your area.

- Is the company taking part in collective action projects in operational and supply chain locations?
- Is the company taking into account the views of other stakeholders in developing its plans?

5. Influence governance: join government and other stakeholders to develop a common understanding of the challenges and drivers of water problems, and help improve the systems in place for managing water resources and services.

- How effective is governance in the water basins relevant to the company and its suppliers?
- How is the company anticipating potential criticisms that it is seeking to influence water governance and benefit at the expense of other users who have yet to engage with government?

ENGAGEMENT QUESTIONS FOR INVESTORS

- To what extent does the company face potential risks relating to water (for example, reliance of business model on water versus availability of water now and in the future)?
- Is the company assessing its water-related risks and taking steps to manage them?
- What are the barriers the company faces to developing and implementing its approach to water management?
- How does the company decide what to disclose about its water-related policies?

5 KEY WATER FACTS

- Freshwater species are declining faster than any other. This impacts livelihoods that depend on them as well as ecosystem health. The value of the services provided by freshwater ecosystems is extremely high for any operation, especially one dependent on agricultural products.

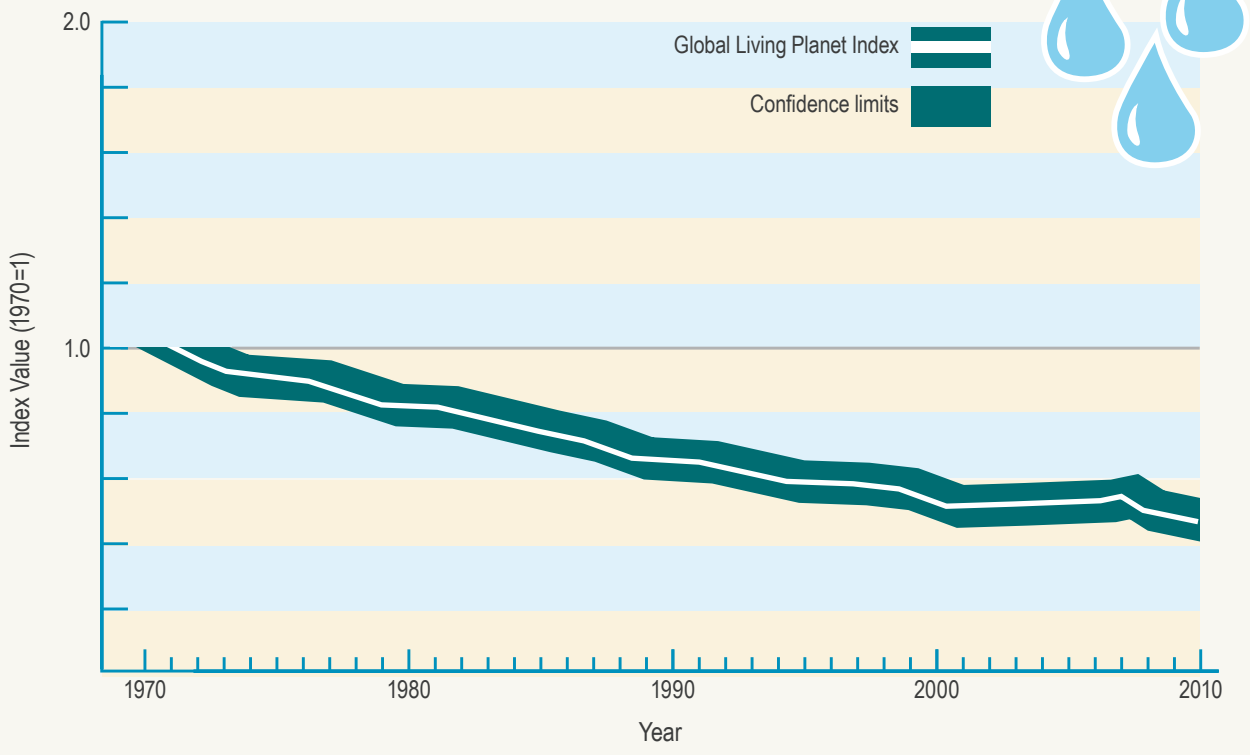
- More than 1 billion people in the world do not yet have access to clean water.[184] This is often not due to a lack of physical water resources, but to a lack of infrastructure and human development. Countries which, 25 years ago, had low incomes yet had access to adequate safe water and sanitation have had an average of 3.7 per cent growth in GDP per year, while countries with the same per person income but limited access to water have grown at only 0.1 per cent per year over the same period.[185]

- Women and girls in low-income countries spend 40 billion hours a year collecting water — the equivalent of a year's worth of labour by the entire workforce in France.[186] In many countries, the disproportionate burden of fetching water can greatly affect girls' and women's educational and employment opportunities.

- Water pollution is a huge issue in Asia. Polluted water is not available for use without major investment in treatment technologies, and this reduces the supply of usable or available water. Pollution of water can also reduce or distort the ecosystem services provided by water. For example, in 2015, the Chinese Ministry of Environmental Protection reported[187] that nearly two-thirds of groundwater and one-third of surface water were graded in 2014 as unfit for direct human contact.

- Climate change is likely to create more extremes of weather – more droughts, more flooding, more intensified scarcity or lack of availability of water at particular times – as existing weather systems break down. Sites in Asia are very likely to experience these extremes as well as changes in monsoon patterns that impact agricultural production.

Figure 11: Temperate and tropical freshwater Living Planet indices 1970-2010



WHY COMPANIES MUST MANAGE WATER LOCALLY

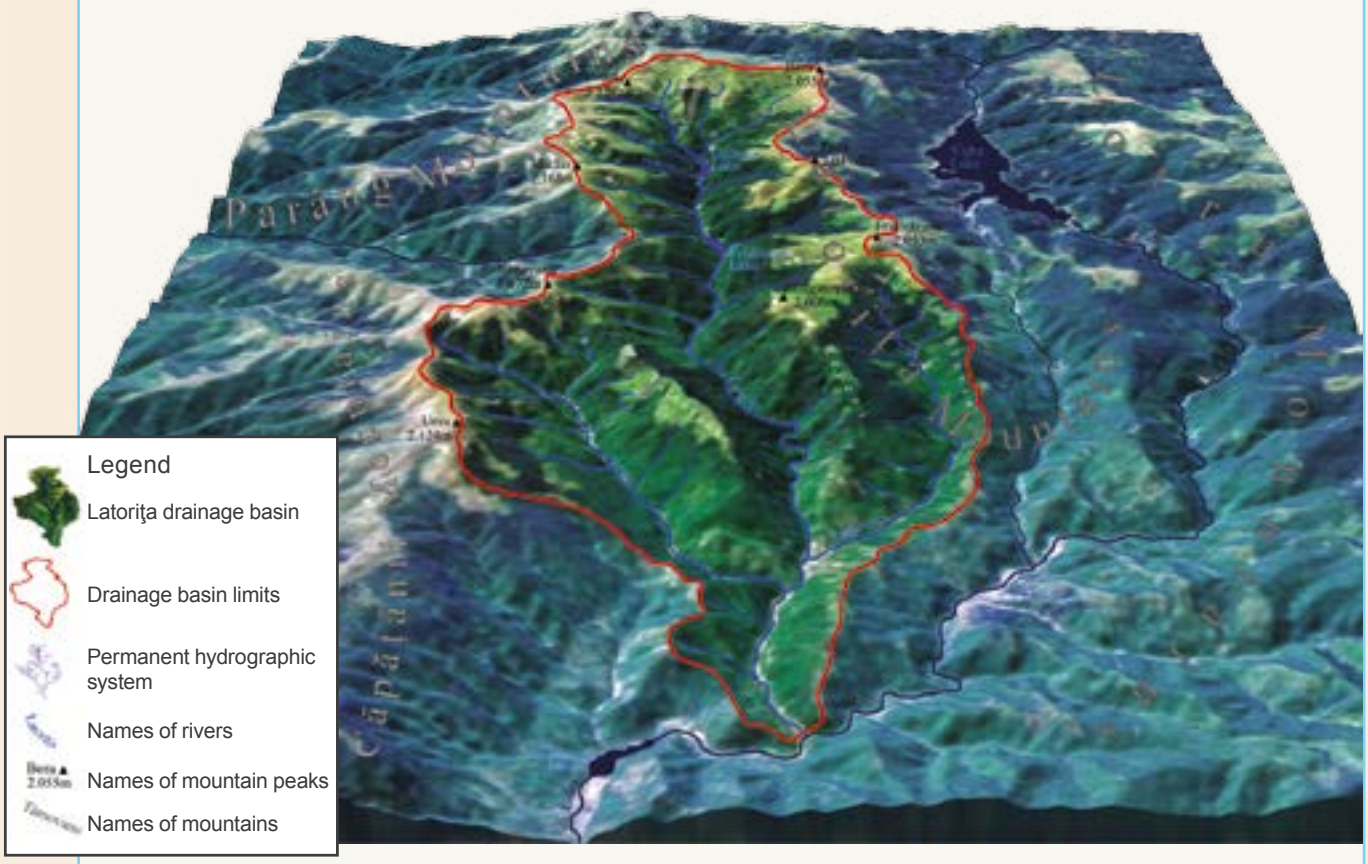
Water is a local issue, and the circumstances in each location in each river basin are unique. Unlike carbon, for which a tonne saved anywhere on Earth is the same, water systems function around specific basins, as shown in the figure below. These basins can also be broken down into smaller sub-basins.

River basins are mostly self-contained, and do not interact with others. For this reason, water impacts are only meaningfully understood at a basin or sub-basin level. One litre of water consumed in the Yangtze is not interchangeable with one litre in the Ganges – it matters *where* water is used. As such, companies need to understand the risk on a site by site basis for their direct and supply chain embedded water, rather than looking at an aggregate corporate level. **Aggregated volumetric water data at national or international levels can be misleading, and fails to capture local impacts.**

It is also important *when* water is available. Each river basin will have varying flow volumes throughout the year, and these different levels of water at different times are important for ecosystems, as well as flood and drought prediction. It is important for companies to understand temporal water flows at each operating site.

Solutions need to be at the local level. Meaningful answers must be found in the water catchment – together with other stakeholders and regulators (which may be at the national level). **A company's response should not only focus on efficiency and reducing pollution, but on water stewardship.**

Figure 12: Latoriţa River, tributary of the Lotru River (drainage basin)[188]



2. EXISTING FOCUS ON WATER ISSUES BY THE FINANCIAL SECTOR

Financial institutions are increasing their focus on water as they become more aware of the risks and opportunities it brings to their investments. In a number of cases investors have formed collaborative initiatives to share knowledge and coordinate efforts to raise the profile of the issue with the companies they invest in. Investor platforms, investor advocacy groups and large leading investors have also intensified their focus on water issues.

COLLABORATIVE INITIATIVES

CDP water program

In 2015 more than 617 institutional investors representing US$63 trillion in assets under management supported CDP in engaging companies worldwide on their water use.[189] CDP's water program is designed to guide corporations through water security challenges while helping investors and companies with large supply chains better understand how their portfolio companies and suppliers are addressing their water impacts. Its primary tool is a company survey. In 2015 there were 1,226 responses – up 15 per cent compared with 2014, generating an unrivalled database of self-reported corporate water risk and mitigating actions.

Principles for Responsible Investment

The UN-backed PRI, which as of January 2015 had 1,325 signatories with a combined US$45 trillion in assets under management, coordinates priority collaborative engagements on certain ESG themes, one of which is water risk.[190] Engagement on water risk is focused on the water risks faced by companies in their agricultural supply chains. As part of this initiative, a research report was developed in collaboration with WWF.[191] The report highlights the risks to investors and provides engagement guidance.

Ceres

Ceres is a US-based non-profit organization that advocates for sustainability leadership. It works with investors, companies and public interest groups to accelerate and expand the adoption of sustainable business practices. It recently published two water-related reports for investors:

- *An Investor Handbook for Water Risk Integration* (March 2015), which has insights on managing water risk from 35 global asset owners and fund managers with

over US$6 trillion in collective assets under management. This report noted that over the period 2003-2014, 11 resolutions were filed with food and agriculture companies on issues ranging from broad water risk disclosure and corporate policies on the human right to water, to wastewater management. The report also noted that asset managers and investors were increasingly aware of the importance of concentrating on location-specific water risks and believed that water is undervalued and subject to use and abuse. As a practice, some managers use a shadow price for water in their risk models that better reflects externalities.

- *Feeding Ourselves Thirsty: How the Food Sector is Managing Global Water Risks*[192] (May 2015), which provides investors with guidance and relevant data for evaluating the water risk exposure of public equities in the packaged food, beverage, meat and agricultural products industries. This report features a unique dataset ranking 37 major food companies on the quality of their corporate water management.[193]

  On the back of this report, Ceres coordinated joint letters from investors managing over US$2.6 trillion in assets to 15 food and drink companies about their concerns over water scarcity and pollution.[194] These companies were selected based on their relatively low water risk management scores in the report.

  Recent shareholder resolutions pertaining to water use by FMCG companies that were coordinated by Ceres are featured in the figure below:

Figure 13: Examples of shareholder resolutions coordinated by Ceres in relation to water

Company (Year)	Resolution	Filer	Result
Tyson Foods Inc (2015)	Shareholders request the Board of Directors adopt and implement a water stewardship policy that outlines leading practices to improve water quality for all company-owned facilities, facilities under contract to Tyson, and suppliers.	American Baptist Home Mission Society	Vote: 11.1 per cent No information was found on this topic in Tyson Foods' public information.
Dean Foods Co (2015)	We recommend the use of WRI's Aqueduct water risk mapping tool on water risk and stress against key suppliers initially and encourage key suppliers to pilot Farm Smart, a 'smart tool' that seeks to help dairy producers "evaluate their production techniques [and] assess economic and environmental consequences of potential improvements in management practices".	Calvert Asset Management Company	Withdrawn, ongoing dialogue. No information was found on this topic in Dean Foods' public information.

Interfaith Center on Corporate Responsibility

The Interfaith Center on Corporate Responsibility, which represents nearly 300 organizations including faith-based institutions, socially responsible asset management companies, unions, pension funds and colleges and universities that collectively represent over US$100 billion in invested capital, states that: "As people of faith, ICCR members have long advocated for protection of the planet's water as a moral mandate and a matter of both environmental and social justice." It further notes that: "Beyond the obvious social impact to affected communities, water issues pose a range of risks to business – from higher costs to major business disruptions stemming from supply chain interruptions and a possible loss of licence to operate."

ICCR issued a Statement of Principles and Recommended Practices for Corporate Water Stewardship in 2012,[195] with principle five stating that: "Corporations must implement sustainable water stewardship policies that are both environmentally and socially sustainable and that respect the universal human right to water." ICCR also provides detailed guidance on water practices to its portfolio companies.

SOME OF THE LARGEST INSTITUTIONAL INVESTORS IN THE WORLD PROVIDE EXPLICIT POLICY STATEMENTS ON HOW THEY WILL ADDRESS WATER MANAGEMENT AT THE COMPANIES WHICH THEY INVEST IN

SIGNIFICANT ACTIONS BY INDIVIDUAL INVESTORS ON WATER ISSUES

Some of the largest institutional investors in the world provide explicit policy statements on how they will address water management at the companies which they invest in. Examples include:

NBIM: "scarce water supplies are a growing risk"

NBIM (manager of Government Pension Fund Global of Norway, one of the world's largest sovereign wealth funds) states that scarce water supplies are a growing risk for many of the companies the fund invests in and that managing this risk is important for the companies' financial results and the fund's investments. NBIM has identified the food sector as one of a "number of industries that are particularly exposed to the risk of scarce water supplies". They set out expectations for their portfolio companies[196] which focus on clear water management strategy, sustainable water management and governance structures.

PGGM's focus on water scarcity

PGGM is the investment manager for the second largest Dutch pension fund. In its 2014 annual report[197] it explains why water scarcity is an area of focus. PGGM notes that the expected global demand for water will be 40 per cent higher than the supply, which affects the companies in which PGGM invests on behalf of its clients, especially in sectors that are highly dependent on water, such as power generation and agriculture. PGGM's engagement programme focuses on providing better insight into the business value at risk due to water issues, looking into risks to company production sites, as well as risks within the supply chain, ranging from raw materials to the use of end products.

CalSTRS playing its role in helping society manage water scarcity

CalSTRS, the California State Teachers' Retirement System, is one of the largest US pension funds, and one of the largest public pension funds in the world. It reports in its 2014 *Green Initiative Task Force Annual Report*[198] that in California the fund is keenly aware of how water scarcity can impact lives and businesses, as the state struggles to manage a depleting water supply. CalSTRS notes that investors can play a role in helping society manage water scarcity by encouraging portfolio companies to be mindful of their water consumption and make efforts to conserve and recycle water when possible. The CEO, Jack Ehnes, states that CalSTRS uses water tools such as the Aqua Gauge "to analyze companies in our portfolios and to help us engage with companies on water risk."[199]

Water: one of RobecoSAM's key sustainability themes

RobecoSAM is an investment specialist focused exclusively on Sustainability Investing. It provides an annual ESG analysis of 2,800 listed companies through its Corporate Sustainability Assessment which is used as the basis for the construction of the Dow Jones Sustainability Index. RobecoSAM focuses on water as one of the key sustainability themes, noting that it has never been as apparent as today that water supplies are limited as shown by prolonged droughts in California and Brazil.[200] RobecoSAM states on its website that "companies offering products and services that address global challenges related to the scarcity, quality and allocation of water are well-positioned to profit in the long run". RobecoSAM has developed a Sustainable Water Fund[201] and provides frequent updates on water issues to its clients.

Drought badly affects many parts of Asia

3. WATER RISKS FOR ASIAN FMCG COMPANIES

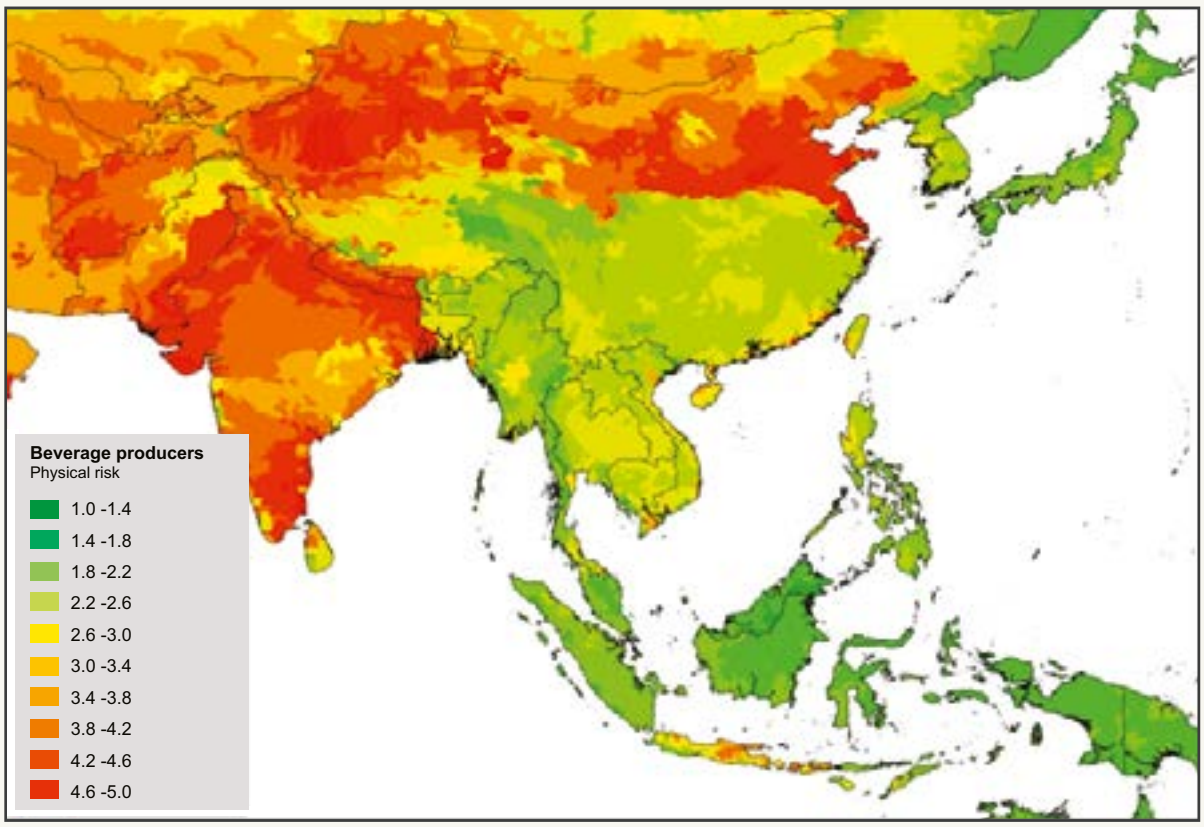
Water risks are widespread for FMCG companies, and can have tangible impacts on companies' supply chains, operations and production, and subsequent commercial performance.

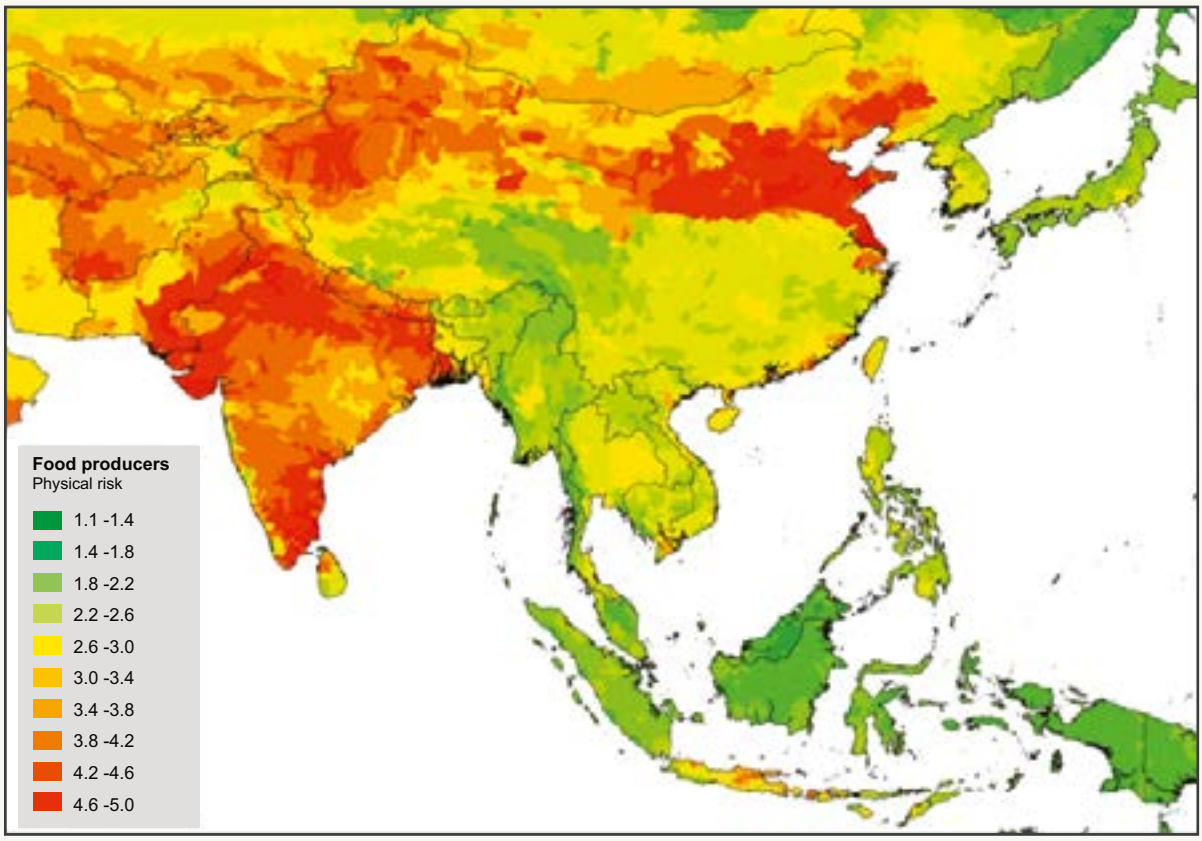
For example, in China many sites are legally limited in how much they can increase overall production without first taking drastic action to reduce their water use and impacts.

Water issues can be complex and affect water users, including FMCG companies, in different ways. The risks split broadly into three categories: physical risks related to the problems of too little water, which can affect direct operations or create supply chain disruption; reputational risks; and regulatory risks.

Figure 14 shows the level of risk food and beverage producers face in different areas of Asia, calculated using WWF's Water Risk Filter. India and China face particular threats.

Figure 14: Physical water risks for food and beverage producers in different parts of Asia





The CDP *Global Water Report 2015* shows high levels of risk

Companies which contributed information to the CDP *Global Water Report 2015*[202] reported they felt they were at a great deal of risk from water-related issues:

COMPANIES WHICH CONTRIBUTED INFORMATION TO THE CDP *GLOBAL WATER REPORT 2015* REPORTED THEY FELT THEY WERE AT A GREAT DEAL OF RISK FROM WATER-RELATED ISSUES

- Sixty-five per cent of the companies that responded to investor requests for information reported an exposure to substantive water risk. Respondents reported in total 2,413 individual risks in direct operations and 788 in supply chains with 44 per cent of all risks estimated to occur within the next three years.

- Sixty-eight per cent of respondents from FMCG sectors reported exposure to risks in direct operations and in supply chains. The most significant risk drivers reported were increased water scarcity and increased water stress and drought. Forty-three per cent of respondents experienced detrimental water-related business impacts in the reporting years.

- Seventy-five per cent of FMCG respondents reported that they have evaluated how water risks could impact the growth of their business in the near future. Such constraints could be from physical limits to growth as well as limits to gaining a social licence to grow and operate. There is a risk that water resources become a limiting factor for expansion if they are not integrated into long-term planning. This is particularly important for the FMCG sector, which has the highest

proportion of respondents reporting an increase in water CAPEX and OPEX year on year (22 per cent).

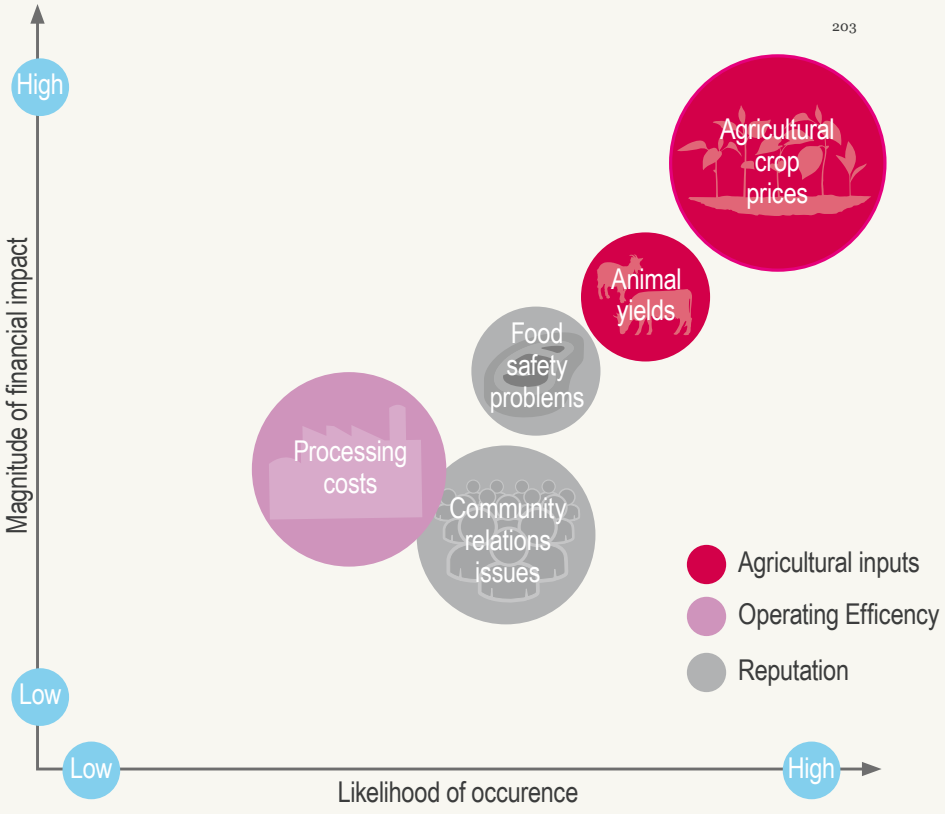
- For example, Unilever fears that it could face requirements to use less power for its operations in Brazil because of the effects of the drought on hydropower production and this could also cause consumer demand for its products to decrease if washing behaviours change in response to the long-term drought.

- Fewer than 15 Asian FMCG companies responded to the report and all were from Japan and South Korea, showing Asian companies' lack of engagement on water issues.

Food and beverage sector at risk

The WRI and HSBC also analyzed how climate change and water scarcity risks are likely to play out for the food and beverage sector in South and Southeast Asia. They found that the highest magnitude and risk of financial impacts came from the impact on agricultural crop prices (see figure below).

Figure 15: Sector risks: Magnitude of impacts of climate change and water scarcity on the food and beverage sector in South and Southeast Asia



CERTIFICATION STANDARDS NEED TO DO MORE ON WATER

This report considers the risk of supply chain disruption due to water issues in the water chapter rather than in the commodities chapter as the sustainable water management requirements in current certification standards do not extend all the way to water stewardship. Water stewardship is based on collective action and is crucial if companies are to have any chance of success at resolving the underlying water crisis that threatens their operations and supply chains.

WWF acknowledges that the certification standards mentioned in the previous chapter provide positive contributions to water challenges over and above conventional agriculture. We are seeking to develop an integrated water and standards assessment framework to align and enhance the coverage of water stewardship in existing standards and certification evaluation. A 2015 report[204] provides some recommended solution pathways for the standards community to better address water risk and incorporate water stewardship into their systems.

4. ASIAN FMCG COMPANIES' CURRENT ACTIONS ON WATER

This section looks at the steps the 26 large listed Asian FMCG companies assessed as part of this guide are taking on addressing water-related risks in their supply chains and in their direct operations.

It should be noted that the steps taken by the companies in figures 16 and 17 tend to focus on footprint reduction or water efficiency as an end in itself. While this is important, it is insufficient to properly address water risk, which considers many aspects of governance, regulations, physical limitations and failure of water management. Companies need to aim for water stewardship, and should first undertake water risk analysis on their supply chain, using tools such as the WWF Water Risk Filter and WWF's five-step approach (see page 103).

ACTION ON EMBEDDED OR SUPPLY CHAIN WATER RISKS

Of the 26 large listed Asian FMCG companies assessed as part of this guide, 21 made no disclosure on whether they monitor and manage their supply chain water risk/embedded water risk. Five of them disclosed steps to manage embedded water use, of which one, being purely a household personal care company, focused only on downstream indirect water use (i.e. use of water by consumers to rinse cleaning products). The remaining four which disclosed on upstream supply chain water use are featured in figure 16.

Figure 16: Companies' disclosures on upstream supply chain water use

Company name	Steps disclosed to address embedded/indirect water use
Hindustan Unilever Ltd	Hindustan Unilever: ● Hindustan Unilever focuses mainly on creating capacities in conserving water through significant investments in partnership with relevant stakeholders across India via its foundation. Community projects have resulted in increased crop yields, water conservation, and capacity building on water conservation and better agricultural practices.[205] Unilever Group: ● Unilever's Sustainable Agriculture Code[206] recommends good practices and mandatory requirements for suppliers on water use and water management. Unilever has also recommended[207] good agricultural practices for water (for example, optimal irrigation practices and erosion prevention) and how these practices are implemented, for example, through training of farmers. ● According to Unilever's 2014 CDP water response,[208] 85 per cent of its water footprint is associated with consumer use of its products; irrigation water for agricultural raw materials is about 15 per cent; and manufacturing is less than 1 per cent. ● In this same CDP response, Unilever stated that using data from the Water Footprint Network, it assesses the amount of irrigation water used to produce its key agricultural raw materials. It does this across all the water-scarce countries from which it sources raw materials. This includes a detailed assessment of key agricultural materials (around half of its volume) and consideration of a further 30 materials.[209]
Nestlé Malaysia Bhd[210]	● Nestlé Malaysia had a 2015 objective to define and start to implement action plans to save water in its upstream supply chain for coffee, sugar, rice and cereals in high priority locations.[211] ● Nestlé Group measures water use throughout its value chain in order to improve the water efficiency of its products, in recognition of the large quantities of raw materials and ingredients purchased, all of which require water to grow. In 2013, the water consumed by the crops it purchased amounted to 65 billion m^3.
Unilever Indonesia Tbk PT[212]	Unilever Group: As above.
Want Want China Holdings Ltd	● Cooperates with Alxa SEE Foundation (SEE stands for Society of Entrepreneurs and Ecology) to encourage the local farmers and herdsmen to grow plants that demand less water, to grow 'Desert Millet' to replace corn and to promote water-saving irrigation methods and environmentally friendly growing methods.[213]

ACTION ON DIRECT WATER RISKS

Awareness of direct water risks (the water-related impacts and risks stemming from their own managed operations) and actions to manage these are much higher than for indirect or embedded water risks. Of the 26 large listed Asian FMCG companies, 17 had disclosed an awareness of and action to manage direct water use. Nine of them lacked disclosure on this issue. The following table provides six examples of awareness and action from this group. We have not assessed the adequacy of their actions but have provided examples of steps disclosed by these companies to facilitate engagement and comparison by financiers.

Figure 17: Companies' disclosures on direct water use

Company name	Steps disclosed to address direct water use
Amorepacific Corp[214]	• Amorepacific aims to reduce water consumption by 30 per cent per unit of output by 2020 compared to 2010. • At its two Beauty Campuses in Osan and Shanghai, projects were carried out in 2014 to increase the use of rainwater which effectively reduced the yearly water consumption by approximately 20,000 tonnes in total for the two sites. • PACIFICGLASS identified the areas of the production process where water is unnecessarily spent, and established a recycling system to reuse water that would otherwise be wasted.
Dutch Lady Milk Industries Bhd[215]	• The operations team, with the support of the parent company, have put in place strategy and actions to decrease Dutch Lady Malaysia's water footprint by 20 per cent per kilo by 2020 compared to 2010, through an efficiency gain of 2 per cent per year.
Hindustan Unilever Ltd[216]	Unilever Group: • Under the 'Reducing Environmental Impact' goal of Unilever, it has set a water objective to "Halve the water associated with the making and consumer use of Unilever products globally, by 2020." Hindustan Unilever: • In India, Hindustan Unilever reduced water usage (cubic metre per tonne of production) in 2014 in its manufacturing operations by 44 per cent, compared to its 2008 baseline.
Nestlé Malaysia Bhd[217]	Nestlé Group set objectives as follows to reduce its water consumption: • By 2015 – Reduce direct water withdrawals per tonne of product in every product category to achieve an overall reduction of 40 per cent since 2005. • By 2015 – Establish and implement detailed guidelines on human rights to water and sanitation due diligence. • By 2016 – Define water stewardship initiatives and start implementation in five high priority locations. • By 2016 – Implement water saving projects in 100 per cent of high priority manufacturing facilities. • By 2016 – Carry out 45 new water resources reviews in selected manufacturing facilities, and all greenfield sites. Nestlé Group employed the Nestlé Combined Water Stress Index[218] to assess water stress at operating sites and throughout its supply chain in 2014. The index takes an average of results from three leading water-stress indicators (WWF's Water Risk Filter, WRI's Aqueduct and Pfister's Water Stress Index). It gives a risk score (low, medium or high) to help determine the level of risk associated with reduced water quantity or quality and considers possible competition with other local water users.

A woman carrying water taken from the river, Annapurna Conservation Area, Nepal

Company name	Steps disclosed to address direct water use
Thai Beverage PCL[219]	● Thai Beverage has identified two risks on water resources throughout its product life cycle: risk on water shortage and quality of water for the production process, and risk on volumes and quality of water after the production process. In order to prevent and mitigate those risks Thai Beverage has surveyed and monitored the volumes of water in public resources where its production facilities were located, based on the information of related public agencies. ● It launched a pilot project on water footprint to develop a systematic water management system throughout the entire production supply chain. ● From 2015 onward, effective tools, namely, the Global Water Tool by the World Business Council for Sustainability Development and WRI Aqueduct, are to be deployed for water volume assessment so as to determine the critical water level and water shortage tendency. The company signed up to a 2015 water footprint project[220] for food exporters with the Thai government to measure its water consumption and manage wastewater.
Thai Union Frozen Products PCL[221]	● Based on Thai Union's water stress assessment 2014 using Aqueduct's global water risk mapping tool for its key 15 factories in all continents, the company has one factory in 'high' water stress, and seven factories in 'medium to high' water stress. This is considered critical to systematically manage the company's water intake. ● Because Thai Union operates in water-stressed areas, the company focuses on reducing water use and minimizing effluent burden on local municipalities and ecosystems. A focus on water efficiency also helps Thai Union to lower its operating costs. ● Municipal water supply is the major source of water for Thai Union's canning factories, therefore the company is taking steps to minimize its risk exposure in this area. ● Cleaning consumes large amounts of water and Thai Union is constantly looking for ways to reduce water usage in this process without undermining food safety standards. ● In 2014 Thai Union introduced several projects to use recycled water for cleaning purposes, mostly outside the building and for the toilets.

5. THE BENEFITS OF WATER RISK MANAGEMENT FOR FMCG COMPANIES

Water risk management offers a wide range of benefits to FMCG companies, outlined below.

THE FMCG SECTOR HAS A LARGE DEPENDENCE ON WATER IN ITS AGRICULTURAL SUPPLY CHAINS, FOR THE GROWTH AND PRODUCTION OF MAIZE, SUGARCANE, BARLEY, WHEAT, CEREALS AND GRAINS, COCOA, MILK, AND EDIBLE OILS SUCH AS RAPESEED, SOYBEAN AND PALM OIL

PREVENTING SUPPLY CHAIN DISRUPTION DUE TO EMBEDDED WATER RISK

The FMCG sector has a large dependence on water in its agricultural supply chains, for the growth and production of maize, sugarcane, barley, wheat, cereals and grains, cocoa, milk, and edible oils such as rapeseed, soybean and palm oil. While this initially appears to be an issue for suppliers to manage, the risk transfers to FMCG companies if their suppliers are unable to deliver product at the required price, quantity and quality. Companies should consider the embedded water risk in their supply chains in case these risks cannot be managed by their suppliers. Companies that do so are more likely to benefit from uninterrupted supplies.

There are multiple types of water risk that can affect soft commodity producers. Water quality issues can have a strong effect on agricultural and raw material production, with polluted or salinated ground and surface water potentially being used for irrigation purposes – damaging crops or creating poor quality product, reducing soil quality and leading to potential health issues for consumers.[222]

Drought and flood are also highly relevant risks for agricultural supply chains, and can lead to shortages of water and widespread crop failure. Some agricultural sites will need to seek last minute water and this increases their production costs – this may then be passed down direct supply chains. Climate change and other global factors can lead to large-scale changes in water availability, which will affect agricultural production costs and increase commodity prices.

Even without accounting for climate change impacts, global commodity prices are expected to increase in the long term,[223] with the price of wheat predicted to rise by 81-102 per cent by 2050. Volatility in precipitation and more severe water scarcity may increase these pricing risks further.

Asian supply chains have significant exposure to the issues. China is among the largest exporters of products linked to water risk: 40 per cent of its food production is in water-stressed areas.[224] HSBC Global Research looked at how water scarcity and pollution could affect food safety and food security in China.[225] The study warns that the agricultural sector, which is the top user and polluter of water in China, may come

under risks from the government's tightened regulations on water usage as well as water and soil pollution. It is possible that such disruptions will be passed downstream to FMCG companies through pricing increases and potential shortages.

In Japan, KPMG research, together with Trucost,[226] showed that from all sectors listed on the Nikkei 225 index, the food and beverage companies have the highest share of water consumption in their supply chain: 98 per cent of their water footprint resides with first-tier and further upstream suppliers. The whole Nikkei index 'imports' more than 75 per cent of its water use, mostly from other countries in Asia.

Companies worldwide are already facing water-related supply chain disruption:

- **Unilever NV** estimates that natural disasters linked to a changing climate — in particular, food price increases, water scarcity and reduced productivity in many parts of the agricultural supply chain — cost the company around US$400 million annually (around 0.7 per cent of 2014 revenues).[227]

- **Campbell Soup Co** saw a 28 per cent drop in its California-based carrot division profits in early 2015 due in part to drought followed by intense rains which forced them to shift harvesting to farms that were less affected and also increased freight and water costs.[228] In their 2014 annual report, Campbell Soup Co clearly describe the exposure of their business to supply chain disruptions brought about by events such as adverse weather and water scarcity. They state that: "Failure to take adequate steps to mitigate the likelihood or potential impact of such events, or to effectively manage such events if they occur, may adversely affect the company's business or financial results, particularly in circumstances where a product is sourced from a single supplier or location."[229]

- **JM Smucker Co** raised prices on most of its US packaged coffee in June 2014, after the worst drought in Brazil in decades caused green coffee costs to soar. In November 2014, the company termed the price increases a 'misstep' as they led to a sharp drop in sales volumes as customers shifted to cheaper private-label brands. The company announced plans to introduce smaller Folgers cans in Q2, 2015 to win back customers.[230]

MITIGATING OPERATIONAL RISKS

Good water management will help companies to ensure they have enough water for their operations at all times.

FMCG companies are large consumers of water in their direct operations and processing facilities, and can very quickly see production disrupted by drought, flood, water resource competition, climate change and other physical water risks. This can be

due to groundwater depletion (sometimes requiring company investment in additional boreholes or infrastructure to withdraw the same volume of water), surface water reduction, or municipal water supply cost increase.

As climate impacts intensify, this is not something that can be avoided by having a 'backup' location, since water risks are likely to increase across whole regions where production is taking place and this could limit earnings growth.

COMPANIES AND THEIR SUPPLIERS NEED TO MAINTAIN THEIR SOCIAL LICENCE TO OPERATE LOCALLY OR THEY MAY BE FORCED TO STOP USING WATER, POTENTIALLY HALTING PRODUCTION

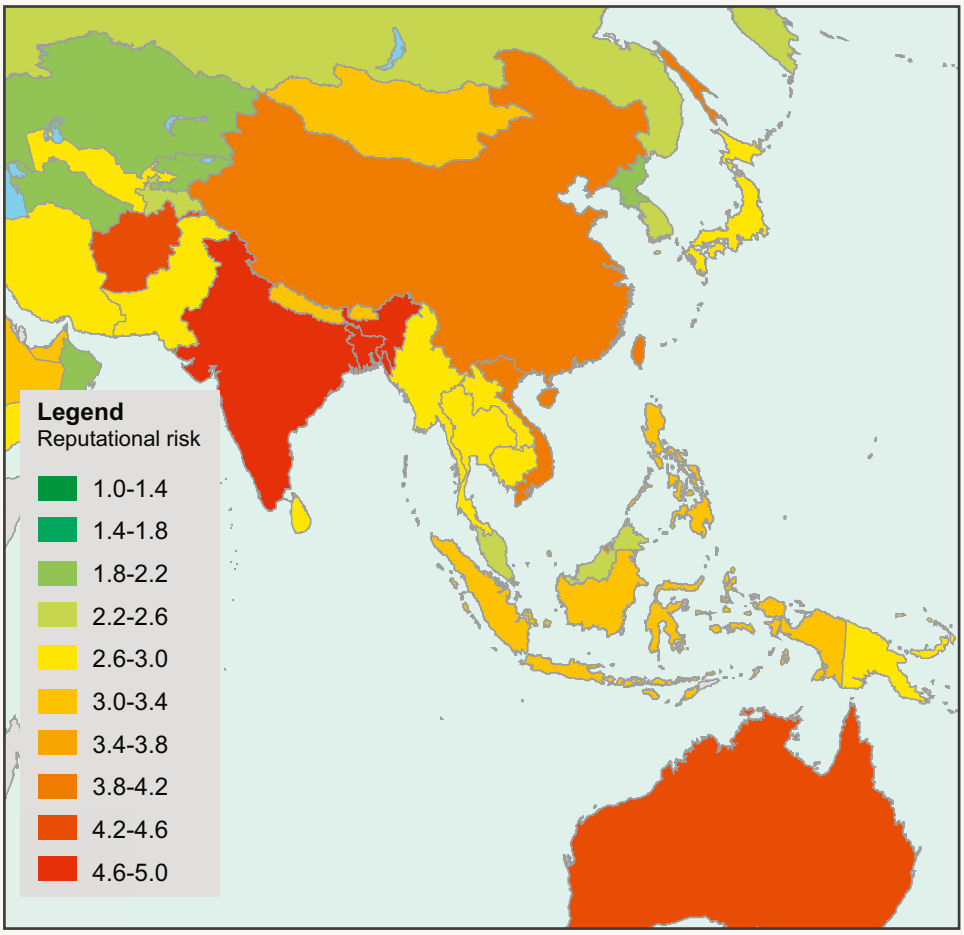
Water quality has been declining throughout Asia due to a combination of increased pollution and decreased flow volumes. Lower water quality can impact water availability, increase the costs for treatment and increase food safety risk.[231] In particular, beverage companies are at risk, due to their direct water use and requirements for consistent volumes of high quality source water.

For example, a report by China Water Risk *Bottled Water In China – Boom Or Bust?*[232] looked at the exposure of the bottled water industry to physical and regulatory risks in a country where bottled water is one of the fastest growing FMCGs. The report states that in 20 years China has become the world's number one bottled water consumer. Bottled water consumption is expected to grow faster than the national water quota and this booming market has attracted both domestic and foreign investments. However, the report estimates 71 per cent of the bottled water production lies in water-scarce and water-stressed regions, therefore bottled water companies are exposed to significant physical and regulatory risks.

MAINTAINING A GOOD REPUTATION

Without good management, companies can suffer huge reputational damage on water issues, either locally near operations and supply chains, or at a global and brand level. The figure opposite shows that most water basins in Asia are classified as moderate to high reputational risk.

Figure 18: Water-related reputational risk throughout Asia



Reputational risk mapped using the WWF DEG Water Risk Filter: *waterriskfilter.panda.org*

Companies and their suppliers need to maintain their social licence to operate locally or they may be forced to stop using water, potentially halting production. It is important for companies to understand the reputational risks across the specific areas in which they operate as these can vary significantly.

Examples of companies facing reputational risks related to water include:

- In 2013, **Nestlé Waters North America Inc** faced opposition in several states while securing contracts to build water bottling plants in the US,[233] leading to severe postponements. The company was the subject of negative media attention due to this issue.

- **Nestlé Waters North America Inc** was again impacted by water-related reputational issues in 2014 amid a severe drought in California. It faced criticism from the local population (who had been asked to cut their consumption by a

fifth) for the fact that Nestlé Waters North America was still bottling water in its Southern California plant. For example the League of Conservation Voters, a prominent national lobby group, urged 50,000 of its members and consumers to petition the company on the issue.[234] Nestlé SA stated on its website[235] that it withdraws less than 0.008 per cent of the total water in California and that closing its operations or reducing the amount of water it withdraws significantly would not resolve the drought problem. It stated that the resulting annual savings from shutting down all of its California bottling plants would be less than 0.3 per cent of the total the California Governor estimated the state needed residential and public users to save. This exchange demonstrates the heightened sensitivity around water issues that FMCG companies need to manage carefully.

- Both **Coca-Cola Co** and **PepsiCo Inc** have had issues in India. In 2003, citizen protests in Kerala forced Coca-Cola Co to shut down its bottling plant due to local stakeholders accusing them of pollution and depleting the groundwater supply.[236] The campaign was picked up across the world and in particular in the US. This not only caused Coca-Cola Co disruption of supply in Kerala, but brand damage across the world. The result was a stranded asset valued at US$16 million.[237] A local water issue also became a global brand issue.

  Despite having an in depth focus on water risks, Coca-Cola Co faced similar problems again in 2015, when it had to abandon plans to build a US$81 million bottling plant in southern India[238] due to resistance from local farmers who cited concerns about strains on local groundwater supplies. This followed on from the 2014 mothballing of a new US$24 million bottling line at an existing bottling plan in Uttar Pradesh due to disagreements with the local water authorities amid protests from local farmers. This demonstrates the difficulties faced by FMCG companies looking to expand into areas experiencing or facing risks of future water stress.

  PepsiCo Inc's experience was similar and also occurred in 2003. It was accused of excessive groundwater use at its facilities. Following protests its Indian sales suffered double digit falls.[239] The company faced a second round of protests and a hit to sales in 2006 when protestors smashed bottles on the streets while several states in India banned or restricted the sales of soft drinks.

REGULATION AND STRONG WATER MANAGEMENT INSTITUTIONS ARE VITAL TO ENSURING THAT WATER ALLOCATION AND QUALITY ARE SUSTAINABLE AND BALANCED

MITIGATING REGULATORY RISKS

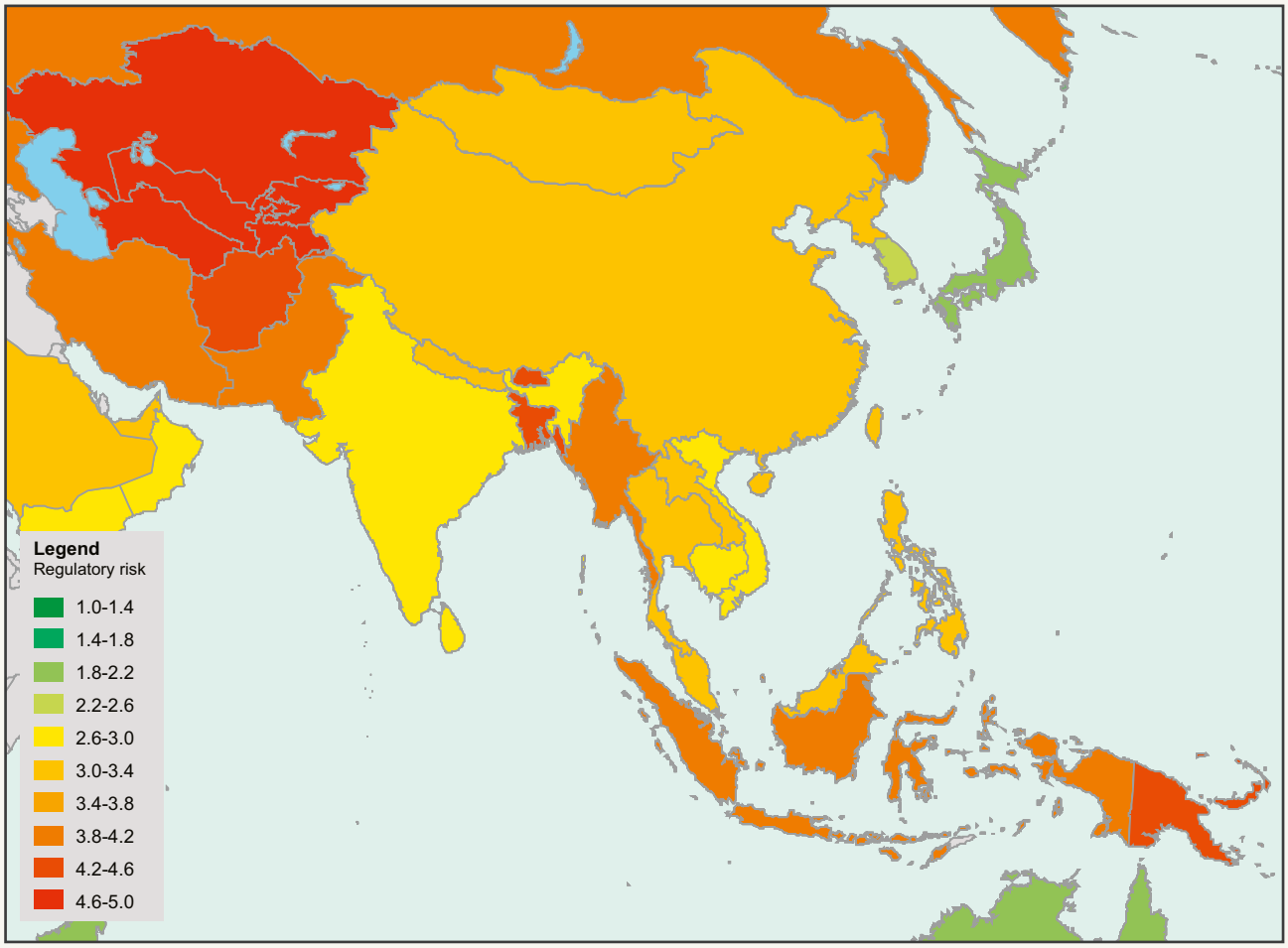
Regulatory risks are connected to unstable or poor regulation of water use and lack of positive water management processes. For a company or its suppliers, this can mean instability, uncertainty, higher costs and a lack of balanced decision-making on water rights and allocations.

Regulation and strong water management institutions are vital to ensuring that water allocation and quality are sustainable and balanced. Strong basin management means

weighing competing water demands and uses, to provide an equitable allocation for the benefit of all users within the limits of the physical environment, and to safeguard the quality of ground and surface water.

Lack of adequate planning and regulation – for example a lack of integrated river basin management – can lead to water over-exploitation, water pollution and habitat destruction. It can mean that local populations are not included in decision-making, water rights are not properly allocated or honoured, and private interests are sometimes allowed to monopolize or damage water sources, preventing access by other users and local populations. It may also mean that preparations are not made for future water scenarios and current extremes of drought and flood, and local populations are not able to access basic water and sanitation services. Weak governance can lead to instability of regulation around water, which is challenging for all water users. All of these scenarios have negative impacts for an organization operating in affected countries or regions.

Figure 19: Water-related regulatory risk throughout Asia
Reputational risk mapped using the WWF DEG Water Risk Filter: *waterriskfilter.panda.org*



Focusing on water efficiency is important, but it is insufficient to properly address water risk, which should consider many aspects of governance, regulations, physical limitations and failure of water management

WHILE IT IS NOT POSSIBLE TO PREDICT WHEN REGULATORY CHANGES REGARDING WATER USE MAY COME ABOUT, THE IMPENDING WATER CRISES IMPACTING ASIA IN THE NEXT 15 YEARS SUGGEST THAT GOVERNMENTS WILL HAVE TO REACT SOONER RATHER THAN LATER

Regulation of water use and water quality is lax in many developing countries, and sites adhering to the law can still have serious negative impacts. For companies looking at water risk in their supply chains and operations, legal compliance is usually not a sufficient threshold to mitigate site-level water risks. Even where regulations are strong, enforcement can be weak. The figure above shows regulatory risk across countries and highlights moderate to severe regulatory risks across Asia.

Companies that have investments in locations where regulations and institutions fail to properly regulate water, or which struggle with implementation of laws and limits, face higher water-related risks. In these conditions, it is not possible for a company to manage water risk by only improving its own practices. If governance does not function optimally, impacts from other users can continue to influence a company and operational and supply chain risks continue. Volatility of the political landscape also poses great risks to ensuring stable access to water, and can lead to sudden changes in the cost, licensing requirements or availability of water resources. Here, collective action is required.

A further governance issue relating to water is how its price is set. Companies in many locations are currently paying a low cost for water. In many parts of Asia, water is not priced at all or priced very low[240] and does not reflect the externalities (costs) borne by others. A KPMG/Trucost study showed that if suppliers to Nikkei 225 index companies in the personal and household goods sector were to pass on water prices that reflect water scarcity in Asia through the supply chain, the additional costs would equate to 84 per cent of EBITDA on average. This may not be a hit to earnings as the companies may be able to pass on some costs, but it highlights the significance of the risks involved.

While it is not possible to predict when regulatory changes regarding water use may come about, the impending water crises impacting Asia in the next 15 years suggest that governments will have to react sooner rather than later to prevent significant adverse consequences.

6. OVERCOMING HURDLES TO EFFECTIVE WATER RISK MANAGEMENT AND STEWARDSHIP

FMCG companies should address water issues. This is not only for immediate procurement cost savings, which may be limited since in many countries water has a low price (often free), but also because water impacts multiple aspects of financial viability – expenses, revenues, assets and liabilities. Both potential corporate and basin-related water risks have a significant ability to affect future value. Since in many cases these risks are from outside their own operations, companies need to take a water basin-level approach, considering other users in the same basin, not just their direct footprint.

The most effective approach is described as water stewardship. The Alliance for Water Stewardship (AWS) [241] defines it as "entailing the internal and external actions that ensure water is used in ways that are socially equitable, environmentally sustainable and economically beneficial".

ONE OF THE BEST WAYS FOR COMPANIES TO START WORK ON WATER ISSUES IS TO JOIN A COLLECTIVE ACTION PROJECT WITH MULTIPLE STAKEHOLDERS, INCLUDING GOVERNMENT, CIVIL SOCIETY, AND OTHER PRIVATE SECTOR PLAYERS

A report published in August 2015 by WWF and the IFC entitled *The value of water: A framework for understanding water valuation, risk and stewardship*[242] offers a new framework to understand water valuation, risk, and stewardship. It identifies three concepts which are often used interchangeably, although they differ considerably: the price of water, the cost of water, and the value of water. By showing how physical, regulatory and reputational risks at company and basin level are related (see figure 20 opposite, extracted from page 17 of the report) it highlights the importance of companies moving to water stewardship. This report makes six recommendations for companies:

1. Understand water's value to different audiences.
2. Understand how risk and uncertainty impacts the value of water.
3. Include water-related value in the balance sheet and income statement and discuss both water risk and stewardship response in the annual report.
4. When making financial decisions, consider more than just the price of water.
5. Learn about, and engage in, water stewardship to more fully capture water-related value.
6. Share with investors how water stewardship creates and preserves value.

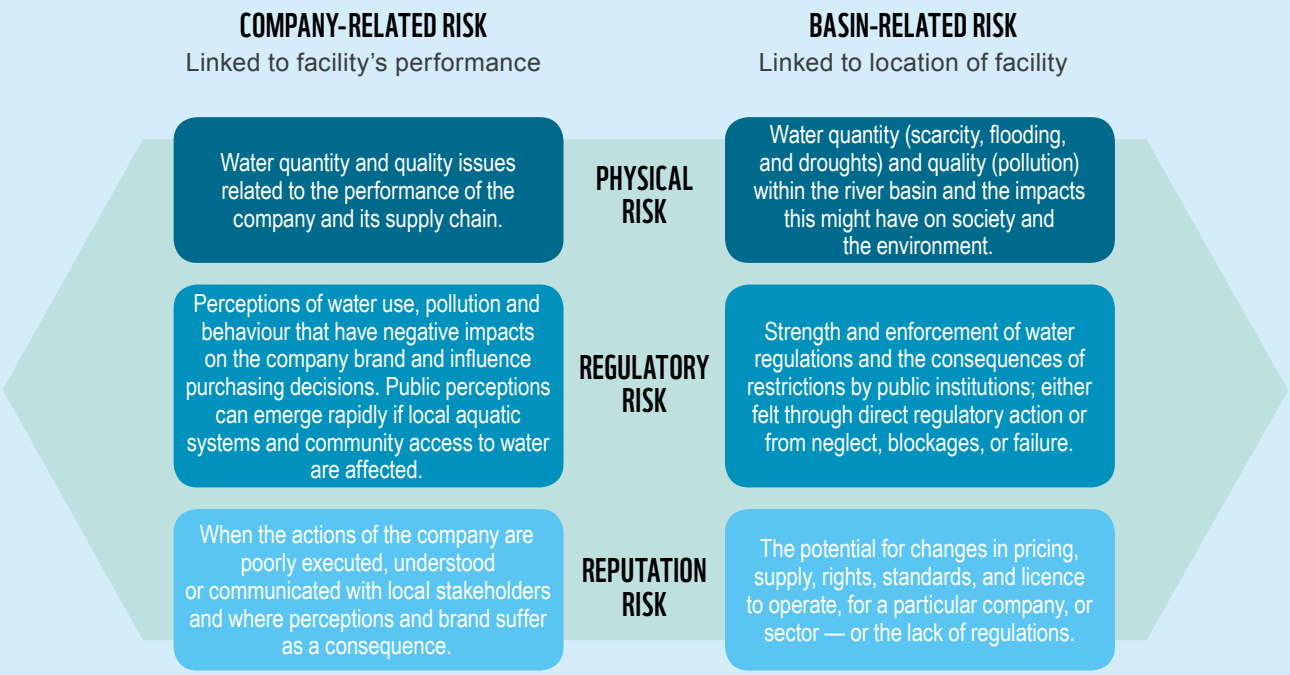


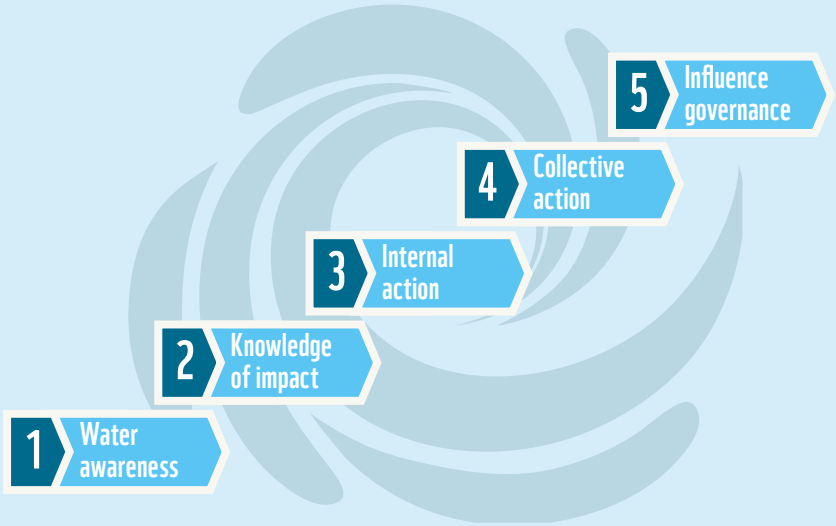
Figure 20: Types of water risk

One of the best ways for companies to start work on water issues is to join a collective action project with multiple stakeholders, including government, civil society, and other private sector players. Companies will gain increased understanding to address their internal footprint and identify and solve technical, financial and strategic challenges.

THE FIVE STEPS TO MITIGATING WATER RISKS AND CAPTURING WATER-RELATED VALUE

The following steps illustrate the progress that FMCG companies can make in their journey toward sound water risk management and eventually water stewardship. This section provides for each step the various hurdles preventing companies from achieving progress, available solutions and existing best practice examples. Companies do not have to follow these steps in order.

Figure 21: Water Stewardship Steps[243]



Steps 1-3 relate to activities over which companies have greater control, while 4-5 involve coordinating with other stakeholders. Steps 1 and 2 build internal knowledge and understanding of water issues and risks in operations and supply chain management. Step 3 helps to reduce internal and supply chain impacts.

Steps 4-5 are where a company shifts from management to stewardship – where the rules, measures, focus, engagement, control and complexity change considerably – and where traditional notions of business sustainability are most challenged by the resource. However, where reputable collective action initiatives already exist in the basin, companies that join should be able to benefit from the theory of change and knowledge of the water situation in place. As such, steps 4-5 are not just for companies with a mature water stewardship strategy. Mature companies can take steps 4-5 as leaders, while less mature companies and SMEs can join existing initiatives geared specifically to help them take impact reduction action and take part in shared solutions. For example, FMCG producers and SMEs in Pakistan,[244] India,[245] and China[246] are all working with WWF teams to develop their understanding and in many cases with external initiatives such as the PaCT programme in Bangladesh.[247]

Figure 22: Definition of steps

Steps 1-3	Steps 4-5
Direct sphere of control	Indirect sphere of influence
Impacts my company has on water resources	How my company is impacted by external water issues
Efficiency of resources	Allocation of resources
Products I make (or buy or use)	Places I (others) make them
Private goods	Public goods
The value I create	The values people hold
The risk I face	The risk we face

A man looking at a dried up river just north of Beijing in Heilingjong province, China, during a drought in the area

STEP 1: WATER AWARENESS

This is awareness of the general water debates (social, environmental, economic), the water management context and the functionality of water institutions, as well as the implications for specific sectors. Awareness should also explore how other parties perceive the company, including basin stakeholders, the press, consumers and NGOs. This will influence the degree of risk that a particular company faces. There is also internal awareness of issues, from the CEO to plant and purchasing managers, which is a key factor in how companies sell the water story internally. As with each of the subsequent steps, building water awareness is an ongoing process and progress needs periodical review. On the basis of public disclosure, our assessment shows that 17 out of 26 (65 per cent) of large listed Asian FMCG companies had some level of awareness of their direct water risks. The awareness on indirect water risk through agricultural supply chains was much lower, with only four disclosing any monitoring or management steps.

OPERATIONAL HURDLE

The company is not aware of the local nature of water impacts, or the kinds of risks their operations and supply chains are exposed to. Water is not widely discussed within the organization, and is not embedded in product/process design or other assessments. No training is given on water issues. The company has a short-term perspective on water dependency and its operational/raw material water needs.

Solutions:

- Engage with internal and external stakeholders to help understand the impacts and risks in basins and across the company.
- Understand water use and sources within the company and supply chain.
- Create internal capacity on water and ensure water issues are embedded into staff and supplier training.

Example: Marks & Spencer Group plc is committed to working with its suppliers to improve their water efficiency and encourage good water stewardship[248] through its Sustainable Factory and Farming for the Future programmes. Marks & Spencer initially focused on assessing water impacts and risks for 200 suppliers in five countries to understand and share water management good practice. It has produced a guide[249] with WWF directly targeted at agricultural producers to help them better understand their water risks and how they can reduce these risks through good water stewardship. It aims to help agricultural producers identify ways to improve the use and management of the freshwater resources that are critical to the sustainability of their business.

REGULATORY HURDLE

The company lacks comfort with and understanding of the regulatory elements of risk. It sees adherence to the legal minimum as providing protection. There's also a lack of understanding of regulatory variation and (possible) inadequacies across opaque supply chains. The company does not recognize the shared risk approach either (defaulting to a win/lose view of water as a resource).

Solutions:

- Analyze how issues around water regulation are communicated internally.
- Work to understand and communicate water regulation and pricing.
- Embed regulatory issues into internal and supplier training.

Example: H&M has created in depth internal training and communication materials, looking at all water risks including physical, regulatory and reputational risks. These risks are included in the company's risk management strategy.[250] H&M is very communicative with its stakeholders about how it addresses water risks, particularly through its dedicated sustainability website, where the water page informs readers, for example, that by 2014, of 132,000 H&M AB employees, 50,000 had completed a sustainability e-learning with water as a key topic, and the company aimed to increase this to 50 per cent by the end of 2015.[251]

REPUTATIONAL HURDLE

The company's understanding of potential reputational impacts of water risk is limited. Water is not treated as a core issue within the organization, and if addressed it is usually a 'CSR' approach focused on ad-hoc sponsorship projects.

Solutions:

- Review external company reporting on water and improve if necessary.
- Work with external stakeholders to understand brand/company and sectoral level reputational issues related to water.

Example: Ooska news reports all water-related reputational issues on its website . The website allows users to visualize several corporate risk categories related to water, including reputational risk. This is an excellent place to understand more about potential reputational risk in key locations. Ooska news' analysis is included in the WWF Water Risk Filter.

Soft drinks companies depend heavily on a steady supply of high quality water

STEP 2: KNOWLEDGE OF IMPACT

A company requires a wider understanding of where its footprint actually is, where suppliers are located and what dependencies it has on water – both in terms of quantity and quality. This may include some measurement of water footprint or risk, as well as some measurement of the impact a company's activities have on water, the risk in each location and how this affects people and ecosystems. This will allow companies to assess peer users and identify more material risk issues. Companies should develop an understanding of their context in specific river basins, and identify high-risk 'hotspots' caused by water quantity and/or quality issues relevant to them.

OPERATIONAL HURDLE

The company has no knowledge of tools to assess impacts and risks, particularly beyond volumetric water measures and within the supply chain. It is unclear on assessment methods at basin level.

Solutions:

- Use the Water Risk Filter and other tools for understanding all types of risk including climate change-related water risk.
- Push as far into the supply chain as possible and examine impacts on other users. Understand the main locations and impacts of raw materials.
- Review water quality impacts, monitoring and policies throughout its operations and supply chain.
- Assess cost of action vs inaction. Consider an ecosystem services assessment.

Example: Coca-Cola Co has carried out a detailed assessment around the vulnerabilities of the quality and quantity of water sources for each of its bottling

FMCG COMPANIES IN THE CDP GLOBAL WATER REPORT 2015

- Even though 65 per cent of respondents report that water poses a substantive risk to their business almost half (45 per cent) of them do not require key suppliers to report water use, risks or management.

plants to identify water-related risks to its system and to the communities it serves.[252] Once the assessments were complete, Coca-Cola Co and its bottling partners developed locally relevant water resource sustainability programmes detailing specific risk mitigation actions that can be taken to help with preserving the sustainability of local water sources. All the bottling partners were required to implement their source water protection plans by the end of 2012.

REGULATORY HURDLE

The company does not know how to benchmark regulatory effectiveness, or how to anticipate regulatory changes across its operations or supply chains. It is unclear on company responsibility and exposure beyond legal compliance.

Solutions:

- Use the Water Risk Filter and other tools for understanding risks across operations and supply chain.
- Investigate threats to water licences, and potential water price changes.
- Conduct a comprehensive assessment of water withdrawal and discharge regulations in relevant basins.

Example: SABMiller plc is one of many companies to have carried out a detailed water risk assessment on its production sites, including analysis of regulatory risks.[253] It launched its group water risk assessment process, and used the WWF Water Risk Filter, in order to obtain a detailed understanding of the potential water risks facing all its breweries globally. The risks assessed cover a range of issues including water availability, water quality, the strength of regulatory systems, and reputation risk. Importantly, these reviews cover the watersheds that the Group's operations are located in to ensure it has an appreciation of not only what risks its breweries face, but also the risks faced and the contributing role played by other companies, industries and stakeholders in the communities and watersheds where it operates.

REPUTATIONAL HURDLE

The company does not know how to incorporate or measure reputational risk exposure in basins/countries. They find it challenging to articulate what reputational risk means for the company.

Solutions:

- Use the Water Risk Filter and other tools for understanding risk across operations and the supply chain.

- Understand key stakeholders and issues in relevant basins (including critical voices).

- Anticipate future changes in risk.

Example: Woolworths Holdings Ltd, a South African food and clothing retailer, is one of many companies to have used the Water Risk Filter to assess its risks on water, including its general reputational risks in operations and supply chains.[254]

WWF has been working with Woolworths to better understand and reduce its operational water use since 2009. Woolworths' investments are used toward clearing invasive alien plants in priority catchments in the Western Cape. Seeking global strategies and knowing that partnerships are required to meet local water issues, through WWF, Woolworths and Marks & Spencer have created a shared initiative to address water-related risks in the stone fruit supply chain. This project brings together a group of Woolworths and Marks & Spencer shared stone fruit suppliers and works with them to implement the AWS Standard, actioning opportunities for water efficiency and quality.

STEP 3: INTERNAL ACTION

This is a logical and easily managed first step of outlining actions, targets, goals and plans to help tackle the more immediate technical fixes to the problem. It can also be a good time to drive wider awareness throughout the company. Internal action means engagement with employees, buyers and suppliers to establish the potential opportunities as well as risks for the company. Water efficiency (where appropriate), implementing technical best practices, pollution reduction, measuring and reporting, and internal water governance are all crucial elements of internal action. Companies should also begin to engage their suppliers to realize improvements.

OPERATIONAL HURDLE

The company has financial limitations and no access to technical expertise. The cost of water is low, therefore savings are low (or there's a lack of information on potential savings). There's a lack of supply chain leverage, and challenges addressing supply chain and raw material risks. The company has no supply chain or operational targets.

Solutions:

- Engage industry-wide initiatives' on-site technical support and access to investment capital or provide links to relevant expertise and funding for suppliers and operations.

- Create flood risk and climate change adaptation plans.
- Ensure water is fully embedded in company targets and policy.
- Enforce leading water quality standards throughout operations and the supply chain.
- Invest in ecosystem services.
- Implement water stewardship standards at site level (such as AWS).

Example: AB InBev has implemented a full-scale programme of activity within its brewery operations to reduce water impacts. It states that it has a long-standing approach of partnering with its growers to improve crop management practices. It has conducted a robust water assessment in its key barley regions — identifying local water availability and water quality concerns, mapping relevant stakeholders for potential partnerships and developing locally tailored pilot initiatives that improve water management.[255]

REGULATORY HURDLE

Water pricing does not reflect the true cost and opportunity cost of water. Regulators in many places do not adequately legislate or police water use, creating basin-level issues.

Solutions:

- Create engagement strategies on governmental water issues.
- Where suppliers or operations are in areas without adequate regulation, engage them on this issue and assess the levels of risk at a local level.
- Consider analyzing financial value at risk of water impacts and using as a discussion point internally and externally.

Example: H&M has addressed ineffective legal minimums in wastewater treatment by committing to get 100 per cent of its wet process suppliers to comply with industry best practice water quality standard BSR. By the end of 2015, all 500+ supplier factories with wet processes should have improved water management such as annual water targets, improved water use measurements, improved chemical use, reduced water use and increased water recycling rate. In June 2008, the company signed the CEO Water Mandate, a voluntary initiative from the UN Global Compact. The mandate commits H&M to improve both its own and its suppliers' water efficiency, improve wastewater quality and report transparently on its progress. H&M is publishing its progress against this target on its website.[256]

REPUTATIONAL HURDLE

The company feels a lack of 'push' from consumers or shareholders/banks. It has no previous experience of negative reputational outcomes, and no disclosure of water use, risks or targets.

Solutions:

- Create activities to understand and address stakeholder issues related to the company.
- Communicate internally on risks and company responses to risks.
- Ensure internal governance is in place to deal with water issues.
- Prioritize supplier engagement based on reputational risk.
- Disclose risks and responses, assess company strategic response via dialogue with NGOs, governments, transparent reporting in annual or CSR reports or to disclosure platforms.
- Educate and engage shareholders and banks on the company's water management strategy.

Example: The number of companies disclosing to reporting initiatives like CDP is increasing every year. In 2015, responses were received from 1,226 companies, up 15 per cent compared with 2014.[257] This includes 405 respondents out of the 1,073 publicly listed companies globally that were asked by investors to provide information.

Boys fishing on the critically important River Ganges, India

STEP 4: COLLECTIVE ACTION

This relates to external engagement and demonstrates that a company now recognizes that working with others and at various scales (global fora to local water user groups) might be a necessary part of its strategy. Stakeholders can be anyone from other users within a geographical area, such as a specific catchment, to other companies, sector initiatives, public agencies, NGOs and standard setting bodies.

For companies new to the water space, the best approach to collective action is to identify and join an existing collective action initiative that can support the company in developing an action plan on water, and help them to understand the water risks within local areas. There are many initiatives in Asia that aim to help companies improve as part of a wider initiative on tackling shared water risks and governance issues.

OPERATIONAL HURDLE

The company lacks awareness of the need for collective basin-based dialogue and action. There's an assumption that the role of the company is either limited to its own impacts or to funding basin-level infrastructure. There's uncertainty around the correct approach to mapping key actors and water issues in relevant basins.

Solutions:

- Map dependencies of stakeholders on physical water resources and quality within priority basins.
- Engage with representative basin stakeholders to drill down into specific water issues within the basin.
- Create research projects to drive full understanding of basin impacts and hydrology.
- Engage with stewardship standards such as the AWS.
- Use the Water Action Hub to identify other actors who are interested in collective action. Create a collective action dialogue and activity plan in line with WWF and CEO Mandate guidelines.
- Engage and fully participate in collective action programmes, to ensure strong joint decision-making, support of governance and voluntary impact reduction measures or joint projects such as infrastructure investment and ecosystem restoration.
- Set internal targets for water stewardship not just volumetric or in-house targets.

Example: H&M has worked with WWF on collective action projects in two countries: Bangladesh and China. WWF and H&M are working on supporting stronger water governance in Bangladesh, through collaboration with other organizations and analysis of governance challenges. The aim is to raise awareness with public and private actors on the importance of strong water governance and to create a roadmap for all actors to contribute toward strengthened governance and a sustainable, shared water future. In China, H&M and WWF have initiated a project in the Taihu area where industrial parks are engaged in water stewardship and collective action. The aim is that all factories in the area will improve internal practices, share resources and expertise regarding water management and engage in collective action with other factories, as well as local communities and NGOs. A methodology for industrial parks has been developed with input from local experts, and tested with relevant industry and political stakeholders. The goal is to capture learnings from the industrial park level and ensure that a variety of key stakeholders are engaged, to support replication of the industrial park method in other locations.[258]

REGULATORY HURDLE

The company lacks resources in or awareness of local and national regulators. Within the company, there is a lack of participation in or support of collective action.

Solutions:

- Map key regulatory agencies. Include them in collective action as an important stakeholder.
- Align with existing institutions including basin-level activity.
- Create economic risk analysis for basins to emphasize the important role of water in basin economics and growth.
- Engage with regulators on water issues.
- Leverage influential local players to drive the message to key governmental actors.

ONE OF THE FIRST CASES OF COLLECTIVE ACTION ON WATER ISSUES WAS IN LAKE NAIVASHA IN KENYA, LED BY LOCAL FLOWER AND VEGETABLE GROWERS

Example: One of the first cases of collective action on water issues was in Lake Naivasha in Kenya, led by local flower and vegetable growers. They worked to address physical, regulatory and reputational risks as part of a collaborative effort to tackle water issues in the lake, and to strengthen existing regulatory institutions. The initiative involved local organizations from the public and private sectors as well as local associations and small-scale farmers. It achieved the implementation of a management team, the funding of environmental conservation projects, as well as the preparation of a Sustainable Development Action Plan and of the WWF-Imarisha Integrated Water Resource Action Plan.[259]

REPUTATIONAL HURDLE

The company lacks external understanding of water as a local/basin issue that should be addressed through collective action, rather than abstract footprint reduction. Local stakeholders are suspicious of corporate actors as convenors or instigators of collective dialogue. The government believes that corporations want to weaken rather than strengthen regulation. Existing reputational challenges in the basin could lead to a negative reaction to engagement. There could be negative reputational outcomes if basin collective action is unsuccessful or challenging.

Solutions:

- (Applies to role of convener) Ensure that basin-level activity is communicated transparently with basin stakeholders and the wider audience, and that all important interest groups are included.
- Ensure that the company has a good track record on site-level activity and can communicate this effectively.
- Engage stakeholders on shared risk perspective and need to collaborate. Ensure local communities are educated on water issues.
- Partner with credible third parties who can facilitate engagement and dialogue effectively (for example local NGOs).
- Understand human rights to water and take action wherever possible to promote this within priority basins.
- Engage and align with existing water forums or opinion leaders.
- Have a long-term role in collective action and backup plans for potential hurdles.

Example: The **Water Action Hub**[260] is a good place to look for collaborators to work together in collective action projects. By working collaboratively, companies minimize their reputational risk, show leadership and insulate themselves against accusations of policy capture and the outcomes of unsuccessful individual activity on water.

STEP 5: INFLUENCING GOVERNANCE

STEWARDSHIP IS ABOUT GUIDING AND SUPPORTING GOVERNMENT POLICY, NOT SUPPLANTING IT AND CERTAINLY NOT THWARTING OR UNDERMINING ITS IMPLEMENTATION

Water governance refers to the political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society.[261] Improving governance via stewardship enables non-government actors to play a positive role by fulfilling their responsibilities and supporting other actors and government to do the same.

Stewardship is about guiding and supporting government policy, not supplanting it, and certainly not thwarting or undermining its implementation. A key challenge for water stewardship is to broaden the discussion of water problems from sector- or business-specific concerns and develop a common understanding of the challenges and drivers of water problems across government, the private sector, civil society and communities. Influencing governance is also about a shared voice. Where a company's direct influence is perceived to be too strong, this may hamper the delivery of shared water management plans, as other stakeholders may question the legitimacy of decision-making. Undue influence can also lead to a misreading of water-related issues and therefore an ineffective plan, since understanding a range of perspectives is a much more effective way of pinpointing issues.

For smaller companies or companies just starting their work on water, direct engagement with governance or initiating action on governance is not realistic. However, many of the collective action projects for step 4 also have a governance component, and there are many organizations working to create participatory governance mechanisms for all local stakeholders. Participating within these groups does not require companies to organize efforts but merely to discuss water issues with other users and take part in a guided process. This not only leads to better water governance but also allows the company to express concerns and needs around water and take part in shared decisions.

OPERATIONAL HURDLE

The company lacks influence at individual company level, examples of self-regulation and viability of good basin management from an economic perspective.

Solutions:

- Promote government action on water and investment in infrastructure.
- Participate in government fora for water management including drought and flood management.

- Promote appropriate land planning and conservation/habitat restoration programmes. All activities should ideally be channeled through collective action. Economic risk analysis can also play an important role in reaching government departments.

- Stakeholder mapping at the start of collective action should have identified the key government agencies and actors to engage, and this should form a cohesive engagement plan.

Example: The **PaCT**[262] programme in Bangladesh is a collaborative effort between the IFC, an NGO called Solidaridad and textile brands sourcing from suppliers in the region. They are working with a number of local stakeholders to identify how to engage with water governance systems within Bangladesh. The programme gathers global apparel buyers, factories in the buyers' supply chains, financial institutions and the leading industry association, the Bangladesh Garment Manufacturers and Exporters Association, to address water sustainability challenges in the sector. PaCT has formed a Textile Sustainability Platform to allow a structured approach to engaging with government, local communities and other stakeholders on water challenges. Improving water governance is not just for the companies involved to reduce their own internal risk but the goal is for the new norms and practices set through this platform to form the new water policy for all other factories.

REGULATORY HURDLE

The government lacks interest or resources, or there are complex relationships between different government agencies.

Solutions:

- Support strengthening of government policy. This is particularly useful if done through collective action, as this protects against policy capture.

- When interest is lacking, engagement plans with reports and evidence of best practice benefits should be created.

- When government resource is lacking, the collective action group should explore the potential of collective self-regulation, donating resources for implementation, or engaging third parties for support.

Example: WWF and key stakeholders that include civil society, private companies and government institutions have collectively come together in an effort to better understand the risks facing the lower Kafue sub-basin in Zambia. The group has begun to recognize that the challenges and opportunities that exist within the basin cannot be harnessed alone.

THE GOVERNANCE OF ANY WATER BODY REQUIRES LONG-TERM EFFORT AND DILIGENCE

The collective action work in Lake Naivasha also produced an analysis of the economic risk to the Kenyan economy from problems with water resources in Naivasha. The report[263] was an important tool in engaging regulators and decision-makers on water issues in the region – and illustrated that around 3 per cent of GDP and >10 per cent of foreign exchange earnings were dependent on the continuing function of the lake's water resources. This was due to the impact on the horticulture industry which is an important export industry. The report concluded that there could be indirect investor perception issues as well as an impact on forex earnings if the environmental, regulatory and reputational risk management at Lake Naivasha was not taken seriously at a national political, economic and planning level.

The work (not just the report) catalyzed the government to engage better. An action plan was developed by the water users themselves, agreements were made on allocation, especially under future drought conditions, and water user groups were given greater incentives to collect water fees, engage users and promote best practice. The governance of any water body requires long-term effort and diligence but this project enabled the creation of a better business case that led to greater involvement and wider awareness around dependency and risk related to governance.

REPUTATIONAL HURDLE

There are accusations of over-influence or policy capture by individual companies, and a lack of in-house policy capacity.

Solutions:

- Influencing governance through collective action, with a competent third party to support policy engagement, will protect individual companies from accusations of policy capture, and ensure that the interests of the basin are properly represented. The capacity of the convening third party should be strong on policy engagement as well as stakeholder engagement, so that companies are not required to bring in additional resources.

Example: The **CEO Mandate** has published guidelines for companies wanting to engage with water policy issues in a responsible way. The goal of the *Guide to Responsible Business Engagement with Water Policy*[264] is to make a compelling case for responsible water policy engagement and to support it with insights, strategies, and tactics needed to do so effectively. The guide states that engagement and leadership not only promote the company's reputation, they can also set a progressive agenda toward sustainable resource management. WWF is developing and instigating basin-level work with companies using this guide and its principles.