Water

Water is critical to our business and our value chain, yet global withdrawals are predicted to exceed supply by 40% by 2030[1]. Respecting the right to safe, clean water and sanitation, we strive to use water efficiently and facilitate responsible water stewardship in catchments where we source water or ingredients, and where we have facilities.

1.7 million m³

Water saved across our operations by 362 water-saving projects.

41.2%

Overall reduction in direct water withdrawals per tonne of product since 2005.

1st

Nestlé's ranking for water on Oxfam's 2015 Behind the Brands scorecard.

2015 Global Water Awards

Nestlé won the Corporate Water Stewardship award for its zero water technology, enabling our Lagos de Moreno dairy factory in Mexico to operate without using local groundwater.

1 Source: 2030 Water Resources Group.

In this chapter

Our role in water stewardship

Nestlé recognises the human right to water and sanitation, and we ensure all our people respect it. We understand that water is critical to the sustainability of our value chain: our employees, our suppliers and our customers need access to safe drinking water and adequate sanitation. We are committed to developing our business in a way that enables effective water stewardship in catchments[2] where we source water and have facilities. Guided by the Nestlé Commitment on Water Stewardship, we ensure all our operations use water efficiently and do not compromise the right to water of local communities.

The year in brief

Challenges	What we are doing	Achievements
Access to clean, safe drinking water and sanitation is a basic human right, yet 663 million people do not have access to improved drinking water sources and 2.4 billion lack adequate sanitation*.	We finalised our new **Nestlé Guidelines Respecting the Human Right to Water and Sanitation** in December 2015, and are rolling out the **WBCSD WASH Pledge** for safe water, sanitation and hygiene in the workplace to all Nestlé premises.	**Nearly 90%** Share of manufacturing facilities completing the WBCSD self-assessment, which met the Pledge level.
Improvements to a water catchment often need the **collaboration of many stakeholders** and local water users.	We have developed a **global Water Stewardship Master Plan** at a corporate level, and started to formulate **local plans** in Pakistan, California, Mexico, South Africa and India.	**Leadership score** Nestlé received a 'leadership' score of A- by the CDP water programme for our best practices and actions to manage water and mitigate water risks.
Our manufacturing facilities need a reliable supply of water but as a third of them are situated in **areas of water scarcity**, we must continue to make our water use more sustainable.	To raise awareness, identify key issues and risks, and devise action plans, we conduct **Water Resource Reviews** at many of our factory sites, especially in areas of water stress.	**15** Number of new Water Resource Reviews carried out at our sites, taking the cumulative total to 148.
Water is a shared resource that must be carefully used and preserved by all stakeholders, so **engaging with local communities** is essential.	We participate in **water education** initiatives such as Project WET (Water Education for Teachers) to help our employees, communities, suppliers and consumers make better-informed decisions regarding effective water stewardship.	**20** Number of countries in which our partnership with the Project WET Foundation is currently active.

* Progress on sanitation and drinking water 2015: Joint Monitoring Programme, 2015.

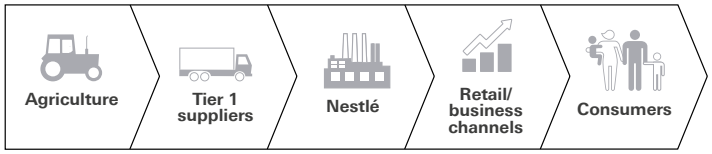
2 A catchment (or watershed) is the area of land from which all surface run-off flows through a sequence of streams, rivers, aquifers and lakes into the sea or another outlet at a single river mouth, estuary or delta. Surface water is the most visible, but groundwater represents the biggest part of water in most catchments in terms of quantity.

Material issues

Nestlé uses a formal materiality process to identify the most important issues for our stakeholders and our business. The results are communicated in a materiality matrix.

Our material issues are also considered and mapped with regard to their degree of importance in different parts of the Nestlé value chain. In the value chain, 'Agriculture' includes smallholder farmers with whom we do not have direct relationships, and 'Tier 1 suppliers' refers to those suppliers in direct commercial relationships with Nestlé.

The Nestlé value chain



Each material issue is made up of a number of sub-issues, which are highlighted during the research process. They are used as a lens to help define the scope of analysis. In this section, we have provided a synthesis of the findings related to water.

Water stewardship was rated as being of concern to our stakeholders and of strategic importance to our business. It includes sub-issues associated with water: quality, water security, water use, and hygiene and health. Our success in water stewardship will have a significant impact on ensuring the secure supply of agricultural raw materials and our licence to operate, particularly for the Nestlé Waters business. The efficient use of water enhances the efficiency of our agricultural supply chain and reduces costs at our operating sites.

Our stakeholders expect us to respond to the challenge of water scarcity and collaborate on the shared management of water resources. Access to water, sanitation and hygiene is an action area for our stakeholders, and critical to both the Nestlé supply chain and in ensuring the efficacy of our nutrition products.

Our commitments

Nestlé's commitments are a response to the material issues of our business and are reviewed by external stakeholders. Our five water stewardship commitments and their objectives help us reduce risks and improve our performance. In practical terms, they guide our teams across the business when agreeing roles and responsibilities, action plans, deliverables and deadlines.

In 2015, our five commitments on water remained as follows:

- Work to achieve water efficiency and sustainability across our operations;
- Advocate for effective water policies and stewardship;
- Treat the water we discharge effectively;
- Engage with suppliers, especially those in agriculture; and
- Raise awareness on water conservation, and improve access to water and sanitation across our value chain.

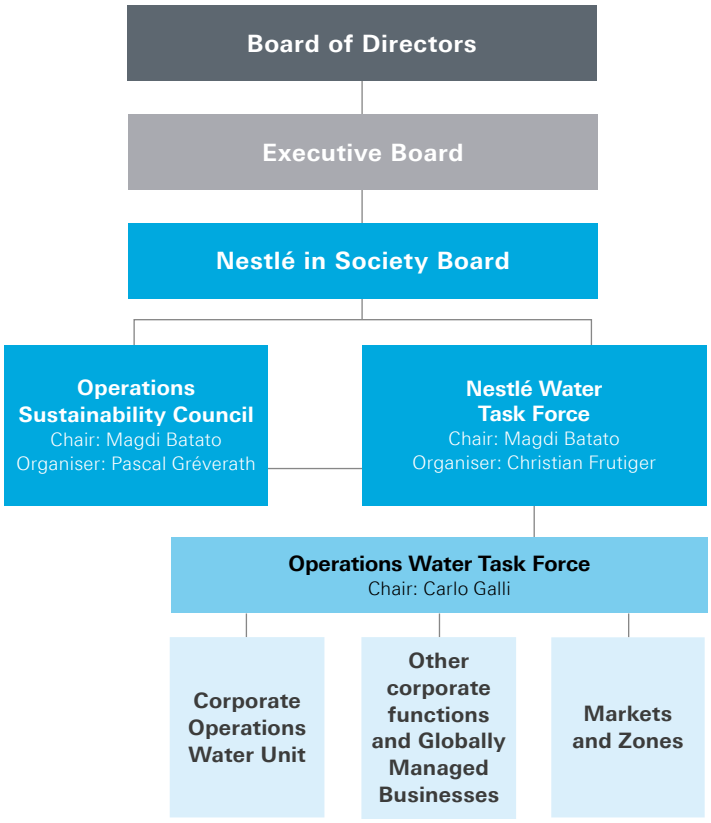
Our progress against the commitment objectives is indicated throughout the chapter using the following icons:

- ● Achieved
- ◐ In progress
- ◔ Not yet achieved
- ⊕ New objective

MATERIALITY ISSUE	VALUE CHAIN KEY: Moderate Significant Major				
	Agriculture	Tier 1 Suppliers	Nestlé	Retail/ business channels	Consumers
Water stewardship					
Implementing the actions, individually and/or collectively, needed for the sustainable management of shared water resources, including enabling access to water, sanitation and hygiene.	●	●	●	●	●
Sub-issues defined • **Hygiene and health:** enabling access to clean and safe water for drinking and hygiene and adequate sanitation services. • **Water quality:** preventing the release of harmful substances into the water by treating discharged water appropriately. • **Water security:** safeguarding sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human well-being, and for ensuring protection against water-borne pollution. • **Water use:** reducing the waste, misuse or overuse of water while optimising opportunities for water reuse or repurposing through efficient consumption practices.					

As a member of the United Nations Global Compact (UNGC) and the UNGC's CEO Water Mandate, we have committed to respect the human right to water and sanitation. In addition to our own public commitments, in 2013, Nestlé signed the World Business Council for Sustainable Development (WBCSD) WASH Pledge, which commits companies to providing access to safe water, sanitation and hygiene at all workplace premises in our direct control within three years. By signing the Pledge, we reaffirmed our willingness to meet WASH requirements – and hope it will encourage others, along the entire value chain, to do the same. Read more about the Pledge.

Governance and management systems



Internal governance structure for water stewardship

Water is one of three priority areas for our business and we embed responsibility for water stewardship across our business units.

An Operations Water Task Force (OWTF) meets monthly to monitor the implementation of Nestlé's commitments. It reviews progress by analysing performance data and identifying corrective actions across the organisation. The OWTF also monitors the need for potential changes, updates or additions to our commitments, by reviewing external inputs such as scientific developments and stakeholder feedback.

In 2014, our former Executive Vice-President of Operations, José Lopez, conducted a review of our decision-making process for strategic water issues. Working with a cross-functional team including senior employees of Nestlé Waters, he recommended that the Nestlé Water Task Force be reconvened, and report to the Nestlé in Society Board and the Executive Board. The Water Task Force has been monitoring water-related risks, challenges and opportunities on a monthly basis – including those raised by the OWTF; stakeholder convenings; materiality analysis; GlobeScan reputation research; consultancies and investors; and social media campaigns – and updates the Operations Sustainability Council on water-related activities. Our activity aims at ensuring good relations with local stakeholders on water-related topics and developing community outreach programmes.

The Operations Sustainability Council and the Nestlé Water Task Force are chaired by our Executive VP of Operations Magdi Batato, who replaced José Lopez on his retirement in September 2015. Both these bodies inform the Nestlé in Society Board (chaired by the CEO), which has oversight of all CSV activities, including water, and includes Mr Batato. The NiS Board and Executive Board are both chaired by the CEO and, through these bodies, the Board of Directors are regularly briefed on water issues.

Mr Batato, along with heads of other corporate functions and markets, including Nestlé Waters, is responsible for ensuring we meet our commitments.

In 2015, we strengthened our governance structure further by creating a standalone Corporate Operations Water Unit. This is intended to give water higher visibility at a functional level, drive synergies across our different businesses and bring our Water Stewardship Master Plan to life, so that our actions mitigate any operational or reputational impacts (see 'Understanding and managing our impacts').

Our policies and standards

Our policies and standards ensure the respect of the human right to water and sanitation, as adopted by the UN General Assembly and the UN Human Rights Council. They are aligned to the external strategic framework of the UN Global Compact's CEO Water Mandate, the WBCSD WASH Pledge and the UN Guiding Principles on Business and Human Rights.

The Nestlé Commitment on Water Stewardship is made available to the public through our website; in it, we acknowledge our responsibilities as a major water user and our approach to water stewardship. The Commitment, launched in 2013, forms an appendix to the Nestlé Policy on Environmental Sustainability, and complements the following internal commitments, policies and standards:

- The Nestlé *Corporate Business Principles*;
- The Nestlé Supplier Code;
- Nestlé Responsible Sourcing Guideline;
- Nestlé Water Guidelines for Suppliers of Agricultural Raw Materials;
- Nestlé Commitment on Natural Capital; and
- Nestlé Commitment on Rural Development.

In 2015, we finalised the Nestlé Guidelines on Respecting the Human Right to Water and Sanitation. Based on guidance from the CEO Water Mandate, this new document provides consistent directives on how Nestlé markets and factories can respect and support the human right to water and sanitation across the supply chain.

Water as a human right

In 2010, Nestlé formally reconfirmed its public recognition of the human right to water and sanitation, as adopted by the United Nations General Assembly and the United Nations Human Rights Council.

We respect the right to water and sanitation as a fundamental human right.

Understanding and managing our impacts

Water is a precious resource and its careful stewardship is a key pillar of our business. Our food and beverage facilities, and particularly our water bottling plants, naturally attract attention for the water they withdraw. And when these plants are situated in locations experiencing water stress or drought, that stakeholder attention only heightens.

Water Stewardship Master Plan

In 2014, Nestlé introduced a global Water Stewardship Master Plan at a corporate level to shape the way we seek to save water and monitor the impact we have on local sources, by ensuring our facilities are as water efficient and sustainable as they can be. For example, our LEED-certified Cabazon factory is rated Silver and uses equipment and procedures that minimise water loss during production, including water recovery for factory use.

We also estimate water use throughout the Nestlé value chain, to help us improve the water efficiency of our products.

Agriculture

The global agricultural sector remains the largest user of the world's fresh water. Our business purchases large quantities of raw materials and ingredients, all of which require water to grow. The water consumed by the crops we purchase amounts to 63.5 billion m^3. Around 6.7% of this was used for artificially irrigating crops.

Water consumption by source of crops purchased by Nestlé
(billion m^3)

	2010	2013	**2014***
Rainwater	42	61	59.3
Irrigation water	3	4	4.2
Total	**45**	**65**	**63.5**

* 2014 procurement data is the latest available at the time of publication.

Reviewing water stress

Nestlé uses water directly at more than 485 factories, which withdrew 140 million m^3 in 2015.

We employ the Nestlé Combined Water Stress Index to assess current and future physical water availability risks at a watershed or river catchment level for every operating site. 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*) and gives a risk score (low, medium or high). This helps us determine the level of current and future risk associated with reduced water quantity or quality, and considers possible competition with other local water users.

At a local level, monitoring is conducted by Water Resources Champions or Factory Environmental Sustainability Managers at each site. Furthermore, external hydro-geological consulting firms carry out inspections when and where required, and provide guidance on improving standards to seize opportunities related to water availability.

Taking changes in the geography of our operations into account and updates in the methodology, in 2015 we saw a decrease of 2.1% in the number of our factories located in regions with some degree of water stress (medium or high risk) versus 2014 figures. In total, 178 factories (36.7%) are situated in regions with water stress, of which 16.3% are located in the most sensitive regions. We use this information to inform our investment processes.

Water and protected areas

Working with the UNEP World Conservation Monitoring Centre (UNEP–WCMC), we have analysed which of our factories have either a dependency, or a potential impact, on protected areas categorised as Important Water Areas (IWAs). Our findings resulted in a definitive list of 13 plants located in IWAs. We continue to keep specific focus on operational performance at these locations, and strengthen engagement with other stakeholders.

Training our employees

Water is of growing concern for Nestlé, as well as society in general, and our employees will be increasingly required to have an understanding of the issues surrounding its availability, use and management.

Our training programme 'We Make Nestlé Caring' is made available to all Nestlé employees through our intranet. It explains why water features in our *Corporate Business Principles*, how water is a critical factor for human prosperity and how water availability can affect our value chain. One module specifically covers water stewardship in sustainable agriculture, and good principles for managing water at a farm level. This module is primarily targeted at Nestlé employees in our agri-services, but we would like to see the key messages of water stewardship eventually cascaded to farmers throughout all markets. This training material will enable our markets to tailor the content to their local context and organise webinars for training their employees. We are piloting these enhanced training materials with selected markets before rolling them out globally. Having confirmed markets for the trial, including Central America, Pakistan and India, and our corporate headquarters in Vevey, Switzerland, we will begin the trial in early 2016.

Our other environmental sustainability training programmes, such as our Environmental Sustainability at Nestlé e-learning course and our Environmental Sustainability Leadership workshop, also contain components that address water-related issues.

Water stewardship programme in California

The summer of 2015 saw the US state of California experience a fourth consecutive year of extreme drought. This prompted the Governor of California to order mandatory water use reductions for the first time in the state's history, while the US federal government announced a grant of USD 110 million (CHF 108.9 million) to provide relief for farmers and rural communities with depleted supplies of drinking water.

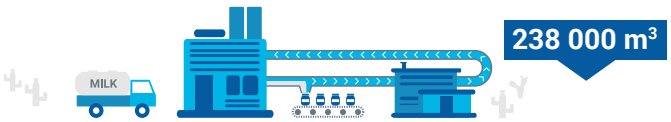
Many people have expressed concern about the impact of our operations in California, and posed questions about our bottled water plants in Cabazon and Sacramento in particular, even though the water we use is less than 0.008% of the total withdrawn across the state[3]. We understand these concerns and are intensifying our efforts to reduce the amount of water we use, to use it as efficiently as possible – not just in California but across all of our manufacturing operations – and to share our progress with interested parties.

Together, the five elements of our comprehensive water stewardship programme in California are expected to save more than half a million cubic metres of water a year, as shown below.

1. Zero water factory

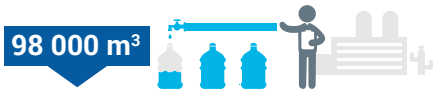
> "Technology that we have already deployed successfully elsewhere in the world to help address the challenges of water scarcity will improve our water use efficiency, relieving pressure on California's water resources."
>
> **José Lopez, former Executive Vice-President of Operations, Nestlé**

We are transforming our dairy factory in Modesto into a zero water factory, which will be able to extract water from milk and recycle it, reducing the need for groundwater or freshwater supplies. By 2016, this USD 7 million (CHF 6.93 million) investment should save more than **238000 m³** of water a year, equivalent to 71% of absolute withdrawals in 2014.



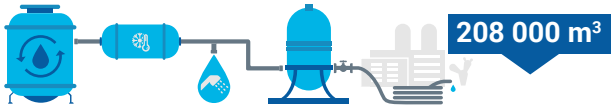
2. Reducing water use

At our ice cream factories in Bakersfield and Tulare, we're improving our cleaning processes to reduce water use in our operations, and introducing advanced technology to treat water for use in our refrigeration systems. This will save more than **98000 m³** of water a year.



3. Recycling water

Treating and recycling wastewater for use in cleaning, rinsing and cooling processes in our factories help save drinkable water. By upgrading cooling tower technology in our water bottling factories in California, so that they use treated instead of drinkable water, we expect to save **208000 m³** a year.



4. Implementing robust standards

The Alliance for Water Stewardship (AWS) International Water Stewardship Standard sets strict criteria for managing water in an environmentally, socially and economically beneficial way. We will implement the AWS Standard in all nine of our factories in California within two years.

5. Working in partnership

We work with governments, UN bodies and other stakeholders to help address local and global water issues through public policy debate and collective action:

- We are a founding signatory of the UNGC's CEO Water Mandate, which helps companies develop, implement and disclose their water sustainability policies and practices;
- We are also starting work with the World Resources Institute (WRI) to help us better understand the water risks we face in California and identify water stewardship opportunities; and
- To develop a way to scale corporate water stewardship in California, we are also members of the California Water Action Collaborative (CWAC). This group aims to create a platform for collaboration that helps improve water security in California for people, businesses, agriculture and nature.

Together, these efforts will add up to a total saving of more than **545000 m³**.

3 This calculation is based on USGS data for California water withdrawals in 2010 (the latest available data).

Stakeholder dialogue

We are strongly committed to responsible water management and fully share concerns about water availability, especially during times of scarcity and drought. Our priorities remain not to impact negatively on the water table through our activities and to understand the supply and demand in any particular location so as not to deny the human right to water and sanitation. These criteria are paramount; beyond that, we aim to be as transparent as possible to ensure stakeholders understand our activities and address their concerns.

Despite the operational and reputational risks such environmental challenges pose to our business, we welcome interest in our activities and dialogue with the public and other stakeholders, as this will lead to stronger collective action. We have published position statements, press releases and articles on a number of water-related issues, and our corporate website contains an Ask Nestlé section where we answer some of our most frequently asked questions about topics like the California drought (see page 142). We also bring water stakeholders throughout the state together to engage in constructive community dialogue about local and regional water issues.

Sharing our progress

We regularly report on our water performance, believing that similar disclosure by all water users assists global decision-making, and participate in a number of third-party reporting schemes, many of which publish their results online.

Scheme	2015 results
UNGC CEO Water Mandate	We publish a Communication on Progress as part of the CEO Water Mandate every year, which is submitted to the UNGC for review.
CDP water programme	In 2015, we participated in the CDP water programme and in October received a 'Leadership' score of A- for our best practices and actions to manage water and mitigate water risks. Reporting on water incidents can be found in our response to the CDP water programme (see pages 95–97).
Dow Jones Sustainability Indices	Nestlé retained its industry-leading position in the 'environmental dimension' of the 2015 Dow Jones Sustainability Index Series with a score of 99 out of 100, and scored 100 out of 100 in the water section.
Oxfam *Behind the Brands*	In the Oxfam *Behind the Brands* 2015 scorecard, Nestlé was given the highest ranking for water. The scorecard assesses rights and access to water resources and the sustainable use of water.

Water in our operations

Our factories must have water to operate – to wash ingredients for cooking, for cooling and cleaning equipment, and to provide sanitation for our employees – so providing a reliable supply is an important priority. Today, we withdraw 40% less water per tonne of product at our factories than we did 10 years ago. We are proud of this achievement, but with 36.7% of our manufacturing facilities situated in water-stressed regions, we must continue to improve water efficiency to grow our business. Our new 'zero water' withdrawal technology clearly demonstrates how keen we are to embrace innovation to reduce water withdrawals, and we are working to implement this best practice model of water efficiency in several locations.

W
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T
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R

Work to achieve water efficiency and sustainability across our operations

Advocate for effective water policies and stewardship

Treat the water we discharge effectively

Engage with suppliers, especially those in agriculture

Raise awareness on water conservation, and improve access to water and sanitation across our value chain

Achieving water efficiency and sustainability

Our commitment

Work to achieve water efficiency and sustainability across our operations

We have improved our water efficiency and sustainability performance across our operations in recent years, but we cannot become complacent and it remains a significant focus area for us.

To coordinate our efforts, we have developed a global Water Stewardship Master Plan at a corporate level, and started to formulate local masterplans in key locations such as Pakistan, California, Mexico, South Africa and India. They contain market-specific responsibilities, targets and deadlines, and are based on our water commitments and our Water Stewardship Ladder (see opposite).

We invest in high-profile 'lighthouse projects' to demonstrate best-in-class performance and stimulate innovation across our business. Such projects must have the potential for significant reductions in water withdrawals for a product category or operational process to qualify for funding and, at facilities where zero water withdrawals may be possible, they also help us explore and develop new technological solutions. Nestlé's Operations Water Task Force assesses each project and promotes opportunities for communicating best practice and replicating similar improvements across our operations and our value chain.

The Water Stewardship Ladder

The Water Stewardship Ladder is our three-step roadmap towards sustainability:

- As with Creating Shared Value, the base for our approach is **compliance**, such as having permits for our wells, not exceeding the extraction volumes authorised in our licences and respecting the limits for wastewater discharge;
- Progress towards **excellence** comes from continuous improvements and increased efficiency, to eventually reach a best-in-class, or 'lighthouse', level; and
- Where internal efforts are not enough to address wider challenges, we engage with local stakeholders, enabling **collective action** to secure the long-term sustainability of water resources. This final stage is the most challenging, as it requires a change from an internally focused mindset to an external-facing approach to managing water.

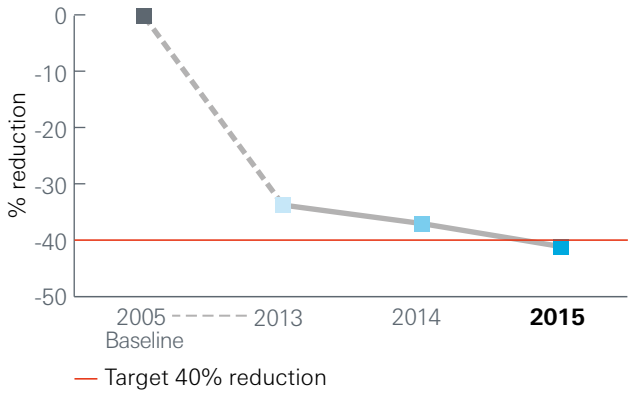
Based on the Water Stewardship Ladder, Nestlé Waters reinforced its Water Stewardship strategy. It is based on new, site-specific risk assessment tools with a focus on physical, regulatory and reputational risks. These risk assessments were conducted for all Nestlé Waters sites in 2015. They will give rise to more comprehensive action plans that include both internal and external responses. Through collective action, we seek to mobilise local water stakeholders to address shared water challenges together, to ensure the long-term sustainability of the watersheds in which we operate.

Reducing water withdrawals

Our objectives

- **By 2015** – Reduce direct water withdrawals per tonne of product in every product category to achieve an overall reduction of 40% versus 2005.

Reduction of direct water withdrawals per tonne of product versus 2005 (%)



- ⊕ **By 2020** – Reduce direct water withdrawals per tonne of product in every product category to achieve an overall reduction of 35% versus 2010.

In 2015, we withdrew 2.57 m³ of water per tonne of product, and reduced direct water withdrawals per tonne of product in every product category, with an overall reduction of 6.2%. This equates to a 41.2% reduction since 2005, meaning that we met our 2015 objective to reduce direct water withdrawals per tonne of product in every product category and achieve an overall reduction of 40% since 2005.

Having met this objective, we have set ourselves a new 10-year target for 2020, with a 2010 baseline. As we make our processes more efficient, it becomes increasingly more challenging to improve at the same rate, so our new target is for a 35% reduction rather than the previous 40%. To date, we have reduced water withdrawals per tonne of product by 22% since 2010.

We also recycled or reused 7.7 million m³ of water in our operations in 2015 – a 2% annual reduction – and approximately 5.5% of our total water withdrawals.

Nestlé continues to implement programmes to reduce water withdrawals, reuse water and use alternative water sources such as rainwater harvesting. We are also using 'Water Target Setting' methodology to identify opportunities to further reduce our water withdrawal in our factories.

In 2015, investments totalling CHF 25.8 million were approved to spend on water-saving programmes and we are currently conducting 362 water-saving projects at our factories; these are projected to save around 1.7 million m³ of water a year.

Water withdrawn at our factories by source

Water withdrawn (million m³)	2014	**2015**
Surface water	15.0	12.3
Ground water	77.0	75.5
Municipal water	55.0	52.5
Rainwater	0.035	0.034
Total	**147**	**140**

Direct water withdrawals by product category

Water withdrawn (m³/per tonne)	2005	**2015**	Variation
Powdered and liquid beverages	22.91	7.20	-68.6%
Water*	1.96	1.53	-22.1%
Milk products and ice cream	8.33	4.08	-51.0%
Nutrition and healthcare	19.34	10.11	-47.7%
Prepared dishes and cooking aids	7.12	3.96	-44.4%
Confectionery	9.22	4.04	-56.2%
Petcare	1.44	1.10	-23.9%
Overall withdrawal rate	**4.37**	**2.57**	**-41.2%**

* Beyond the litre of water that goes into the bottle, Nestlé Waters has made significant achievements in reducing the amount of additional water required to produce one litre of product at the factory. In 2005, this additional water represented 0.96 litres, which was reduced by 45% to reach 0.53 litres in 2015.

Total water recycled and reused by our factories

Total direct water use (million m³)	2014	**2015**
Water withdrawal	147.0	140.0
Water discharge	87.0	82
Water recycled or reused	7.5	7.7

A zero water first in Mexico

Exemplifying our commitment to improving our impact on natural water resources, we have introduced 'zero water' technology at our factory at the heart of Lagos de Moreno in the Mexican state of Jalisco. This system – a world first and unique to Nestlé – enables it to operate without using any local groundwater.

Over the last 60 years, water availability per person has drastically declined in Mexico, largely due to population growth and overextraction. Through our new approach, our powdered milk factory now uses the water vapour generated from evaporating cow's milk, instead of withdrawing groundwater. This steam is condensed, treated and recycled for use as potable process water, and then treated again for cooling and cleaning – even for watering plants in the factory grounds.

The transformation of the factory was achieved through two phases, spanning 2011–2014:

- Converting the 'cow water' into potable water required close collaboration between our Product Technology Centre in Konolfingen, Switzerland, our corporate Engineering team, local factory managers and engineers, and the supplier of the technology. Together, we benchmarked other companies using this type of technology, piloted it at our plant and analysed the results to ensure its successful implementation.
- The Waste Water Treatment Plant was then upgraded, allowing the filtering of wastewater for use in areas requiring low water quality, such as cooling towers.

This initiative is expected to save the factory around 600000 m^3 of water a year, equivalent to the average consumption of 4500 local residents. It also earned Nestlé the Corporate Water Stewardship award at the 2015 Global Water Awards, as voted for by attendees at the Global Water Summit in Athens and online members of the 2030 Water Resources Group.

Given its initial success, work is under way to replicate our zero water process at other dairy factories in California, South Africa, India, Pakistan and China.

Watch a video about our zero water factory.

Zero water strategy in South Africa

South Africa is a priority area for our engagement with local stakeholders to address water issues. The focus is a business imperative, as our production activities have been impacted severely over time by water and energy shortages.

Over and above the operational changes we have made to reduce our factories' water consumption, we are active at different levels across the country:

- We engage with government authorities through the Strategic Water Partners Network public–private partnership, chairing the working group on water use efficiency. This group drove the successful development and implementation of the 'No Drop' programme, which helps municipalities improve their management of non-revenue water;
- We supported the Harrismith community with continued supplies of potable water, loaning the municipality two pumps to help deliver water;
- We actively promote smarter water monitoring and management techniques in our local milk supply chain to help protect the local water catchment from over-use; and
- We are implementing our zero water withdrawal initiative at our Mossel Bay dairy factory in 2016, through which we plan to avoid using municipal water for production processes.

We worked with a leading NGO, Conservation South Africa, to produce *The Sustainable Dairy Handbook*, helping dairy farmers implement best practice in sustainable agriculture and resource conservation.

Water Resource Reviews

Our objective

◐ **By 2016** – Carry out 45 new Water Resource Reviews in selected manufacturing facilities and all greenfield sites.

To raise awareness at an operational level, identify key issues and risks, and devise action plans for more sustainable water use, Nestlé manages a programme of Water Resource Reviews (WRRs) at a large number of factory sites. Many of them are located in areas of water stress.

As well as analysing hydrological data, the reviews assess the impacts of a manufacturing facility within a local water catchment, including water availability (which also covers aspects related to the human right to water and sanitation – see page 147); water quality; regulatory compliance; site protection; and stakeholder relations. After each review, corrective actions are proposed and carried out as needed.

In 2015, we undertook 15 new WRRs in a number of countries, including India, Bangladesh, the United States, Mexico and Iran. This brings the total number of factories reviewed worldwide to 148 since we started the process in 2006 (the figure for 2014 has been restated as 19 WRRs). As well as the 15 new sites, follow-up WRRs were conducted

in a further 9, taking the total for the period 2014–2015 to 43[4]. Nestlé Waters has also completed WRRs at 93% of its facilities, and continues to work on improving its overall water use ratio (the amount of water required to produce one litre of bottled water).

The main opportunity we identified, common to most sites, was the need to expand our focus beyond the factory gate and engage with local stakeholders to address water scarcity issues and pollution risks. Other issues included the need to improve our WASH Pledge programme, internal water management practices and our role in the agricultural supply chain.

The potential impact of our operations on the communities' ability to access water is increasingly being assessed as part of our WRRs. The WRR process will be updated in 2016 to embed the human right to water and sanitation principles outlined in our recently finalised Guidelines.

Assessing investment opportunities

We monitor the actual cost of the water we purchase, as well as off-site treated water, at all our facilities. However, we believe global water prices do not adequately represent the environmental and social impacts that are a result of water supply (read our Chairman's views on water pricing here).

Our Corporate Engineering department assesses internal requests to invest in new technology or equipment that will improve water use efficiency. We place a notional cost on water ranging from CHF 1 to CHF 5 per m^3, depending on a factory's physical risk score in the Nestlé Combined Water Stress Index. It takes into account water availability and allows us to address the following challenges:

- Traditional payback may be long term or non-existent due to the low cost of water; and
- Water savings deliver different benefits in different locations.

This approach enables us to convert environmental and social benefits into a notional payback, helping us prioritise resource allocation. For example, our project to recycle water extracted from the processing of milk at our Moga factory in India has no financial payback, as the cost of well water in that location is almost nothing. However, when based on notional cost, the project will see payback in less than three years, as shown below.

$$\textbf{Notional payback} = \frac{\text{Investment (CHF 2.15 million)}}{\text{Base notional cost (1 CHF/m}^3\text{) x CWSI (4.3) x water savings (187 600 m}^3\text{)}} = \textbf{2.67 years}$$

We are continuing to extend our acceptable Return On Investment period for equipment funding that delivers water savings, recognising that such activities often require longer-term investment. Factors such as the size of the water saving, the factory's financial performance and previous projects also influence the decision-making process. When all these criteria are taken into account, it is possible that projects with long or even no notional payback may still be approved, while those with short payback times could be rejected.

Read about water use and water pricing in British Columbia.

Due diligence on the human right to water and sanitation

Our objectives

- **By 2015** – Establish and implement detailed guidelines on human rights to water and sanitation due diligence.
- ⊕ **By 2020** – Implement detailed guidelines on human rights to water and sanitation due diligence in all Nestlé markets.

Based on guidance from the CEO Water Mandate, we developed our internal guidelines, which provide consistent directives on how markets and factories can respect and support the human right to water and sanitation across the supply chain.

The guidelines will be rolled out and implemented systematically across our global operations in the coming years. This builds on existing assessment mechanisms such as our Human Rights Impact Assessments, Water Resource Reviews, Tier 1 supplier audits and farm assessments, and the Nestlé Waters Community Relations programme. We will report on our progress in our next report.

Water-saving projects at high-priority sites

Our objective

- ◐ **By 2016** – Implement water savings projects in 100% of high-priority manufacturing facilities.

Every year we update our list of high-priority manufacturing facilities (HPMF): those sites that are located in areas of severe water stress or that represent a significant portion of our annual water withdrawals. With three factories removed from the list because of reduced water withdrawals, one removed because it was sold and one factory added to the list because increased water withdrawals took it above our threshold, we now have 28 such facilities.

During the period 2014/15, we have implemented projects in 12 HPMFs to save 769 158 m^3 of water, which is equal to 1.7% of their total aggregated withdrawals compared to 2012.

Our analysis also shows that at the end of 2015, we had decreased water withdrawals (m^3/yr) and improved water use efficiency (m^3/tonne) in 57% of these sites against our 2014 baseline.

In 2015, 16 HPMFs saw both a decrease in water withdrawals and an improvement in water efficiency (compared to 2014).

Read about how we measure water stress.

4 This total includes a restated figure of 19 reviews in 2014.

Water stewardship beyond our factory gates

The sustainable supply of water of a sufficient quality and quantity is essential for our factories, but with many other stakeholders extracting water from, and returning water to, a single catchment, the process is complex. We therefore understand that, sometimes, we can make the greatest difference to the health of a local water catchment by investing in multi-stakeholder initiatives beyond our own operations.

Collective community action can help embed long-term sustainable water use, so we aim to invest in shared initiatives that help other catchment users to improve water stewardship in selected sites.

Our objective

◐ **By 2016** – Define water stewardship initiatives and start implementation in five high-priority locations.

Our management teams have identified five high-priority locations where water stewardship initiatives are necessary. Although progress varies, by the end of 2015, activities had begun in all five locations; two examples are provided in the case studies on this page and pages 142 and 161.

Implementing these programmes will improve the sustainable management of shared water resources in the water catchments where we operate, and strengthen stakeholder perceptions of our local contribution.

Water stewardship in the Kabini River basin, India

The Kabini river flows through the state of Karnataka, where Nestlé's Nanjangud factory is located. The river catchment is 7000 km² in area, 46% of which is agricultural land. In recent years, low rainfall, combined with high water demand within the catchment, has resulted in periods of insufficient water supply for the sugarcane and rice farmers in the river basin.

To extend water stewardship efforts across the whole catchment area, Nestlé India's Nanjangud factory continues to engage with local government departments. It also signed a Memorandum of Understanding with AgSri, an agricultural services company that developed ecologically sustainable systems, such as the Sustainable Sugarcane Initiative (SSI) and the System of Rice Intensification (SRI), to conduct pilot projects. These trials will test the likelihood of rice and sugarcane farmers adopting improved techniques for growing water-intensive crops over a three-year period.

After a three-month delay, the project to implement the SSI activities in the Kabini basin eventually began in September 2015. In the first quarter, this has involved:

- Identifying sugarcane and rice-growing villages in the Kabini catchment, and selecting farmers for training;
- Collecting baseline information and establishing planting protocols for SRI/SSI;
- Establishing greenhouses and an SSI nursery with a capacity for 45 000 plantlets; and
- Preparing and distributing training materials in the local language, and training around 110 sugarcane and 101 rice farmers.

We will continue to conduct training for rice and sugarcane farmers across the entire river basin and the seedlings will be sent out from the nursery to a selection of farms in early 2016.

Public policy advocacy and collective action

A healthy debate around water policy offers water users, including Nestlé, the opportunity to hear different viewpoints, share ideas and learn from best practice. We are all facing the same pressing challenge – to provide water and food for a rising global population – and it calls for common goals and joint efforts. We believe that governments must provide leadership to establish effective water policies that give people universal access to clean, safe water and sanitation, and allocate water sustainably at a local level. We play our part by advocating for effective water policies and water stewardship, believing that public policy dialogue leads to stronger collective action.

Work to achieve water efficiency and sustainability across our operations

Advocate for effective water policies and stewardship

Treat the water we discharge effectively

Engage with suppliers, especially those in agriculture

Raise awareness on water conservation, and improve access to water and sanitation across our value chain

Advocating for effective policies

Our commitment

Advocate for effective water policies and stewardship

Currently, 36.7% of our factories are located in water-stressed regions, making responsible water stewardship a critical issue for our business and our stakeholders. We therefore maintain a strong presence in high-profile water initiatives, advocating for effective policies and responsible stewardship around the world.

This proactive approach enables our people to engage with water issues first-hand, and helps inform our activities at every level. We continue to work with governments, UN agencies, international bodies, NGOs, public–private partnerships and other stakeholders to help address global water issues. We have listed our primary relationships and activities below.

Current engagement and relationships	
2030 Water Resources Group (2030 WRG)	Nestlé chairs this public–private–civil society collaboration, working on programmes in South Africa and Mongolia, and starting to engage in Kenya, Bangladesh and India. Read more.
Alliance for Water Stewardship (AWS)	Nestlé is a founding partner of AWS and a member of the AWS International Standard Development Committee, supporting the production of its new voluntary International Water Stewardship Standard. Read more.
Stockholm International Water Institute (SIWI)	In 2015, Nestlé maintained our three-year partnership with SIWI and again participated in World Water Week.
Sustainable Agriculture Initiative (SAI) Platform	Nestlé is a founding member of the SAI and actively participates in working groups for coffee, dairy and fruits. Carlo Galli, Nestlé's Water Resources Technical Director, currently chairs the SAI's Water Committee. Read more.
UN CEO Water Mandate	Nestlé is a founding signatory of the Mandate and an active member of its three workstreams. We publish a Communication on Progress every year and participated in the Mandate's 15th Working Conference in Stockholm in August 2015. Read more.
Water Footprint Network	In 2015, we continued to share information about our coffee water footprint with other water users at the Stockholm Water Week, to encourage collective action.
ISO Water Footprint	We contributed to guidelines for the application of the ISO 14046 standard *Environmental management – Water footprint* by providing an illustrative example of how to estimate the water footprint of a cup of instant coffee compared with that of drip filter coffee.
World Business Council for Sustainable Development (WBCSD)	We support the activities of the WBCSD's Water Leadership Group, and are represented on many workstreams, including WASH, the value of water and water stewardship. We signed the WASH Pledge in 2013 and are using the WBCSD's self-assessment tool across our own operations. Read more.

2030 Water Resources Group

Our objective

◐ **By 2016** – Continue to build the 2030 Water Resources Group Public Private Partnership by adding two more countries per year, and further develop and publicise the Global Catalogue on Good Practices.

Several of our most senior people, including our Chairman, play a leading role in the 2030 Water Resources Group (2030 WRG), whose governing council meets annually. We currently chair this public–private–civil society collaboration, which seeks to bring about practical solutions for reforming water resources in water-stressed developing economies. Some of them, such as in Kenya and Bangladesh, were started in 2015, while our most recent engagement supports the national Clean up Ganga plan in India, where 2030 WRG works with the federal government and the state of Uttar Pradesh.

Work in other countries has been going on for some time, such as South Africa, India (Karnataka state) and Mongolia, where work has already resulted in concrete programmes now being implemented. The plan is to add one or two countries annually over the next couple of years.

We also continue to promote the 2030 WRG's Catalogue of Good Practices in Water Use Efficiency, an open source, global knowledge base of good practices on water transformation published with the assistance of the Stockholm International Water Institute.

UNGC CEO Water Mandate

Our objective

◐ **By 2016** – Support the launch of the CEO Water Mandate Guidance for Companies on Respecting the Human Rights to Water and Sanitation and pilot test the Guide in our water due diligence in selected markets.

Nestlé is a founding signatory of the UNGC CEO Water Mandate, which was set up to help companies develop, implement and disclose their water sustainability policies and practices. We actively participate in the Mandate's workstreams on Policy Engagement, Water Disclosure and the Human Right to Water, and hope to contribute to a new Supply Chain workstream when it is launched. We also publish a Communication on Progress every year, and attended the Mandate's 15th Working Conference in Stockholm in August 2015.

Over the last couple of years, we have contributed to the publication and launch of two important documents:

- The CEO Water Mandate Corporate Water Disclosure Guidelines, which seek to offer a common approach to disclosure and reporting approaches so that companies spend more time on managing water and less time on reporting; and
- Guidance for Companies on Respecting the Human Rights to Water and Sanitation: *Bringing a Human Rights Lens to Corporate Water Stewardship*, designed to help companies translate their responsibility to respect the human right to water and sanitation into their water management policies and practices.

This second CEO Mandate document has been used to guide our approach to water due diligence, forming the basis for our own *Human Right to Water and Sanitation Guidelines*. These were finalised at the end of 2015 to embed our commitment across our operations. The guidelines provide consistent directives on how Nestlé markets and factories can respect and support the human right to water and sanitation throughout our supply chain.

Supporting the WBCSD WASH Pledge

Our objective

◐ **By 2016** – Support the World Business Council for Sustainable Development (WBCSD) to achieve 50 signatories of the WASH Pledge.

The business sector operates across a wide value chain, and is uniquely positioned to respect and promote the need for safe water and adequate sanitation. Members of the World Business Council for Sustainable Development (WBCSD) have developed a public pledge where participating companies agree to deliver access to safe water, sanitation and hygiene (WASH) for all employees working in premises under direct company control within three years.

To date, 38 signatories have adopted the WASH Pledge, representing a range of sectors and locations in Europe, the United States, Africa, Asia and the Middle East. Nestlé was one of the first to sign up, to demonstrate how we deliver on our *Corporate Business Principles* and put our people first.

Over the past year, we have helped promote the value of the Pledge to the business community through public platforms and participation in peer-to-peer dialogues, such as when Carlo Galli, Nestlé's Water Resources Technical Director, participated at a World Water Week seminar in Stockholm. Nestlé CEO Paul Bulcke was also one of several WASH Pledge signatory executives to feature in a 'call to action' video released on the UN's World Toilet Day (19 November) to raise awareness and encourage more companies to sign up.

At the current level of signatories, over 2.2 million employees[5] will be ensured access to safe WASH in the workplace at an appropriate level, including 339456 employees from Nestlé. We want to help the WBCSD reach 50 signatories by 2016, believing that all participants are lending their voice to a global movement to accelerate universal access to water and sanitation. If all WBCSD member companies signed the WASH Pledge, it would represent 19 million employees[6].

5 This calculation is based on the figures displayed on the respective signatories' websites and/or 2013/2014 reports. Source: WBCSD.

6 Source: WBCSD (internal)

> We already commit to providing access to clean water to our employees at all of our direct operations, as part of our existing commitment on water stewardship. By signing the WASH pledge, we are reaffirming this commitment and our recognition of our responsibilities as manufacturer and employer. We hope that together with the other companies that have already signed up, we can encourage more businesses to do the same."
>
> **Carlo Galli, Water Resources Technical Director, Nestlé**

Collaborating to assess and mitigate water risks

Our objective

- **By 2016** – Work with the Sustainable Agriculture Initiative Platform (SAI Platform) and the Sustainable Food Lab (SFL) to implement the Water Risk Assessment and Mitigation collaboration initiative in at least one sourcing area of agricultural raw materials.

In June 2014, the Sustainable Food Lab (SFL) and SAI Platform launched the Joint Water Risk Assessment and Mitigation project. This facilitates the sharing of strategies for assessing and mitigating water risks among food companies, and partners with existing platforms such as the Water Futures Partnership to take advantage of their unique competencies.

Led by food and beverage companies, including Nestlé, and now joined by many other organisations, the potential for collaborative projects in Mexico, California and India has been identified. A year after the project was launched, Nestlé participated in the initial phase, mapping sourcing information from founding companies and additional experts, and in 2016, we plan to support the SAI Platform in implementing its mitigation efforts. To date:

- The California Water Action Collaboration was launched in March 2015. The unsustainable use of groundwater caused by prolonged drought saw Nestlé and other food and beverage companies support efforts to improve groundwater management planning, replenish groundwater, and engage in dialogue with farming communities and supply chain stakeholders;
- General Mills, our joint venture with Cereal Partners, is funding scientific analysis for the mapping phase of the water collaboration project in the water-scarce Bajio region of Central Mexico; and
- The water risk collaboration in Guanajuato, Mexico, is still in the scoping and research phase, and Nestlé Mexico may engage when the initiative is launched in 2016.

We believe the initiative will open new avenues to promote sustainable agricultural methods and landscape level collaboration. Where water risk intersects agricultural uses, a collaboration of companies has the potential to bring together sustainable sourcing programmes across multiple crops and to work with farmers and suppliers to address the incentives needed for change.

International standards for water footprinting

The publication of the international standard ISO 14046:2014 Environmental management – Water footprint – Principles, requirements and guidelines in 2014 marked the culmination of five years of collaboration between more than 90 experts across the world, including representatives from Nestlé. The standard specifies a methodology for assessing the impact of products on water, from farm to consumer and beyond, providing transparency, consistency and credibility to organisations' water footprint assessments.

In 2015, we contributed to the development of the *ISO/AWI TR 14073 Environmental management – Water footprint* document, which will provide illustrative examples on how to apply ISO 14046. We submitted a case study on how to identify material environmental issues along the life-cycle chain for spray-dried coffee, compared with drip filter coffee and capsule espresso coffee.

In France, we have already used the new standard to measure the water impact of a cup of *Nescafé*. The assessment determined that more than half of the water impact occurs during the agricultural stage of our value chain, and a quarter at the consumer stage. As a result, the *Nescafé* Plan is helping farmers improve agricultural practices, boosting water savings in factories, and providing consumers with tips to use the right amount of water, at the right temperature, when preparing a cup of coffee.

In Italy, we conducted a life-cycle assessment (LCA) comparing the environmental performance of the new *Nescafé* smart pack with the previous glass jar. The assessment included a comprehensive set of environmental indicators, including greenhouse gas (GHG) emissions, water withdrawals and resource consumption. When compared with the glass jar, the new smart pack reduces GHG emissions by 79%, water withdrawals by 72% and resource consumption by 77%.

Read more about LCAs.

Implementing the Alliance for Water Stewardship Standard

Our objective

- **By 2016** – Initiate the roll-out process of the Alliance for Water Stewardship's (AWS) International Water Stewardship Standard by implementing it in at least five locations.

The AWS International Water Stewardship Standard is a universal reference tool for any organisation to use as a framework for evaluating its water stewardship practices. The Standard provides new ways to measure and deliver water efficiency and its universal terms of reference have the potential to advance public dialogue around water stewardship.

The Standard defines a set of criteria and indicators for a site or catchment, to ensure water use is environmentally, socially and economically beneficial. It provides organisations with a continual improvement framework that enables water stewards to commit to understand, plan, implement, evaluate and communicate water stewardship actions.

Nestlé used the AWS Standard's principles this year at selected high-priority locations. Having signed a partnership with WWF-Pakistan, we helped launch the AWS Standard in the country at a Water Symposium in October 2015, and signed an agreement to implement practices to meet the Standard at our Islamabad factory. The AWS Standard is being implemented at our Sheikhupura facility, all nine of our factories in California and other sites within our bottled water business.

We have produced internal guidance on the AWS Standard to assist our operational teams with implementation, and a wider roll-out is planned for 2015.

> "Nestlé is always looking for opportunities to reduce, recycle and reuse water in our operations. That is why we are very excited about our partnership with WWF-Pakistan. We not only hope to achieve the water stewardship milestones we have set for ourselves sooner, but also to help further reduce the water footprint across our value chain."
>
> **Waqar Ahmed, Head of Corporate Affairs, Nestlé Pakistan**

The SuizAgua programme in Peru

According to the Intergovernmental Panel on Climate Change (IPCC), Peru is among 12 countries already facing water stress, where water demand is greater than the amount available. Average rainfall per year in Lima – home to nearly 10 million people – amounts to just 13 mm.

Collective action by all water users is critical to improving water efficiency. In April 2013, the Swiss Agency for Development and Cooperation (SDC) and Nestlé Peru signed a cooperation agreement to measure and reduce the water footprint of our operations in Lima.

Through the SuizAgua project, implemented by the NGO Agualimpia, a programme of action has taken place since 2013. This has involved:

- **Supplier talk:** a presentation helped three of Nestlé's main suppliers understand local water resources and the ways they can assist;
- **Neighbour talk – water care:** our neighbours were invited to a talk sharing ways to reduce their water footprint and increase savings;
- **Ice cream tank washing water reuse:** we are storing and reusing more water during our production processes;
- **Water level sensor installation in mixture preparation tanks:** level sensors are helping us control water use better; and
- **Technical assessment of pasture and water management:** technical assistance provided to milk providers in Chetilla–Cajamarca is improving the quality of milk and the productivity of the farmers, generating better incomes and improving wellbeing in the rural community.

The Water Challenge blog

Our Chairman, Peter Brabeck-Letmathe, has led a Water Challenge blog since 2012 to stimulate discussion and debate about the important issue of water use and availability around the world. He regularly writes about water scarcity, access to water and the notion of fair water pricing to drive them up the public policy agenda. His recent posts have covered Wastewater as a resource; Water pollution; Untreated wastewater; Finance for a water secure world; and Big data to improve water efficiency. Other topics addressed by guest contributors range from the value of water to the role of forests in the water supply.

Mr Brabeck also hosts a LinkedIn Water Group intended to stimulate open debate on the vital issue of water availability around the world.

Water treatment and quality

The direct use of good-quality water is vital for Nestlé's operations. We use water at our 485 factories around the world to perform many functions, including washing fresh raw materials, reconstituting dried ingredients, extraction, cooking, cooling and cleaning; we also have a bottled water business. We want to make sure we treat any liquid effluents that result from such processes effectively before reusing them or releasing them into the environment. Wherever possible, we use municipal wastewater treatment facilities, but where they do not exist or cannot meet our standards, we operate our own treatment plants.

Work to achieve water efficiency and sustainability across our operations

Advocate for effective water policies and stewardship

Treat the water we discharge effectively

Engage with suppliers, especially those in agriculture

Raise awareness on water conservation, and improve access to water and sanitation across our value chain

Effective water treatment

Our commitment

Treat the water we discharge effectively

According to UNEP, 80% of the world's wastewater is currently discharged into the environment untreated. This poses health risks and pollutes water sources, and often affects the poorest countries the most.

At Nestlé, we are committed to treating the water we discharge in a responsible manner. We have long provided services to treat the effluents from our operations, having built our first Waste Water Treatment Plant (WWTP) in Switzerland in 1932, and adhere to strict quality targets for reusing water or returning it to the environment.

We aim to use the most efficient technologies and apply best practice, minimising the generation of effluents.

At the end of 2015, our efforts to improve wastewater treatment efficiency and capacity had reduced water discharges per tonne of product by 8.2%, and improved the average water quality discharged by 2.3% to 70 mg COD (Chemical Oxygen Demand) per litre. This means that since 2005, water discharges per tonne of product have fallen by 56%.

Setting new standards

Our objective

◐ **By 2016** – Implement the new Nestlé Environmental Requirements for water quality and effluent discharge in all factories.

In 2012, we strengthened our Nestlé Environmental Requirements (NER) for water quality and effluent discharge to ensure we go beyond compliance with the legal requirements of the markets in which we operate. New facilities are obliged to meet the requirements immediately, while existing plants have until the end of 2016 to comply.

At a corporate and site level, we track water indicators including quantity, destination and quality of water discharges. We use the Water and Effluents dashboard to get a better understanding of our performance over time. The dashboard consists of two main sections: a monthly section at the top with monthly values of the main water and effluents indicators over the last 12 months, and a section with year-to-date values of a broader range of water and effluents indicators at any point in time. The dashboard also showcases water quality against our internal standards at a factory level. All manufacturing sites report their water discharge indicators monthly, and these figures are consolidated to give us a global picture.

The system also generates factory-specific Water Process Maps, which show the water withdrawn upstream (by source), the water used in our operations and the water discharged (by destination) over the selected period. Together with this tool, we also released a Water Flow and Effluents toolkit that helped users review data monthly or annually, to identify further opportunities for improvement.

The NER have been communicated through clear guidelines and information tools. We have toolkits in place to train our people on the use of the Water and Effluents dashboard and Water Process Map.

Water quality is also a key aspect of our programme of Water Resource Reviews, which help ensure compliance with applicable water legislation as well as our own standards, and help prevent potential contamination risks upstream and downstream of our facilities.

Wastewater treatment infrastructure

Today, all our factories either have their own wastewater treatment plant on site, or are linked to a local municipal facility. Where such plants don't exist or aren't able to meet our stringent standards, we invest in our own plants. Building new plants or upgrading existing ones to improve efficiency or increase capacity is an ongoing process.

We aim to use the most efficient technologies and apply best practices to minimise waste generation and recover value from by-products.

In developing such infrastructure, environmental aspects that could affect the local neighbourhood are always given special attention, and we place strict controls on noise and odours.

19.4m Approved spend on new and upgraded treatment facilities

91% Amount of sludge recovered or reused

1 Americas: Brazil

At our dairy factories in Brazil, we reuse the water extracted from milk to save resources (we have a total of 12 dairy factories in Brazil, one of which does not have the milk concentration step for which this technology is used and is therefore excluded from this statement). Milk is composed of 80% water and, during the production of powdered (*Ninho* and *Molico*) and condensed (*Moça*) milk products, we need to remove this water. But instead of being disposed of, the whey is evaporated and treated, so it can be used to cool down equipment and for cleaning. In 2014, this reused water represented 28% of water withdrawal across 11 of Nestlé Brazil's dairy factories. We also benefit from directing the extracted whey to feed boilers and produce energy. The same approach is also employed at the wastewater treatment plant of our Cero Agua milk powder factory in Mexico.

2 Americas: Guatemala

The Malher dry food factory, which produces 1300 tonnes of condiments, spices and seasoning per month, is located on the Villabolos River, which flows into Lake Amatitlán, a popular tourist destination. When Nestlé acquired the factory in 2012, its filtration processes met legal requirements for water discharge, but not our own high standards. Over the last two years, Nestlé has invested over CHF 400000 to radically improve the quality of water discharges leaving the factory. A multi-modular Waste Water Treatment Plant was installed in 2015, separating solids, removing organic material and filtering the water so that it can be reused safely. Nestlé also implemented several water-saving projects that reduced water withdrawals by 25%.

3 Europe: Switzerland

Nestlé Waters' ECO-Broye programme facilitates and coordinates efforts to preserve natural resources and sustain economic development around the source of its Henniez mineral water brand. Launched in 2009, this holistic, community-based initiative involves:

- Establishing over 2000 hectares of ecological corridors between the natural habitat and farmland to protect local biodiversity;
- Creating a natural filtration zone for a tributary of the River Broye, improving the quality of groundwater and local streams by using plants able to absorb unwanted chemicals and minerals; and
- A biogas production project, adjacent to the Nestlé Waters plant, transforming organic waste from local farms and industry into clean energy. This will avoid an estimated 1750 tonnes of CO_2eq, and save the factory around CHF 60000 a year.

4 Asia: The Philippines

At our Tanauan factory, which produces non-dairy creamer and *Bear Brand Instant* (BBI), the in-house wastewater treatment plant was struggling to cope with the organic-rich waste, and treating the waste elsewhere incurred significant additional costs. Nestlé invested CHF 3.1 million in an anaerobic digester to treat the organic waste, and provide additional capacity to treat other potential waste. The digester also produces 6100 kg of biogas a day, providing a source of energy across the factory, reducing expenditure on fossil fuels and reducing emissions by 1885 tonnes of CO_2eq a year. The upgrade will save Nestlé CHF 500000 a year and we are now looking at replicating the approach at other factories with high levels of organic waste.

Using technology to improve water treatment in Vietnam

Most coffee factories treat waste with chemicals before transferring it to a municipal plant. But when Nestlé Vietnam built the Tri An factory in September 2012, it wanted a 'best-in-class' facility that would reduce waste and increase water reuse.

For the first time in a Nestlé coffee factory, a biological aerobic treatment plant with membrane bio-reactors was constructed. Waste is passed through a specialised ultra-filtration, hollow fibre membrane, which is so fine that even bacteria and viruses cannot pass through. The remaining water is then treated using reverse osmosis filtration, making it clean enough to be reused in facilities such as cooling towers. This has reduced the factory's daily water consumption by over 30% and its water discharge by over 50%, saving 90000 tonnes of water per year.

We are now analysing whether the factory's boilers can also use the treated water, which could save a further 36000 tonnes of water a year.

Employee training on wastewater and water quality

Meeting our own ambitious targets for discharged water quality will be a challenge, so training and awareness-raising among our employees is a priority. Training in wastewater management is an area of particular opportunity for those employees working at our Waste Water Treatment Plants (WWTPs), as our performance relies on their skill and competence.

While some countries, such as France and Spain, already have strong training programmes in place, we can improve in other locations. Therefore, we are developing a standard global training programme for the plant operators, technicians and engineers who run our WWTPs. Working with external partners to deliver the sessions, we held workshops in Nigeria, Côte d'Ivoire and Indonesia during 2015.

To ensure the water we discharge into the environment is clean, it is vital we have both the infrastructure and the knowledge to do so effectively. To help facilitate this, we instigated water treatment and management workshops in Nigeria, Indonesia and Côte d'Ivoire during 2015.

Our assessments in Agbara, Nigeria, and Yopougon, Côte d'Ivoire, indicated that while our infrastructure was adequate, performance was sometimes hindered by gaps in the training and knowledge of our staff. In Indonesia, we also identified a need to manage storm water effectively to avoid environmental damage and flooding.

Collaborating with training provider AQUA MPS in Central West Africa, and sharing best practice with Nestlé dairy and coffee factories in Indonesia, we ran a series of workshops over the course of the year. These involved a mix of classroom and on-site training, as well as inspections of the plants and their operations. The training covered a number of different treatment processes, and gave participants a clearer and deeper understanding of water quality and conservation. In Indonesia, this was supplemented by information about the segregation of wastewater from stormwater networks, eliminating contamination and flood prevention, to ensure we are well prepared for adverse weather.

Having trialled the initiative, Nestlé is now collaborating with AQUA MPS to ensure it continues in a more formal way. Remote support for each site will be supplemented by one visit per year, to involve refresher training and an on-site inspection, as well as webinars and newsletters to strengthen knowledge among the relevant personnel. We have also identified two managers in Nigeria and Côte d'Ivoire who will become in-house 'champions' of the programme.

In 2016, the programme will be implemented in three more factories in Central West Africa: Flowergate (Nigeria), Tema (Ghana) and Abidjan Z4 (Côte d'Ivoire). We will provide training, coaching and technical support to ensure our operations operate efficiently and consistently, analyse wastewater accurately, and comply with all internal and external standards and regulations.

We also conducted Safety, Health and Environmental Sustainability workshops in the United States, Germany and Vietnam to reinforce leadership in our operating companies around the world. The wide range of topics addressed included compliance, assessing and managing environmental impact, and feedback on the Nestlé Environmental Requirements (NER).

We also engage with external stakeholders on ways to improve the use of resources to protect the environment and promote sustainability. For example, Nestlé's Qazvin factory in Iran organised a two-day Safety, Health and Environment conference in December 2015. The conference sought to raise awareness on water, as well as on waste management and occupational health and safety. The participants, including government officials from the Ministry of Health and Environment Protection Organisation, and more than 100 experts from different industries, also visited our on-site wastewater treatment plant to share best practices.

Water in our supply chain

Every year, Nestlé works directly with around 760 000 farmers, providing a wide range of support – from drought-resistant plantlets to sharing information about agricultural methods that maintain yield while using less water. Our sphere of influence touches millions more suppliers through the commodities we purchase, such as coffee, cocoa and milk for our products, and paper for our packaging, so engaging with our suppliers, especially those involved in agriculture and forestry, is critical to achieving water security and meeting our water stewardship commitments. Prioritising interventions in water-scarce locations and Important Water Areas[7], we provide training to farmers on water quality, water usage and retaining soil moisture, while our R&D teams support the selection and propagation of drought-resistant cocoa and coffee trees.

Work to achieve water efficiency and sustainability across our operations

Advocate for effective water policies and stewardship

Treat the water we discharge effectively

Engage with suppliers, especially those in agriculture

Raise awareness on water conservation, and improve access to water and sanitation across our value chain

Working with our suppliers

Our commitment

Engage with suppliers, especially those in agriculture

We estimate that around 63.5 billion m^3 of water is consumed by the agricultural goods we use in our products (93.3% from rainwater and 6.7% from irrigation). And with over 70% of the world's available freshwater supplies used to grow food, the food and beverage industry is in a strong position to influence improvements in global water stewardship. Industry leaders have already achieved significant advances in sustainable water management in their operations but we must focus beyond the factory gates, where farmers are often the biggest users of water and the key stakeholders in a catchment.

Nestlé's greatest challenge to reducing water consumption lies in addressing the impacts of our complex agricultural supply chains. Water management and conservation is specific to a locality and is usually temporal in nature. Our research indicates that we can achieve significant improvements in water use simply by introducing better agricultural techniques at a farm level, some of which require significant investment.

We are currently implementing our Responsible Sourcing Guideline (RSG) for 12 major categories of ingredients, with specific requirements on social and environmental aspects; these include water management guidelines based on the Principles & Practices for Sustainable Water Management in Agriculture – at a farm level developed by the Sustainable Agriculture Initiative (SAI) Platform.

The Sustainable Agriculture Initiative (SAI) Platform

Nestlé is one of the founding members of the SAI Platform, a non-profit organisation that promotes the principles and practices needed for sustainable water management in agriculture among food and beverage companies. Its Water Committee recently issued a Water Footprinting of Livestock report, summarising key water footprinting methodologies for livestock production and highlighting gaps and areas for improvement.

The SAI Platform's Water and Agriculture Working Group has also finalised a new report on Water Stewardship for Sustainable Agriculture. This document, intended for food and drink companies and their agricultural supply chains, provides practical guidance on the steps required for farm-level water stewardship. The report aims to empower key decision-makers such as business leaders and farm managers to understand the scope of farm-level water stewardship and where specialist expertise is required; to make the right practical and investment choices; and to communicate better on water stewardship issues. The three clear steps to farm-level water stewardship described in the report are improved knowledge, an assessment of risks both to and from the farm, and actions to address those risks.

7 Water-related areas of a catchment that are legally protected or under a conservation agreement which, if impaired or lost, could adversely impact the environmental, social, cultural or economic benefits derived from the catchment in a significant or disproportionate manner.

The Sustainable Agriculture Initiative at Nestlé (SAIN)

We also have our own global programme to support farmers and promote sustainable development across a range of commodities. The Sustainable Agriculture Initiative at Nestlé (SAIN) enables us to address key challenges in water management and irrigation, such as resilience to drought and flooding; wastewater and organic waste treatment; and farm intensification techniques.

Through SAIN, we hold regional workshops for farmers and share best practice through field projects and public–private partnerships, some of which are featured in this chapter.

Our initial objective, to be achieved by 2015, was to define and start to implement action plans to save water in our upstream supply chains for coffee, sugar, rice and cereals, and our work in this area has been extended into 2020. Focus is given to high-priority locations, which are selected based on a range of water-related issues such as exposure to scarcity, floods and competition with other users.

Our objectives

- **By 2015** – Define and start to implement action plans to save water in our upstream supply chain for coffee, sugar, rice and cereals in high-priority locations.
- ⊕ **By 2020** – Implement all action plans defined for improved water management in our upstream supply chain for coffee, sugar, dairy and cereals in high-priority locations.

SAIN action plan: coffee

In 2014, through our SAIN programme, we defined and began to implement an action plan to save water in our upstream supply chain for coffee. We promote water conservation to our network of around 20000 Farmer Connect suppliers in Vietnam through our *Nescafé* Better Farming Practices (NBFP), developed in collaboration with the NGO Rainforest Alliance. The NBFP recommend farm-level methods such as fixing leaks, using irrigation techniques such as drip systems, and scheduling irrigation to help farmers increase crop yield and quality while using less water. These help farmers move towards compliance with social and environmental sustainability criteria such as the 4C Code.

Saving water in Vietnam's coffee fields

Vietnam is the world's second-largest coffee producer and the world's largest exporter of Robusta coffee, with 2.6 million people relying on the sector for their livelihood. Most coffee is grown in the Central Highlands, where agriculture accounts for around 96% of the region's water use. But erratic rainfall, prolonged periods of drought and overextraction means that groundwater scarcity poses a growing threat to farmers, households and industry (watch a short video).

A study by Nestlé and the Swiss Agency for Development and Cooperation (SDC) to evaluate water sustainability in the coffee sector of Vietnam estimated that, on average, coffee farmers use 60% more water for irrigation than necessary during the dry season. They also incur financial and labour costs, having to buy petrol to operate well pumps and spend time watering their fields.

We have worked in a public–private partnership with the SDC since 2011 to improve irrigation practices with Vietnam's coffee farmers, and educate those beyond our network about good agricultural practices and water management. Our five-year partnership now serves more than 50000 farmers and by 2018, the project will deliver an action plan for water-scarce hotspots; an early warning weather system; a training programme with field schools; and capacity-building for local institutions.

- **Action plan:** in cooperation with the University of Neuchatel, a large-scale water supply and demand study conducted in Dak Lak province found that groundwater resources are replenished two to three months after the dry season. Detailed results will be presented to an international conference in Vietnam in March 2016.
- **Early warning weather system:** in cooperation with the Hanoi University of Science, a short-term weather prediction model has been developed for the Central Highlands. It is currently being fine-tuned and tested. The weather forecast is updated every six hours and predicts up to 36 hours ahead.
- **Farmer training programme:** around 60 trainers have attended five Train the Trainer sessions, and almost 7000 beneficiaries have been trained on five Good Agricultural Practices topics. Participation rates in the farmer field school programme averaged around 80%.
- **Policy advocacy:** in cooperation with the National Agricultural Extension Centre, an agricultural forum focusing on water and fertiliser use in the coffee sector was attended by around 200 farmers from the five Central Highland provinces, where they had the opportunity to directly interact with key coffee experts.

Nestlé Vietnam and ACOM test coffee irrigation techniques

In Vietnam's Lam Dong province, Nestlé has been working with Atlantic Commodities (ACOM) on a year-long study to examine the water-saving potential of different coffee irrigation methods. Throughout 2015, information was disseminated to farmers in coffee-growing districts, water-saving and drip irrigation systems were set up, and selected farmers were taught how to manage and record the water they used to irrigate their crops. Nine demonstration plots were successfully established. Results will be available in 2016.

Although it is too early to assess the effectiveness of the new systems, coffee trees are already showing better vegetative growth at the drip irrigation plots, and less water, energy and labour is being used in coffee cultivation. Fertiliser can also be applied by dissolving it in the water used to irrigate the trees rather than being applied to each tree manually. We continue to conduct follow-up visits to provide on-site advice, and invite the farmers to visit the demonstration plots to exchange knowledge and share ideas.

Intelligent water management in Colombia

Colombia endures periods of both water shortage during dry years and excess from periods of intense rain. This imbalance affects the productivity of coffee farms, with yields down by up to 40%. As coffee is the country's main agricultural product, an effective integrated water management system needs the coffee sector to act as a pioneer and key stakeholder.

To help address the issue, *Nescafé* and *Nespresso* launched a major water stewardship initiative: the Intelligent Water Management (IWM) project. In cooperation with the Colombian Ministry of Rural Development, the Colombian Federation of Coffee Growers (FNC), the Dutch Ministry of Foreign Affairs and the Wageningen University and Research Centre (WUR), the IWM project seeks to make the Colombian coffee sector more resilient to the effects of climate change and water scarcity through improved environmental performance at a farm and watershed level.

With a budget of EUR 20.5 million (CHF 24.6 million) over five years (2014–2018), this public–private partnership involves programmes tailored to local needs and conditions in 25 river catchments. The beneficiaries include around 500 000 water users, including 11 000 coffee farms. The programmes focus on four areas:

- **Clean technology transfer** – saving water and discharging better-quality water after the coffee-washing process. Training on the economic management of farms and IWM has been given to hundreds of participating coffee-producers, while 10 pioneering water-reuse systems have been constructed. The feasibility of a central mill as an alternative to individual mills was also assessed.
- **Healthy ecosystems** – using agroforestry and bioengineering to minimise soil erosion and ensure the conservation of important water areas. Around 160 farms have been selected for reforestation and agroforestry projects, and coffee plantlets have been distributed to farmers to create nurseries. The replanting of 90 hectares will start in 2016. Fifteen sites prone to landslides have also been selected for specific bioengineering restoration projects to prevent soil erosion.
- **Knowledge generation** – implementing a water and climate monitoring system and preventing crop damage due to extreme weather events. All the equipment for 25 water and climate monitoring stations has been installed at selected farms, and two rounds of water samples taken.
- **Cooperation and participation** – collective action and advocacy through engagement with public and private sector organisations, academia and civil society. Action plans are under development, and 27 local *Manos al Agua* community participation groups have been set up.

As it enters its third year, the IWM programme will now concentrate on training farmers and implementing specific actions in each of the 25 river basins, including reforesting, bioengineering activities and the installation of climate monitoring stations.

Sugar

We partnered with Proforest, a leading NGO, to assess the key environmental and social risks in our global sugar supply chains, including key sourcing regions such as Mexico, Brazil, Thailand and India. Impacts on water, and whether withdrawal is minimised and water pollution prevented, are assessed during site verification visits, which include both the mill and its supply base. If risks against these criteria are identified, Proforest works with the supplier to develop a continuous improvement plan to mitigate those risks. Engagement with the suppliers is ongoing and longstanding, with further technical support and monitoring provided where necessary.

Rice and cereals

Nestlé Nutrition also assessed the irrigation practices in key sourcing locations for the different cereals we use in our baby food products. An action plan will be initiated in 2016 proposing improvements that will lead to the more efficient use of irrigation water.

Over the next few years, Nestlé Nutrition also worked with rice suppliers and farmers in all current sourcing areas in the US, Latin America, Europe and Asia, to gain a better understanding of the impact of irrigation practices on the rice uptake of heavy metals.

Direct seeding of rice in Pakistan

Conventionally, farmers across Pakistan cultivate rice by sowing seeds within nurseries, and then transplanting the seedlings into the puddled soil of the paddy fields. However, this approach requires large amounts of water, as well as labour and fuel. Also, in some areas, rice grown by traditional methods contains high levels of arsenic due to contamination from deep-well irrigated water.

This is a serious issue for Nestlé Pakistan, which uses rice in its products. Working with the University of Agriculture in Faisalabad, we ran a six-month field trial to test the direct seeding of rice, rather than the traditional two-step approach. Twelve of the most popular varieties of rice were sown under normal moisture conditions rather than in puddled soil.

The results highlighted a number of benefits. Water use was cut by up to 50%, arsenic residues were down by more than 65%, and much less labour was required to nurture the seeds. Even tractor use was halved, helping reduce fuel consumption and greenhouse gas emissions, and the directly seeded plants took two weeks fewer to grow.

Given the encouraging results, we will be collaborating with our suppliers to promote this new method of farming, to ensure we can continue to provide consumers with the best rice possible. We will also conduct further field trials at different locations across the Punjab to continue to evaluate the suitability of the direct seeding method, and investigate variances in arsenic residues across different varieties of rice.

Dairy

We have now set ourselves the target of implementing our SAIN action plans by 2020. In so doing, we are also shifting our focus from rice to dairy. This is because fresh milk is the raw material we purchase the most of – a significant proportion of which comes from water-stressed locations (such as Pakistan, India, Mexico and California) – and the sector represents almost half our Farmer Connect direct sourcing network (352 000 dairy farmers out of 760 000 suppliers in total). We will report our progress in next year's report.

Dairy farms' spring water collection, Panama

In Panama, there are two main seasons: rainy and dry. Normally, the dry season begins in mid-December and finishes in late May. During this period of water shortage, springs form where groundwater meets the surface.

In 2014, Nestlé Agricultural Services field inspectors helped build springwater collection points in five dairy farms in Panama to capture this water, and trained the farmers using our *Spring Water Collection Manual*.

As their cows could remain in pastures where no water was otherwise available, milking could continue during the long dry season. The cows and calves are now in better physical condition, and milk yields have risen by 10%. The number of farms adopting this approach increased to 25 in 2015.

Community engagement

Water is a local, shared resource that must be carefully used and preserved by all stakeholders, so engaging with local communities is essential. Everyone has the human right to clean, safe drinking water and sanitation, and it is unacceptable that, today, some people are unable to access either. We want to improve access to water and sanitation across our value chain, working with expert partners including the World Business Council for Sustainable Development (WBCSD) and the International Federation of Red Cross and Red Crescent Societies (IFRC). We also seek to raise awareness about water conservation, and have supported education initiatives such as Project WET (Water Education for Teachers) to help our employees, communities, suppliers and consumers make better-informed decisions regarding effective water stewardship.

Work to achieve water efficiency and sustainability across our operations

Advocate for effective water policies and stewardship

Treat the water we discharge effectively

Engage with suppliers, especially those in agriculture

Raise awareness on water conservation, and improve access to water and sanitation across our value chain

Improving access to water and sanitation

Our commitment

Raise awareness on water conservation, and improve access to water and sanitation across our value chain

Safe drinking water and sanitation is a basic human right. The World Health Organization estimates that every person needs 50 to 100 litres of fresh water per day to meet their basic daily needs. But today, according to the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 663 million people still have no access to improved drinking water sources and 2.4 billion lack adequate sanitation.

There is a clear and compelling economic case for all businesses to help address the current situation: providing safe water, sanitation and hygiene (WASH) contributes to broad societal goals such as reducing mortality and morbidity, strengthening community resilience and preserving personal dignity.

In 2015, we finalised the Nestlé Guidelines on Respecting the Human Right to Water and Sanitation, based on guidance from the CEO Water Mandate. This new document provides consistent directives on how Nestlé markets and factories can respect and support the human rights to water and sanitation across the supply chain. We will report on its roll-out and implementation next year.

Read about our approach to human rights.

Local partnerships

To help deliver access to water and sanitation, we engage with a wide number of organisations. Our engagement can involve investment in water and sanitation infrastructure, educational initiatives or even providing bottled water during emergencies or after natural disasters.

It is vital to ensure our partnerships and initiatives are tailored to the community and the water catchment they will support. Our activities must consider local priorities and needs, to create sustainable outcomes. Examples include educational programmes such as the SuizAgua programme in Chile, where we work to teach students about the importance of water, and a collaboration with WWF to provide clean drinking water in water-stressed Pakistan (see case study on page 159).

We also raise awareness of water and sanitation issues through our ongoing support for Project WET and our biennial Nestlé CSV Prize; one of the runners-up in 2014 was MSABI's True Life Water Point programme, one of the largest rural water, sanitation and hygiene projects in Tanzania.

> "It is imperative that we close the gap between supply and demand of safe fresh water if we are to thrive as businesses, communities or countries. We have pledged globally to water stewardship in an effort to adopt sustainable water practices, especially in areas where we operate, source our goods and where our suppliers and consumers live. Local communities play a very important role in achieving this objective."
>
> **Marco Settembri, Chief Executive Officer, Nestlé Waters**

Community access to water in Pakistan

In Pakistan, one of the most water-stressed countries in the world, access to clean drinking water is a key development challenge. More than 95% of the country's usable water is used for agriculture in rural areas, while only 2% is used by urban municipalities and 2% by industry.

To help manage water stewardship in our operations and throughout our supply chain, Nestlé Pakistan signed a partnership with World Wide Fund for Nature Pakistan (WWF-Pakistan). We are also implementing the Alliance for Water Stewardship (AWS) Standard at our Sheikhupura and Islamabad manufacturing facilities.

Against this backdrop, the potential impact of water withdrawals from our water bottling plant at Sheikhupura raised considerable public interest and sparked a social media campaign in 2014. In response, we undertook a review to determine the scientific basis of the allegations, and to increase our understanding of the communities using the local water catchment. A hydrological study by independent local experts indicated that depletion rates are low, and do not represent a threat to groundwater sustainability. The survey also confirmed that annual groundwater pumping by Nestlé (which is continuously monitored) amounts to just 1% of the total pumped in the area.

We have also found opportunities to strengthen public perceptions and improve access to water and sanitation around our facilities. For example, through our Community Engagement Programme, Nestlé Pakistan has established seven drinking water facilities near our factories, providing clean water to approximately 35 000 people.

Most recently, in November 2015, Nestlé Waters CEO Marco Settembri and Managing Director of Nestlé Pakistan Bruno Olierhoek inaugurated a water fountain in the village of Bhatti Dhilwan, near our Sheikhupura factory. At least 5000 people now have access to clean drinking water, and the health of local children has measurably improved. The company also renovated the Bhatti Dhilwan Government Primary School for Boys, and established a clean drinking water facility there, in July 2014. (Watch a short video here.)

An eighth drinking water facility is currently being built in Allahabad, near our Kabirwala factory.

WASH in the workplace

Our objectives

- **By 2015** – Every Nestlé employee has access to safe water, sanitation and hygiene of an appropriate standard at the workplace.
- ⊕ **By 2017** – Implement all corrective action plans derived from the global roll-out of the WBCSD WASH Pledge self-assessment for safe water, sanitation and hygiene in the workplace at Nestlé premises.

The vision behind the WBCSD WASH Pledge is for businesses around the world to commit to ensuring access to safe water, sanitation and hygiene (WASH) for all employees under their control. Organisations signing the Pledge must commit to achieving this objective within three years; in time, the WBCSD hopes companies will then extend their commitment to all employees along their value chains and, ultimately, their households and communities.

Having adopted the WASH Pledge, we made a public commitment to provide every one of our employees with access to WASH facilities in the workplace by 2015. We are also rolling out the WBCSD's self-assessment tool across our facilities, to measure access to and quality of WASH services, and to help our businesses identify gaps and make improvements.

We introduced the self-assessment tool in all sites under our control by the end of 2015 and provided guidance tools to support our teams. Overall, consolidated results show that our performance against the Pledge is very good.

Nearly 90% of our manufacturing facilities carried out the self-assessment, of which 90% met the Pledge level and 10% identified minor gaps (e.g. lack of toilets for disabled people, no signage for proper hand washing) that do not affect our basic WASH promise to our employees. Corrective action plans will be implemented throughout 2016.

Having focused our efforts to date at manufacturing facilities – the locations where most of our people work – during 2016, we will further focus on completing the self-assessment roll-out in those sites where it has yet to be performed (i.e. some of our offices and distribution centres).

Executive support for the WASH Pledge

Marking World Toilet Day on 19 November 2015, a video message from senior executives, including Nestlé CEO Paul Bulcke, emphasised the need for universal access to safe water and sanitation, and the importance of Nestlé's support for the WASH Pledge. The video reminded employees that Nestlé was the first company to publicly sign the Pledge in 2013, and called on all markets to use the WBCSD self-assessment tool and define action plans to close any gaps identified during the assessment.

Improving access to water and sanitation in Central America

We launched the WASH Pledge at a WBCSD event in El Salvador in 2014, after which Nestlé Central America began the roll-out across Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama to help deliver access to safe water and adequate sanitation. This involved:

- Raising awareness of the WASH concept and our commitment to water access and conservation;
- Using the WBCSD self-assessment tool to benchmark current access to water, sanitation and hygiene in our workplaces;
- Driving ownership and engagement among all employees; and
- Extending the Pledge beyond our manufacturing facilities.

WASH in the workplace

The WASH Pledge was displayed in 17 sites (seven Nestlé factories, one co-manufacturing factory, eight distribution centres and the Panama head office). The benefits of the Pledge were communicated to all employees through large-scale meetings and video-conferences, supported by a regional WASH ambassador and WASH champions at each site.

We used the WBCSD self-assessment tool to examine access to WASH services among more than 3500 direct employees. All our factories and some distribution centres satisfactorily met the Pledge's compliance level, and improvement plans were established in some instances. And while performance in the other facilities was 'good', an action plan was developed to address issues related to employee behaviour and sanitation routines.

WASH across our value chain

At some factories, surveys helped us understand employees' access to safe water and adequate sanitation beyond the factory gates. After such an assessment, the *Maggi* factory in Antigua, Guatemala, financed eco-filters to ensure safe drinking water in workers' homes, while the Nestlé dairy factory in Matagalpa, Nicaragua, created a WASH committee to promote water conservation within the community.

Through a workshop, we encouraged 30 strategic suppliers to use the self-assessment tool and implement the WASH commitments in their workplaces. And, in collaboration with our Factory Agriculture Services team, our WASH champions in Nicaragua and Panama used the self-assessment tool to analyse the water, sanitation and hygiene conditions in four farmers' houses, informing future projects to improve our suppliers' quality of life and raise their environmental performance.

We plan to continue these activities, and reassess our workplace WASH services, during 2016.

Collaborating with expert partners

Our objective

- **By 2016** – 350000 beneficiaries in local communities will have access to water, sanitation or hygiene projects around our manufacturing facilities and in Farmer Connect areas.

By the end of 2015, almost 440000 beneficiaries in local communities had access to water, sanitation and hygiene projects around our manufacturing facilities and in Farmer Connect areas. Having reached our 2016 target early, we have continued to monitor our performance and will use this progress to help set a new objective next year.

The Millennium Development Goal (MDG) target of halving the number of people without access to safe drinking water by 2015 has been met, yet the parallel goal to halve the number of people without access to basic sanitation has not. Access to sanitation remains a significant challenge for many countries: an estimated 2.4 billion people still lack adequate sanitation facilities, contributing to almost 90% of child deaths from diarrhoeal diseases.

This is not an acceptable situation, and organisations such as the International Federation of Red Cross and Red Crescent Societies (IFRC) are working hard to provide equitable, affordable and sustainable solutions to improve the health and quality of life of vulnerable communities.

The International Federation of Red Cross and Red Crescent Societies

Nestlé became the IFRC's first corporate partner in Africa in 2002 and, in 2014, we renewed our partnership, committing CHF 5 million over five years to the organisation. Of our country offices 16[8] now engage directly with Red Cross/Red Crescent national societies either to donate blood, provide products or water to refugees or natural disaster victims, or roll out WASH initiatives for communities living around the areas where Nestlé operates.

Over the years of our collaboration, we have increasingly focused on improving access to clean water, sanitation and hygiene in rural communities, such as the cocoa-growing regions of Côte d'Ivoire. Here, a programme of activities was introduced to improve health and hygiene awareness among vulnerable groups, including schoolchildren, teachers and local community members. Around 228861 people in Côte d'Ivoire have now benefited from the initiative, which includes the monitoring and improvement of water quality and water infrastructure, the provision or renovation of sanitation facilities, and the raising of awareness through hygiene awareness programmes in villages and schools.

Our efforts to improve water access and hygiene are also ongoing in neighbouring Ghana, where improved sanitation is available to a very small proportion of the population. The partnership plans to improve access to sustainable WASH services for 90000 beneficiaries (84 community and school sites) over four years in rural areas.

8 Bangladesh, Canada, China, Côte d'Ivoire, Germany, Ghana, Greece, Japan, Mexico, Norway, Panama, the Philippines, Russia, Spain, Thailand and USA.

The Global Water and Sanitation Initiative

The IFRC delivers developmental projects to increase the access to water, sanitation and hygiene for all under the framework of its Global Water and Sanitation Initiative (GWSI). The GWSI promotes a common but adaptable approach, enabling 104 national societies in 80 countries to implement 476 sustainable water and sanitation programmes that contribute towards achieving the new Sustainable Development Goals (SDGs).

To date, the GWSI has provided 15 million people with water and sanitation services between 2005 and 2015, and aims to reach a further 15 million people by 2025. It has also:

- Given more than 9.5 million people access to safe drinking water;
- Provided more than 5.5 million with access to an improved toilet; and
- Reached more than 6.5 million people with hygiene promotion activities and campaigns.

Nestlé's direct support to GWSI since 2005 (Côte d'Ivoire and Mozambique)
171 water points built or re-established
7075 toilets built (households)
93 toilet blocks built in schools
8 public toilet blocks built (urban context)
209646 people reached through educational sessions
103990 people benefiting from drinking water points
77975 people benefiting from sanitation solutions
80000 schoolchildren reached

RAMPing up our support

Nestlé also supports the GWSI indirectly through joint activities in international forums, internal coordination and management meetings and activities, and the launch of key publications.

We are currently supporting the rapid mobile phone-based (RAMP) system in Côte d'Ivoire. Mobile technology and online platforms have become increasingly applicable to both humanitarian and developmental efforts in recent years, and the IFRC's RAMP system is being adapted and tested to meet the needs of GWSI projects.

RAMP gives users real-time access to data, and provides quick analysis, visualisation and mapping tools. It has helped programme managers by increasing transparency and providing a platform for improved knowledge sharing.

Supporting water education

Project WET

We have worked with Project WET (Water Education for Teachers), a global water education organisation based in the United States, for more than 20 years. In 2015, we renewed our partnership for another four years, cementing our commitment to educating future generations about water.

The Project WET Foundation is an independent, widely respected and science-based non-profit organisation that develops effective, hands-on learning tools and activities about water, hydration and conservation for teachers and other educators. Today, Project WET works with corporate, NGO and government partners in more than 70 countries, and is expected to have reached 30000 teachers and more than 2 million children in 2015.

The Green Ribbon programme, Argentina

Nestlé Waters' local brand *Eco de los Andes* raises awareness of water conservation in schools through the Green Ribbon programme, reaching 40 schools and more than 16000 children across Argentina since 2012.

The project aims to strengthen our commitment to environmental sustainability, in partnership with Project WET, the Asociación de Amigos de la Patagonia and the municipalities of Moreno and Tunuyan. Through the programme, children aged 10 to 13 at schools near our factories learn about conserving water and reducing waste and energy through Project WET activities.

The Argentine Ministry of Education has recognised the programme's value as an educational tool. Their support has allowed the project to train 302 teachers and educate 9898 schoolchildren in 2015. Throughout the year, employee volunteers from our Tunuyan factory visit the schools and support the teachers in rolling out the information during their classes.

Nearly all Nestlé Waters markets engage with Project WET through a range of community and national programmes and events. During the year, we focused on extending our reach through activities in Pakistan, Nigeria and China (see below and overleaf), as well as Switzerland, Mexico, Egypt, Argentina and the Middle East.

- Nestlé Pakistan launched Project WET in August 2015, marked by training sessions with partner institutions in Islamabad. Teachers are provided with a Project WET guide and a training kit, and learn how important water is for the human body and for planet Earth. By the end of 2015, about 5000 children and 100 teachers had been taught how to use water responsibly. Nestlé Pakistan aims to educate 20000 children in 2016 through teachers and Project WET activities.

- Since 2013, Project WET materials in Nigeria have been introduced in an increasing number of local communities. In fewer than three years, Project WET activities and materials have reached 438 teachers and educators, 140 schools and more than 7000 students in Lagos, Osun and Abaji states. Project WET was recognised with the 'Support Our Schools Initiative' granted by the Governor of Lagos State. (Watch a video of Project WET activities in Nigeria.)
- Nestlé Waters launched a Project WET pilot in Shanghai, China, in January 2010 and over the following years, new partnerships with various educational institutions, schools and local NGOs have helped roll out Project WET modules. During 2015, 10 workshops reached 485 teachers and 293000 students, 56 factory visits saw over 3000 students attend, and 20 school visits directly benefited 8000 students. Today, Project WET activities in China have reached more than 800 schools, 1840 teachers and more than 800000 students in schools in 14 cities and provinces.

Enabling Nestlé Waters to strengthen relations with communities, key authorities, health ministries and NGOs in its markets, as well as reinforce employee engagement, the Project WET curriculum continues to be used for World Water Day events (see below). It also helps raise awareness about healthy hydration as an integral part of the Nestlé Healthy Kids Programme.

"Two decades of support from Nestlé Waters have allowed us to reach people and places that we could not have without its partnership. Getting our objective, science-based water education resources and training into the world helps build water literacy and instil a water stewardship ethic among people of all ages and nationalities."

Dennis Nelson, CEO, Project WET Foundation

World Water Day

Since 2010, Nestlé Waters employees have celebrated World Water Day, a global annual event organised by the UN to promote the importance of water. On 22 March each year, we invite local schools and community members to take part in fun, interactive events at our factories and nearby locations. We collaborate closely with our long-term partner Project WET, whose curriculum is central to the content of these events.

In 2015, the sixth year we have celebrated World Water Day, more than 1000 Nestlé Waters employees helped educate close to 25000 children in 30 countries.

Let's Plant Water: a reforestation programme in Ecuador

The highlands and forests of Ecuador are under constant threat from human activity, as local populations are forced to farm higher up, on poor quality land prone to erosion. Large areas of forest are cleared for grazing and other agricultural purposes; most trees are not replaced or invasive species of tree are planted, and this removal of the tree canopy has a significant impact on water availability and ecosystem diversity.

Through the Let's Plant Water programme, Nestlé seeks to educate and reforest. As part of its educational component, Nestlé signed a cooperation agreement in 2014 with the Quito Botanical Garden to spread its water conservation education programme to 10000 children.

Let's Plant Water also works to reforest areas near water using native tree species, in collaboration with neighbouring communities, civil society bodies and public institutions. Since 2011, 108950 native trees have been planted in areas close to water, with the active participation of Nestlé volunteers, neighbouring communities and local scout groups.

We hope to expand the programme with a 100% increase in reforestation, planting 180000 native trees and educating 30000 children about the environment by 2018.

Nestlé Waters Community Relations programme

Nestlé Waters launched a Community Relations Programme (CRP) four years ago, which has since been implemented at around 30 priority sites around the world. Creating Shared Value is at the heart of this process, with a focus on driving the socio-economic well-being of the communities where we operate, as well as our long-term social licence to operate in those communities.

Our experience during this time has informed the development of the CRP 2.0, which is built on a stronger methodology and a unique tool available to all our sites. The self-service tool will guide factory managers in deploying the process and will help ensure alignment with the overall process. CRP 2.0 is made up of a number of steps, including:

- Identifying and classifying local stakeholders;
- Interviews with internal and external stakeholders to assess real and perceived concerns and expectations, which are then compared to identify gaps; and
- The construction and tracking of engagement and action plans to address those gaps.

The effectiveness of the CRP 2.0 process will be measured on a regular basis by a local acceptability index. All of Nestlé Waters' sites will have started the implementation of this revised process by the end of 2016.

Youth Water Guardian, Thailand

In line with its commitment to educating and raising awareness about water conservation among children, Nestlé Waters Thailand and Nestlé Indochina participate in the World Wide Fund for Nature's Youth Water Guardian programme, which helps schools integrate water conservation into the curriculum.

The WWF programme was launched in January 2015, and 20 schools in the Ayutthaya province applied to join by submitting their projects. Fifteen schools were selected to join the Youth Camp, where they received training on water knowledge and conservation, and eight were selected for their projects' potential and how they connect to their local community. The schools received funding and support to develop their conservation projects. At the end of the year, the schools presented what they had achieved with regards to water conservation, and the best three were awarded prizes for their work.

The programme is supported by central and provincial government officials from the Groundwater Resources Department and the Department of Education Innovation, while Nestlé and Nestlé Waters provide financial support and water stewardship advice.

Project Green, Jordan

At Nestlé Waters, we recognise our responsibility to contribute to the sustainable development of the local communities in which we operate. In Jordan, we have built two greenhouses close to our factory in Al Husseinieh to use excess water from the production process to irrigate fruit and vegetables. Project Green also provides employment opportunities for local women, who plant, harvest and sell the produce. The project has been developed in collaboration with Q-Perspective Consultancy, a Jordanian management consulting firm, which helps administer the programme.

Beyond coastal clean-ups: a call for collective action in the United States

Nestlé Waters North America is committed to increasing recycling rates and the responsible management of water sources, but recognises that plastic caps and bottles are not always being recycled and are often collected at coastal clean-up events. We began sponsoring a series of clean-ups through our regional springwater brands. We quickly realised that the best clean-up is the one that doesn't have to take place. So, as well as removing rubbish, debris and pollutants from shores and waterways across the country, we work with partners who collect and analyse data to inform the development of strategies that can prevent debris from getting there in the first place.

Recent efforts include those along the Hillsborough River in Florida, which supplies water to the Tampa Bay area, sustains a diverse ecosystem and serves as a recreation source.

It is also fed by the source of our *Zephyrhills*® Natural Spring Water brand, so we have a major stake in improving the health of the river and creating shared value in the local communities. As part of the brand's 50th anniversary, *Zephyrhills*® team members joined thousands of volunteers for a series of river clean-ups and watershed education activities in the Hillsborough River watershed.

Researchers from the University of Florida assessed and shared the results of recent and historical clean-up events in the watershed with local stakeholders, leading to the establishment of the Hillsborough River Trash Free Waters Partnership. Through this model for coordinated local action at the catchment level, we have engaged thousands of residents and removed litter from 70 sites. We have also worked with partners at Keep Tampa Bay Beautiful to advance local ambitions for a waste-free waterway. Local municipalities and educational institutions are signing up to join this partnership to advance strategies to prevent debris from getting into the waterway to begin with.

Water for emergencies

When a natural disaster occurs or when water sources and distribution systems are temporarily unavailable, providing access to safe drinking water becomes a health priority and bottled water can play a vital role. We have a long history of helping local communities after natural disasters such as hurricanes and big storms, trucking in bottled water using our own milk tankers for deliveries or providing ready-to-use water-filling stations at our factories.

A strong earthquake hit Nepal at the end of April 2015, followed by many powerful aftershocks. The earthquakes caused extensive damage to buildings, and thousands of deaths and injuries were reported in neighbouring Pakistan, India and Bangladesh;

- Nestlé is one of four companies agreeing to donate up to 6.5 million bottles of water to meet the needs of more than 10000 schoolchildren in crisis-hit Flint, Michigan. Tap water in the US town became contaminated with lead during the construction of a pipeline under a nearby lake; and
- In Texas, record rainfall caused major flooding in May 2015. Nestlé Waters North America provided 152000 bottles of water via the American Red Cross.

We also support healthy hydration by donating bottled water to those in need during heatwaves:

- Nestlé Waters Canada donated 300000 bottles of water to Engage and Change's 2015 Project Water initiative, to be distributed among those living on the streets of Toronto at risk from dehydration during the summer months. Since 2006, we have donated more than 2.1 million bottles of water to the organisation;
- In Pakistan, the summer heatwave in Sindh caused more than 1000 fatalities and around 40000 people are estimated to have suffered from heatstroke. In June 2015, Nestlé Pakistan donated 80000 litres of water, to be distributed across Karachi by the National Disaster Management Authority; and
- During the heatwave in France during the summer of 2015, a consignment of 30000 bottles of water was donated to the Samusocial on behalf of the French Federation of Bottled Waters, of which Nestlé Waters is the president.

Helping consumers use less water

Through product packaging and brand websites, we provide consumers with meaningful and accurate environmental information about how simple changes in behaviour can reduce water use when preparing our products.

On the UK *Nescafé* website, for example, we provide consumers with top tips for responsible consumption, such as preparing the right quantity of coffee to avoid waste and using refill packs to minimise the need for glass jars. The site also offers advice for saving energy and water, including only boiling as much water as is needed, and completely filling the dishwasher before using it.

Our own employees are consumers too, and the internal campaign 'I'm doing it' encourages our staff around the world to recycle water bottles.

Read about recycling, reducing waste and sustainable consumption in the Environmental Sustainability section.