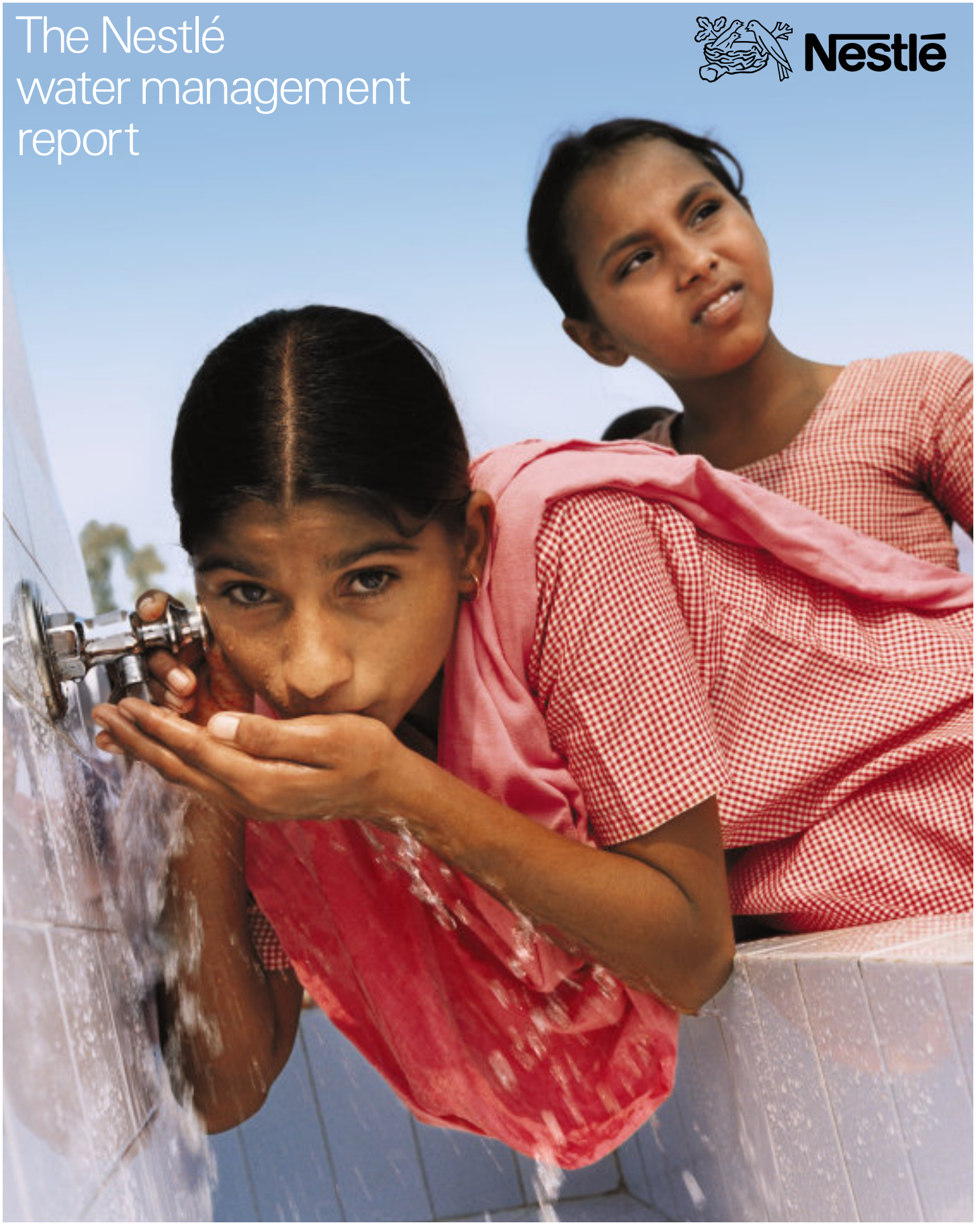
The Nestlé water management report



Water management and Nestlé

Why is water management so important?

According to the United Nations Development Programme (UNDP), "Water plays a pivotal role for sustainable development, including poverty reduction. Given the importance of water to poverty alleviation, human and ecosystem health, the management of water resources becomes of central importance. Currently, over 1 billion people lack access to water and over 2.4 billion lack access to basic sanitation. This water crisis is largely our own making. It has resulted not from the natural limitations of the water supply or lack of financing and appropriate technologies, even though these are important factors, but rather from profound failures in water governance."

The UNDP has further commented that water management will be a critical factor in whether we can realistically expect any one of the eight Millennium Development Goals to be achieved.

Why a Nestlé water report?

Nestlé has published this report for three reasons.

Firstly, as the world's largest food and beverage company, we rely on access to clean water in order to conduct our business and to produce quality products for our consumers. We too are concerned about the state of water in the world, now and in the future. This is true for our own operations, and for the future of those whose access to clean water is at risk.

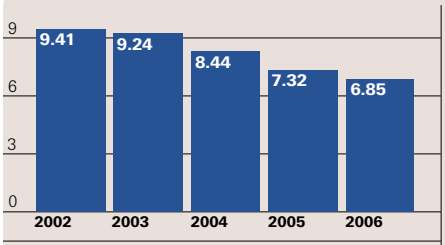
Secondly, we wanted to document the actions we have taken in regard to our own food manufacturing operations, where we have direct control, and also efforts we have made to improve access to clean water in indirect ways outside of our own direct business activities.

Thirdly, we want to obtain stakeholder input and explore what future directions we intend to pursue in order to contribute to improvements in the world's access to clean water. As a company we utilise a very small fraction of the world's water. But by working with others, we believe we can have a positive impact.

Front cover: Children in Kaleke, India, are drinking from a well built in their school as part of a Nestlé partnership to bring clean water to villages in the milk collection district around its Moga factory. Read more about this project on page 26

Nestlé water management indicators

Litres of water used to produce 1 kg of product, 2002-2006*



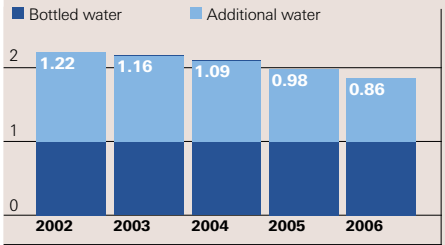
* Nestlé (without Nestlé Waters)
Source: Nestlé

-27%

47
billion litres saved**

** In 2006, when compared to the relative amount used in 2002

Litres of additional water used to produce 1 litre of bottled water, 2002-2006*



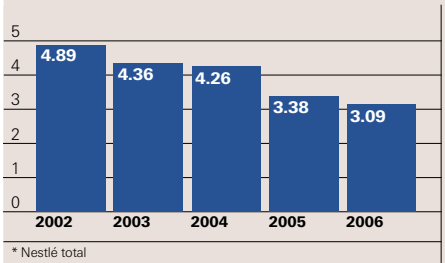
* Nestlé Waters
Source: Nestlé

-30%

8
billion litres saved**

** In 2006, when compared to the relative amount used in 2002

Litres of waste water generated to produce 1 kg of product, 2002-2006*



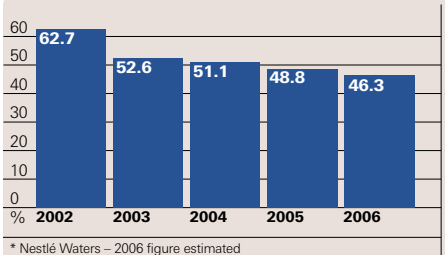
* Nestlé total
Source: Nestlé

-37%

35
billion litres saved**

** In 2006, when compared to the relative amount used in 2002

Grammes of packaging material used per litre of bottled water, 2002-2006*



* Nestlé Waters – 2006 figure estimated
Source: Nestlé

-26%

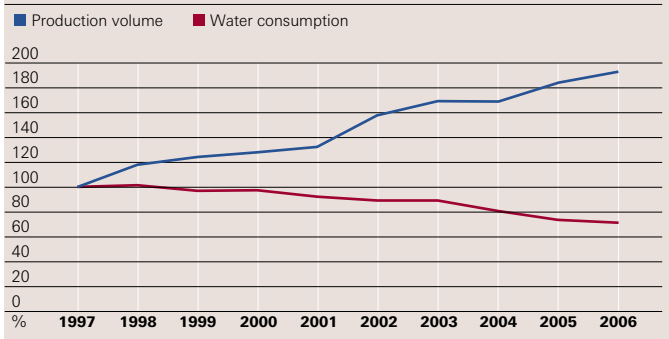
354
thousand tonnes saved**

** In 2006, when compared to the relative amount used in 2002

Quick fact Since 1997, Nestlé has almost doubled its food production volume. Over the same period increased efficiency meant its water consumption decreased by 29%

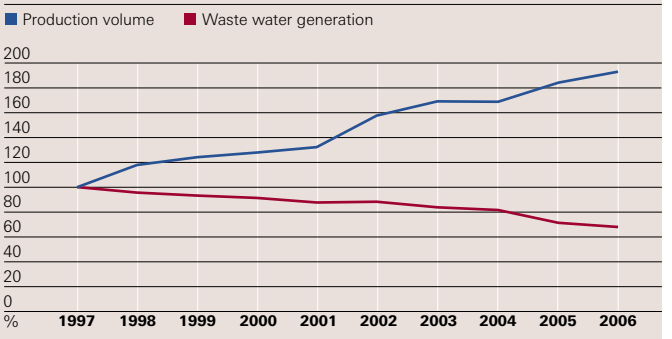
Water consumption and waste water generation, 1997-2006*

Water consumption, 1997-2006*



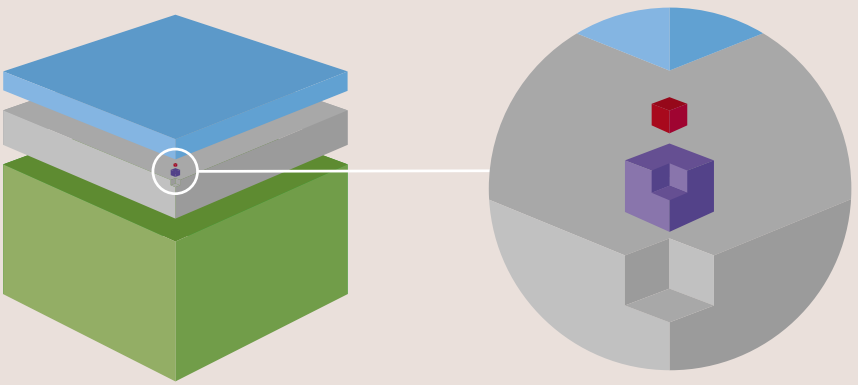
* Relative to index 1997
Source: Nestlé

Waste water generation, 1997-2006*



* Relative to index 1997
Source: Nestlé

Total freshwater withdrawal worldwide, 2006



Total freshwater withdrawal: 4 250 000 billion litres (4250 km³) = 100%

Domestic	10%
Industry	20%
Agriculture	70%
+ Nestlé	0.004%
Nestlé Waters	0.0009%

Source: Shiklomanov and Nestlé

Consolidated Nestlé environmental performance indicators, 2002-2006

Indicator	Units	2002	2003	2004	2005	2006	Change 2002-2006
Production Volume	10^6 tonnes product per year	31.22	33.37	33.30	36.36	38.24	**+22.5%**
Inputs							
Water consumption	m^3 per tonne product	6.20	5.78	5.27	4.37	4.05	**–34.6%**
Energy consumption	10^9 Joules (GJ) per tonne product	3.08	2.83	2.73	2.42	2.21	**–28.4%**
Outputs							
Waste water generation	m^3 per tonne product	4.89	4.36	4.26	3.38	3.09	**–36.8%**
Greenhouse gases	kg CO_2 per tonne product	155	142	133	118	106	**–31.9%**
Air acidification potential	kg SO_2 equivalents per tonne product	0.84	0.70	0.65	0.51	0.50	**–40.4%**
Ozone depleting substances	g R-11 equivalents per tonne product	0.33	0.30	0.29	0.28	0.23	**–29.0%**
By-products	kg per tonne product	45.5	42.3	44.2	40.7	31.4	**–31.0%**
Waste	kg per tonne product	12.8	10.6	13.2	12.0	11.7	**–8.2%**

Source: Nestlé

Contents

Nestlé's commitment to water management

The following is an interview by Prof. Ismail Serageldin*, Founding Chair of the Global Water Partnership, a founding governor of the World Water Council, and the chairman of the World Commission for Water in the 21st Century with Peter Brabeck-Letmathe, Chairman & CEO of Nestlé

I. Serageldin: Why is Nestlé concerned about water?

P. Brabeck-Letmathe: Water is essential to all life. However, as the population increases we human beings consume more, affecting climatic conditions and water availability – in some places dramatically. Human ingenuity can mitigate the problem, but mismanagement of water resources makes it worse.

Nestlé invests to improve the situation because water availability – both quantity and quality – touches our business in a number of ways. First, our suppliers of agricultural raw materials depend on water; and secondly we as industrialists need water for manufacturing. Therefore, it is in our vital interest to limit consumption and waste of the resource.

Additionally, but in a much more limited scope, we sell and provide bottled mineral and pure water to millions of consumers, including access to safe drinking water in times of disaster, and through investments in select communities. And finally, our consumers need safe, clean water to prepare many of our products.

If Nestlé is going to continue to meet the growing needs of its consumers, we must participate in the protection of natural resources. Some of our manufacturing sites are in water-poor regions, and in some areas consumers choose bottled water precisely because municipal water sources are inadequate or threatened. Even if these situations affect a small portion of our business today, these are all conditions that should be diminished – or reversed.

IS: How can Nestlé contribute to improving the state of water management?

PB-L: Nestlé cannot solve the water problem – far from it, but we can help manage water both directly and indirectly. Even as early as 1929, Nestlé began to invest – beyond the then-current municipal infrastructure – in its own waste water treatment plant at factory level. Each year, our aim remains to improve water efficiency continuously and to reduce waste. As new technologies become available, we can increase our efficiencies and drive down, for example, environmental parameters such as greenhouse gas emissions or packaging waste. The data in this report shows we are serious about results and about learning how to further develop water management. We have demonstrated continuous improvement over the past four years since our last water report, *Nestlé and Water – Sustainability, Protection, Stewardship*, which highlights our policy.

Additionally, we can also help others to manage shared water needs better. Agriculture uses most of the world's freshwater resources and therefore is a good place to focus investments. In our direct relationship with agricultural suppliers, we can help farmers understand how their practices at farm level impact water resources. We also offer experience and best practices from other regions or countries in effluent or waste management, irrigation, and post-harvest technology to influence farm practices on a broader scale. As a founding member of the Sustainable Agriculture Initiative (SAI) Platform and with many projects of our own, we have the channels to disseminate our learning in association with other institutions working on crops other than milk or coffee. We also encourage awareness of water resources by reaching out to consumers and children, in particular, about the value of water conservation; and we participate in local and global dialogue on water governance to influence the establishment of good water management practices. We encourage local communities in their efforts and join the debate on the impact of appropriate pricing, for example, on water use.

IS: How can Nestlé help in the areas where water has become most scarce?

PB-L: Although global measurements show considerable water savings worldwide, there may be broad diversity of water conditions at local levels. Nestlé Waters tracks performance in our factories and at spring level, in order to focus our investments where they matter most and have the greatest impact. In this effort, our Nestlé agronomists are present in local communities from Pakistan and China to Mexico, monitoring water conditions and spreading new technologies and best practices where it is most relevant within our direct supply chain. To reach communities in need of clean water, we target our contributions to consumer

Children in the Escuela Primaria Netzahualcoyotl in Toluca, Mexico entertain Peter Brabeck-Letmathe while they pretend to be water molecules in The Incredible Journey of the Water Cycle. International Project WET in Mexico engages participants in activities like Sum of the Parts, where role-playing helps understand how water pollution of a river could be prevented. In total, more than 280 000 students have benefited from 10 000 Water Guides, supporting 9600 teachers trained in 390 workshops

> No one partner can do it all, but together we can influence, alter, protect, and preserve the vital resource of water for future generations
>
> *Peter Brabeck-Letmathe, Chairman and CEO, Nestlé*

education, to projects on rural water access, or disaster relief. Obviously, we should not forget the global impact of agricultural subsidies which also influence local water conditions.

IS: In your last report on Latin America, you spoke of shared value. What is the shared value proposition of your investments in water?

PB-L: Nestlé can help create a more sustainable environment for food production. How? We are learning to operate with the lowest amount of water and the lowest possible creation of waste water. Assuming water prices are set appropriately, Nestlé also benefits because we are able to reduce our own cost of water. Working with local farmers and our direct suppliers, we are improving our need for consistent, quality raw materials, even under water-stressed conditions which could rapidly affect our supply chain. Providing products for consumer health is where the concept of shared value is most direct and is our opportunity for innovation. Nestlé Waters is creating more environment-friendly ways to bring bottled water and beverages to consumers.

Every partner in the value chain leading to the delivery of safe, quality food and beverages has a responsibility specific to their role. No one partner can do it all, but together we can influence, alter, protect, and preserve the vital resource of water for future generations.

**Ismail Serageldin is currently the Director of the Bibliotheca Alexandrina, the new Library of Alexandria in Egypt*

An expert voice on the global water challenge

Ismail Serageldin, Director of the Bibliotheca Alexandrina

Fresh water is a precious resource. Only 2.5% of the world's water is not salty, and of that, two-thirds are locked up in the ice caps and glaciers. Two-thirds are then "lost" to water that evaporates directly or passes through plants. Of the remaining amount, some 20% is in areas too remote for human access, and 75% of it comes at the wrong time and place, by way of monsoons and floods. We actually get to use less than 0.1% of the total water on the planet.

Agriculture claims the largest share, some two-thirds globally and over 80% in many of the developing countries. A small amount is used for municipal water use, for households and industry. Water is also very useful in taking away human pollution, but in the process becomes polluted itself.

The World Water Commission affirmed a set of principles to reverse the patent waste and mismanagement of water. Among others, these "Dublin Principles" recognise the economic value of water, observing "the polluter pays and user pays", and the need for governments to assume their responsibilities. The question is whether these good prescriptions would be sufficient to meet rising consumption needs driven by population and income growth.

Assume 3 billion more people on the planet, mostly in the developing countries. Note that currently it takes on average 1 litre of water to produce 1 calorie of food. The average human being therefore requires some 2700 litres of water per day through food. It takes 2000 to 5000 tonnes of water to produce a tonne of rice, and about 1200 tonnes of water to produce a tonne of wheat.

Assume further that the contribution of water to all food production is 40%. Assume further that all irrigation systems achieve water use efficiency of 70% at the basin level, a remarkable achievement if it were to happen. Approximately 17% more water is still required in irrigation to meet the food production demand! Altering any of those assumptions means that the forecast for water needs will increase by about 50% or more. However, irrigation is not likely to get more water. The urban populations of the developing world are going to treble in the next 30 years. Industry is going to increase, and pollution is not going to decrease.

Six areas of intervention may help us meet the challenge:

- *Population and the environment* e.g. slowing population growth and better understanding climate change.
- *Increasing the supply of useable freshwater* e.g. discovering new sources of underground water, desalinisation, capturing water from rains and runoff.
- *Reducing pollution and increasing re-use* e.g. from industry, agricultural runoff

The United Nations Global Compact

Nestlé fully supports the United Nations Global Compact's ten principles on human rights, labour, the environment and corruption. All principles are an integral part of the relevant sections of the latest edition of the *Nestlé Corporate Business Principles*.

This report shows in particular Nestlé's progress against the environment-related principles. Examples of how Nestlé "supports a precautionary approach to environmental challenges" (Principle 7) can be found throughout this report, with especially notable and quantified examples on the inside flap; and in the section entitled "Managing water in operations" on pages 6 to 13. Nestlé "undertakes initiatives to promote greater environmental responsibility" (Principle 8) with evidence again present throughout the report; one noteworthy example being our support for Project WET ("Preparing future generations on water issues" – pages 20 to 21). And Nestlé "encourages the development and diffusion of environmentally friendly technologies" (Principle 9), also represented throughout the report. Examples of note include the development of our new water treatment plant in Ghana (page 11) and the examples of propagating water-efficient agricultural practices (pages 32 to 34).

Best practices introduced by Nestlé and the Rainforest Alliance, an NGO dedicated to sustainable agriculture, minimize the environmental impact of coffee farming in Costa Rica, while offering economic and social opportunity to the local community

> Water is life. Every human being, now and in the future, should have access to safe water for drinking, adequate sanitation, and enough food and energy at reasonable cost. Providing adequate water to meet these basic needs must be done in an equitable manner that works in harmony with nature
>
> *Ismail Serageldin, Director of the Bibliotheca Alexandrina*

or untreated sewage or even Single Cell Protein (SCP) technology to purify water for re-use.

- *Reducing the needs for water consumption* e.g. getting more "crop per drop" through new irrigation agronomic technologies, biotechnology to transform the metabolism of the plants to be more drought resistant and sparing in their use of water, lowering municipal water consumption.
- *Matching need and availability* e.g. new policies for the spatial distribution of populations, land use and urbanisation, and new ideas for water transport.
- *Markets, trade and institutions* e.g. measuring agricultural yield by tonnes per unit of water as well as per unit of land, and promoting efficient water markets for allocation of water between competing uses, and strengthening community action – especially with the poor and women – in managing water resources.

The overall problems are clear. Equally clear is the direction we must go, and that the scope of the effort required to address the problems demands solutions that may well go beyond the application of current conventional thinking. We will need to be bold in thinking, innovative in our initiatives and determined in our pursuit of the new, as we insist on the application of the best current practice today. So let us dare to dream, to think differently about the future. After all, were it not for dreamers, people would still be living in caves.

The full text of the article can be viewed at www.nestle.com/water/01

Managing water in operations

Nestlé leverages areas of direct control over its own manufacturing operations

Improving water efficiency

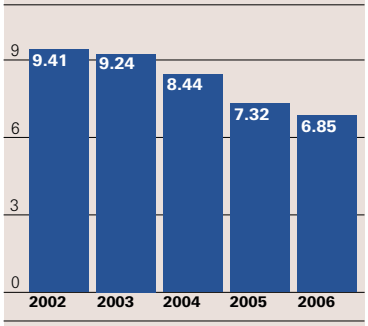
For many years, a systematic approach to water conservation has led to significant improvements in water efficiencies in Nestlé factories. Since 2002, the company (excluding Nestlé Waters) has reduced its water use per kilogramme of product by 27%. The Nestlé Waters business achieved a 30% reduction, that is, it reduced the amount of additional water needed to produce 1 litre of bottled water from 1.22 to 0.86 litres. This amount is required at this stage to maintain necessary quality and safety levels.

The improvements in water efficiency since 2002 enabled Nestlé (excluding Nestlé Waters) in 2006 to save the equivalent of 47 billion litres of water and Nestlé Waters to save 8 billion litres. This refers to water resources Nestlé did not use because of the higher water efficiencies of its manufacturing processes.

In 2002, the World Summit on Sustainable Development (WSSD) formalised the need for "water efficiency" in its Plan for Implementation. The WSSD refers to both the efficiency with which water is used and the efficiency with which it is produced and provided. Nestlé's results reflect the intentions of the WSSD, and every year Nestlé sets internal targets for all factories to further improve and build on these achievements.

Updated environmental performance indicators are available on the Nestlé corporate website at www.environment.nestle.com

Litres of water used to produce 1 kg of product, 2002-2006*



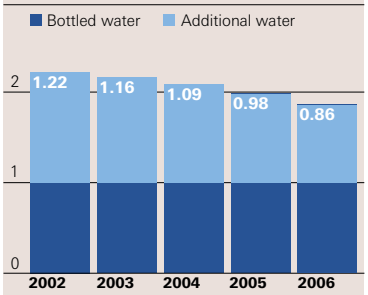
* Nestlé (without Nestlé Waters)
Source: Nestlé

Opposite: Nestlé Ghana Civil Engineer Joseph Ayippey (right), discusses best practice in waste water processing with his colleagues at the Agbara, Nigeria, plant. Joseph will use this knowledge in the construction of Nestlé Ghana's new waste water processing plant at Tema.
Above: Water extracted from fresh milk in the production of milk powder is reused to supplement water used in boilers and cooling towers, and for general cleaning purposes. The programme in Shuangcheng, China, reduced total water usage by 23% in 2005

Nestlé uses water efficiently to transform raw materials into finished products

In 2006 Nestlé sold 17 billion kilogrammes of food and 22 billion litres of water, using on average 4.05 litres of water per kilogramme to produce these products. In other words, Nestlé consumed less than 0.004% of the world's fresh water. By contrast, it takes between 100 to 15 000 litres of water to produce each kilogramme of agricultural raw material, such as coffee beans, sugar cane or maize, from which these products were made.

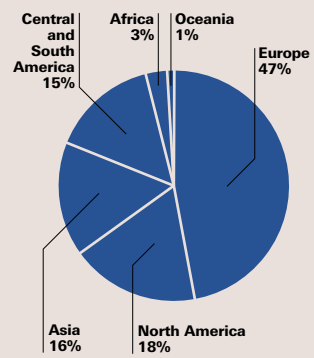
Litres of additional water used to produce 1 litre of bottled water, 2002-2006*



* Nestlé Waters
Source: Nestlé

Quick fact Nestlé's improvements in water efficiency since 2001 have enabled the Company to save more water than used in a year by the 367 000 people who live in Zurich

Water use levels of Nestlé factories, 2006



Source: Nestlé

A comprehensive management system

The basis for all water management activities is the *Nestlé Water Policy – Water Resource Guidelines for Sustainable Management*, which serves as a reference and standard for all managers. It is translated into concrete action at the factory level through the Nestlé Environmental Management System (NEMS) that defines and monitors strict criteria for compliance for all its factories. Nestlé has defined a number of internal requirements that apply to all factory operations world-wide, even if local laws may be less strict. NEMS is fully aligned with the ISO 14001 standard for environmental management.

Above: Operations manager Dave Sommer is proud of the stormwater management area of the Nestlé Waters plant in Madison, USA, which is LEED-certified (Leadership in Energy and Environmental Design).
Right: Another feature of the USA Green Building Council-certification at the Madison plant is the use of natural light through skylights in the production area

At the end of 2006, about 10% of Nestlé's factories have been certified to this internationally recognised standard by external auditors. This certification programme is currently being extended and we aim to have all factories ISO 14001 certified by 2010.

The policy is available in full at www.nestle.com/water/02

The Global Water Survey of 2004

Water management is one of Nestlé's top environmental priorities. During 2004, Nestlé reviewed the efforts in its factories to protect water. The process highlighted that about CHF 30 million are spent annually just to construct and expand wastewater treatment facilities in its factories. The survey also identified some gaps with internal compliance standards which, together with plant managers' reports on local water stress levels, were addressed by factory-level action plans.

Nestlé, water management and operations

By Claus Conzelmann, Vice President Safety, Health & Environment, Nestlé

Decades before environmental protection and sustainability were widespread public concerns, Nestlé was focusing on responsible water management. In its operations, Nestlé uses water in similar ways as consumers do in the kitchen, for example, for washing raw materials, cooking, extracting and cooling, and cleaning equipment. Treating this water before returning it back to nature has been part of operating Nestlé factories for many decades. As early as 1929, the Vittel company supported the construction of a municipal waste water treatment plant in Vittel (France); in 1932, Maggi was the first company in Switzerland to build a modern biological waste water treatment plant. This approach was followed whenever Nestlé built a new factory in other parts of the world, often long before local legislation existed. As a result, our waste water treatment facilities are frequently considered as model installations by authorities and visited by thousands of specialists. Most recent examples include installations in Morocco, Iran, and Colombia.

Above right: Environmental officer, Xu DeGui, shows dairy farmers the Shuangcheng factory waste water treatment facility. Every weekday, around 30 local farmers learn new farming techniques at the experimental farm attached to the factory

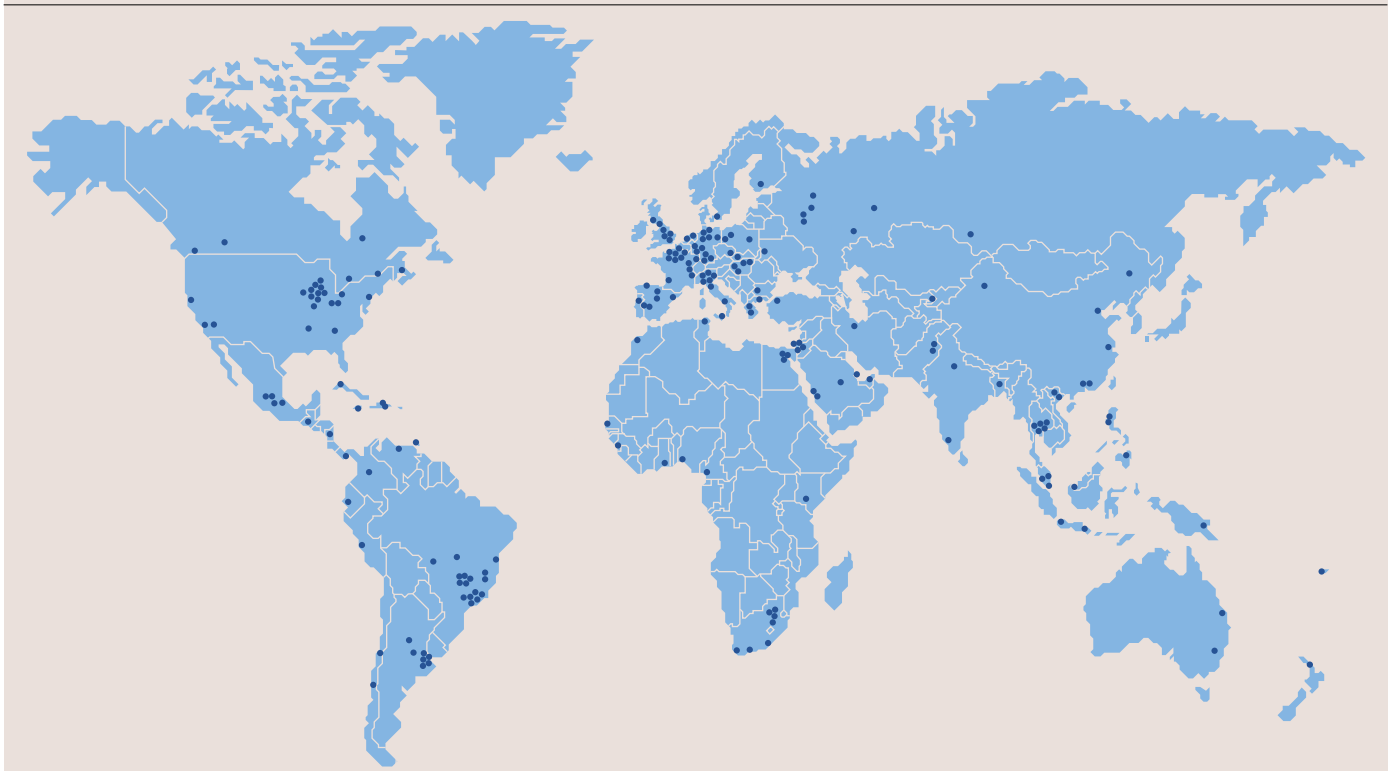
> We are determined to live up to the expectations that come with our role as food and drink industry leader and we will continue to progress
>
> *Claus Conzelmann, Vice President Safety, Health & Environment, Nestlé*

With water scarcity becoming a major concern in many parts of the world, we have expanded our focus in recent years to reduce the amount of water needed in our operations. The total volume of water needed by Nestlé factories dropped from 218 billion litres during our baseline year 1998, to 155 billion in 2006, and this despite a very significant increase in the quantity of products manufactured. Saving water is especially important in water-stressed areas as, for example, in our *Nescafé* factory close to Bangkok. There, all efforts were made to minimize water use and maximize recycling of water streams using the most modern technologies. In this chapter we report for the first time not only our total water usage but also the results achieved by our 481 factories versus our corporate target of 3% water savings per tonne of product per year.

There is still a potential to further improve water efficiency in our operations. We are determined to live up to the expectations that come with our role as food and drink industry leader and we will continue to progress in all areas of our direct responsibility.

Quick fact Nestlé's improvements in waste water efficiency since 2002 enabled the Company to save the equivalent of 14 000 Olympic-sized swimming pools

High performing factories: in 2006, over 200 Nestlé factories managed to reduce their water consumption by at least 3% compared with the previous year



Continuous drive for improvement

The improvements in water-use efficiency in Nestlé's factories year after year are the result of setting water-saving targets for all factories and supporting factory management in meeting them. The map above demonstrates the detailed attention paid to improvements at the factory level. Nestlé's environmental officers and engineers play a key role in driving continuous water management improvements. They meet regularly with management representatives to raise awareness of the importance of water, to discuss performance improvement opportunities, or address reasons for failures to meet targets. Nestlé's commitment is to become the most efficient water user amongst food manufacturers.

Read more about Nestlé's internal benchmarking of water management efficiency at www.nestle.com/water/03

Right: Because the Chachoengsao factory in Thailand is located in a region of very limited water supply, it has developed sophisticated measures to minimize water use and to maximize recycling of water

Treatment of waste water

Nestlé's first objective is to minimize waste water. Between 2002 and 2006 Nestlé reduced the amount of waste water generated to produce one kilogramme of food and beverage product by 37%. Secondly Nestlé makes extraordinary efforts to clean waste water before it is returned to nature in an environmentally acceptable form. Since 1932 when it built its first water treatment plant, Nestlé acquired extensive expertise in the treatment of waste water from food manufacturing. This starts with avoiding water becoming polluted during the manufacturing process in the first place: today Nestlé operates 160 treatment plants, either because in-house treatment is more efficient or, mainly in developing countries, because municipal infrastructure does not exist or does not meet Nestlé's stringent environmental standards.

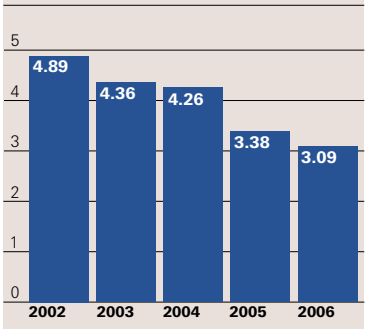
Recently built waste water treatment plants

Ghana, Nigeria and Morocco are amongst the most water-stressed countries in the world. Investments in efficient infrastructure by corporations help to fill the technical and budgetary gaps left by municipalities, as well as to protect local people from the negative side-effects of poor infrastructure. Nestlé's factory in Southeast Ghana is located in Tema, a city built in the 1960s as a man-made harbour that became Ghana's leading seaport and an industrial centre. Nestlé's factory is part of an industrial zone with a waste water treatment plant. An investigation by Nestlé revealed that the local treatment plant was of insufficient quality, so a monitoring programme was installed in October 2005 to calculate parameters for a custom-built waste water treatment plant. Nestlé engineers who are now supporting the start-up of the recently built treatment plant in Nestlé's factory in Agbara, Nigeria, will work on the Tema plant through 2007. The work in Nigeria has earned Nestlé the Most Environmentally Proactive Industry Award from the local governor. Nestlé's El-Jadida factory in Morocco is another example of Nestlé's leadership on waste water treatment. The El-Jadida factory is show-cased by the local government as a leading example of waste water treatment for other companies and operations.

The water processing plant to clean waste water at Nestlé's Agbara factory in Nigeria has won state environmental awards

> We are applying best practice from Agbara in our planning of the new plant at Tema
>
> *Joseph Ayippey, Civil Engineer, Nestlé Ghana*

Litres of waste water generated to produce 1 kg of product, 2002-2006*



* Nestlé total
Source: Nestlé

More on this topic can be viewed online in "Driving down waste water volumes" at www.nestle.com/water/04

Sourcing water for bottling

The amount of water used in 2006 by Nestlé Waters amounted to 40 billion litres, which is an estimated 0.0009% of the total freshwater withdrawal globally. Half of this amount constitutes pure high-quality bottled water for human consumption produced in 105 Nestlé Waters factories and sold in more than 130 countries. The other half is mainly water used for operational processes and cleaning.

Read more on this topic online at "Quality control from source to table" at www.nestle.com/water/05

Quality starts with healthy water resources

In addition to the constant focus on water consumption optimization, the state of water resources is particularly important for a business engaged in bottled water. At Nestlé Waters, a dedicated Water Resources Department is in charge of this task which includes the identification and selection of a water resource, installation and maintenance of equipment and material necessary to protect and monitor it, and the on-going monitoring of the source. The monitoring includes hydro-geological assessments of the sites, frequent testing of the source water quality and regular reviews of environmental conditions and parameters such as water levels in production boreholes, spring flow and rain fall data.

Every time a new water resource is developed or acquired, a strict characterisation and validation process is performed. The first step is to analyse and monitor the chemical, microbiological, and hydrological properties of the source water to ensure that the quality meets local, international and internal Nestlé standards. The purpose of the overall validation is the following:

- To ascertain the sustainability of a new water resource dedicated to bottling activities;
- To fix the exploitation limits;
- To check the compliance with the local and internal standards;
- To provide representative and reliable data for the definition of the water treatment.

Read more about an environmental award won by Nestlé in the Philippines online at www.nestle.com/water/06

Above: Hydrogeologist Cédric Egger, from the Corporate Water Resources Group in France, serves as Water Resources Manager for the Zone Europe, where he ensures sustainable water supply in terms of quantity and quality. Right: Nestlé businesses around the world receive support from the central laboratory at the Product Technology Centre for water in Vittel, France, which is providing technical assistance as well as carrying out research and development

Support from the central laboratory, PTC in Vittel

Inaugurated in 2004 in Vittel, France, Nestlé Waters' Product Technology Centre (PTC) brings together the entire company's expertise in bottled water. A multi-disciplinary team of researchers (nutritionists, hydrologists, biochemists, microbiologists, experts in PET chemistry, etc.) has a mandate to provide fast and appropriate responses to requests from the businesses around the world. Regular quality controls are part of the PTC's work, also working with similar centres in other parts of the world.

Dialogue on, and verification of operating practices

Despite this focus on sustainable water management, Nestlé is sometimes questioned by local communities regarding its performance. These enquiries are systematically investigated and external audits carried out where concerns remain. Updated information can be found on Nestlé's website.

These additional online articles on managing water in operations may also be of interest: "Working with farmers to ensure water quality" at www.nestle.com/water/07; "Leadership in Energy and Environmental Design" at www.nestle.com/water/08; "Nature Conservancy" at www.nestle.com/water/09

Quick fact Over 90% of Nestlé Waters' volume is sold in the country of production

Packaging and transportation of bottled water

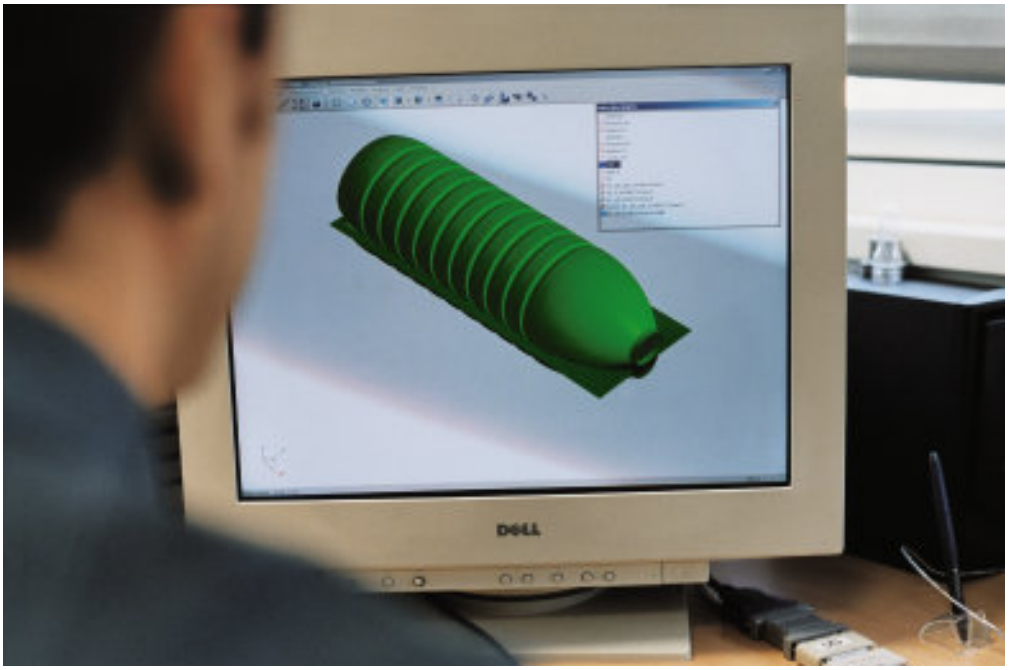
For years, Nestlé has developed lighter packaging material and optimized surface-to-content ratios. The amount of packaging per Nestlé Waters product was reduced by 26% between 2002 and 2006, saving an equivalent of 354 thousand tonnes of packaging material in 2006 when compared to the relative amount that was used in 2002. These efforts led to energy and other cost savings in production and transportation as well as reductions in the amounts of solid waste. Whenever possible, Nestlé Waters collaborates with other companies and local government to ensure that the bottles are collected and recycled after use, and follows promising developments in new packaging solutions such as recycled PET (RPET).

Read more on this subject online at www.nestle.com/water/10

Transportation

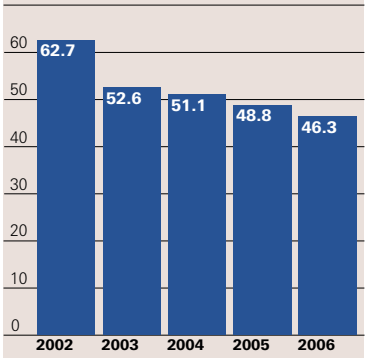
Based on health and diet recommendations, drinking water throughout the day is becoming a habit, so consumers increasingly expect to find Nestlé Waters' products at convenient locations, available at any time and in good condition. Nestlé Waters wants to provide water to its customers in ways that minimize transportation, because transportation from springs and factories to distribution centres and to customers is an important cost for its business. Nestlé Waters is concerned by the environmental challenges posed by transportation, and strives to choose the most environmentally friendly option as long as it also makes sense economically. Long-distance transportation is limited by the fact that the majority of Nestlé Water's business is conducted locally. In fact, over 90% of Nestlé Waters' volume is sold in the country of production. Most of the trans-continental transport of premium brands such as *S.Pellegrino* and *Perrier* is done by container sea freight, which has the lowest environmental impact of all transport options.

More information on this subject can be found online at www.nestle.com/water/11



Computer graphics assist engineers and researchers to investigate new options in lighter-weight packaging for bottled water

Grammes of packaging material used per litre of bottled water, 2002-2006*



* Nestlé Waters – 2006 figure estimated
Source: Nestlé

Managing water for consumers

Nestlé provides bottled water as a safe and healthy drink for consumers

Delivery of a healthy beverage

More than 30 000 Nestlé Waters employees in 105 factories in 37 countries produce products that satisfy a wide variety of needs and desires of people for healthy, mobile lifestyles. Of the 72 brands, 5 are international brands, while 67 are locally-produced brands. Europe and North America are still the most important markets for the company, generating over 90% of the sales value. With a global value market share of 18%, Nestlé Waters is the leader in bottled water in North America and Canada, and in several European countries.

Water supports many important biological functions that enable all forms of life on this planet. In humans, it is a vital element that is part of every single cell of the body. It is also a carrier of a range of other vital nutrients such as minerals. Without water, the "chemistry of life" would be impossible. While people can survive for many days and even weeks without food, even mild dehydration limits body and mental functions and lack of access to water leads to life-threatening symptoms within a few days. Therefore, to make water consumption as easy and as pleasurable as possible, Nestlé Waters' business and consumer strategy is to meet a wide range of different needs and tastes.

Nestlé Waters' water brands – both still and sparkling – stand for health, convenience and consistency in taste and quality,

Opposite: Nestlé *Pure Life* in 5 gallon bottles satisfy home and office needs in Shanghai. Above: Encouraging children to drink water is a contribution to long-term good health and key to weight control. These children in Florida enjoy Nestlé Waters North America's innovative *Aquapod* product

contributing to adequate hydration every day in an accessible and convenient form to support people in maintaining good health and physical functions. Furthermore, mental functions are sensitive to hydration levels. In situations requiring concentration and focus, people must be particularly alert to the need to remain properly hydrated. These essential roles of water are reflected in Nestlé's global communications to customers and health professionals.

Some Nestlé Waters products are also a source of important minerals such as calcium and magnesium that are essential elements for human health and well-being and are very efficiently absorbed from water into the body. To raise awareness for the important roles of these minerals, we provide information emphasising special needs during childhood, adolescence, pregnancy and weight loss programmes, as well as for the special needs of an increasingly older population of consumers. To build credibility and ensure high quality of the provided information, Nestlé engages in collaborative efforts with leading scientific experts to improve our understanding of the many roles of water for human health.

Encouraging children to drink water: *Aquapod*

Nestlé Waters North America reshapes childrens' beverage options with the introduction of *Aquapod*. *Aquapod* bottles are 11 ounces (3.25 dl) of spring water

in a fun round shape that kids like. "Today, too many kids hydrate themselves with calorie-burdened, sugary drinks. With childhood obesity on the rise, having more than tripled over the past 30 years in kids ages 6 to 11, it's important to help them make better choices in terms of calorie intake and exercise," says paediatrician and author Dr. Jennifer Trachtenberg.

More on this story online at www.nestle.com/water/12

Supply of lower-calorie beverage options

The worldwide epidemic of obesity is considered a major public health problem. Obesity occurs when energy intake exceeds energy expenditure over a long period. Excess dietary energy from various sources (fats, carbohydrates/sugars, proteins and alcohol) is mainly stored in the form of body fat and contributes to increasing body weight. In particular sugar consumption, in addition to "normal" dietary habits, in the form of additional snacking and caloric soft drinks, is considered to be one of the drivers of the obesity epidemic.

Water, as part of a balanced diet, is the best beverage option for a consumer seeking a healthy lifestyle. Still, we all like to have variation in our food and beverage consumption, seeking new

Above: Nestlé *Pure Life* from Saudi Arabia features the *Nutritional Compass* labeling system, highlighting the hydration benefits of water. Currently being rolled out worldwide, the *Nutritional Compass* features comprehensive nutrient tables (1), key nutrition, health and wellness facts pertinent to the product (2) and contact details for consumers (3). Right: *Pure Life* "blom" bottles, produced in Nestlé's Agbara factory, are sold by vendors in downtown Lagos, Nigeria

and different tastes and experiences.

To respond to these demands, Nestlé Waters' global portfolio seeks to include brands that satisfy consumer needs for taste and indulgence as well as for functional and nutritional support, while strictly limiting calories to a minimum amount. For those looking for more taste, flavoured waters with low-calorie content are considered an attractive, healthier alternative to sweetened high-calorie beverages. The sugar content in all products provided by Nestlé Waters is continually decreasing, reflecting a good compromise between taste and calorie content.

To make nutrition information more accessible and to enable consumers to make better informed purchase and health decisions, Nestlé Waters is starting to roll out the new Nestlé package labeling system – the *Nutritional Compass.* The Compass provides improved customer information on product composition and health tips. This is complemented by communication to consumers, teachers, health professionals, and the media on the link between hydration, nutrition, good health, and well-being.

An expert voice on beverages and human health

By Prof. Barry Popkin, who heads the Division of Nutrition Epidemiology in the School of Public Health at the University of North Carolina. He also directs the University's Interdisciplinary Center for Obesity. As a nutrition professor with a Ph.D. in economics, he has an unusual perspective on the factors that influence diet, exercise, and obesity

Water and Health

Water is the most healthy option we have for the bulk of our beverage intake. There are also important benefits from consuming some other beverages such as low-fat milk, but water is the major beverage of preference. Water reduces the energy density of the overall diet and essentially replaces excessive calories consumed from other beverages.

Global caloric-sweetening of the diet, mainly from sweetened beverages

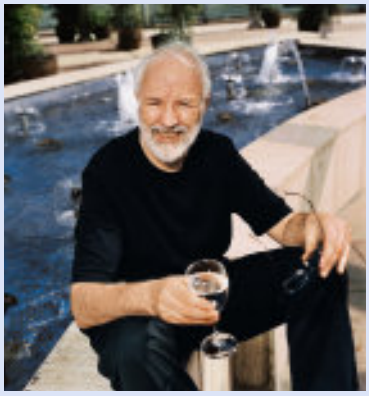
In the past 25 years, the world's diet has shifted markedly. One critical change is the increase in consumption of caloric sweeteners, particularly in beverages, especially carbonated soft drinks. For instance, in the United States during the past 40 years, the average energy from beverages has increased by 226 calories daily, 152 of which have come from calorically-sweetened beverages. Similar changes are seen in countries as diverse as Mexico, Australia, the United Kingdom, and many other countries throughout the globe.

Historical shift in the caloric contribution of beverages

Beverages have very weak satiety properties. Dozens of studies of appetitive sensations (e.g., hunger, fullness, prospective consumption) show that whether one drinks water, milk, soft drinks or other sugared drinks, or alcohol, there is virtually no reduction in the amount of food consumed. In modern times, higher calorie beverages have progressively replaced the water that was the basic source of hydration for humans for 200 000 years, thereby contributing to the increase in total calorie intake.

Beverage Guidance Panel assessment

A United States Beverage Guidance Panel* systematically reviewed the literature on beverages and health to provide guidance to the scientific community and to consumers.



> Water reduces the energy density of the overall diet and essentially replaces excessive calories consumed from other beverages
>
> *Barry Popkin, University of North Carolina*

The panel ranked beverages for persons aged 6 and older and listed water as the most recommended beverage.

From 20% to 100% of each person's beverage needs can come from water. Water is necessary for metabolism, normal physiological function, and may provide essential minerals such as calcium, magnesium, and fluoride. Acute dehydration results in impaired cognition, moodiness, poor thermoregulation, reduced cardiovascular function, and impaired physical work capacity. Recent research* has shown that having an increased proportion of beverages from water is linked to reduced energy intake, along with significant body weight and body fat reductions.

For more about the Beverage Guidance panel and Historical Chart, search online at www.nestle.com/water/13. View the recommendations concerning other beverages online at www.nestle.com/water/14

* Led by Barry Popkin

Providing the scientific evidence

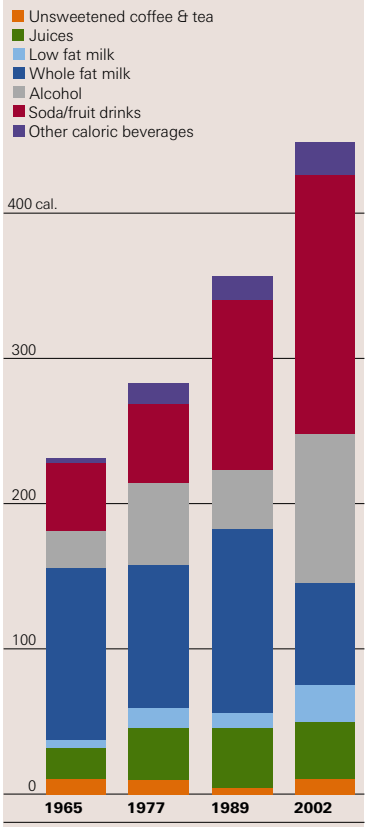
As a leading company in the bottled water business, Nestlé Waters is actively involved in water and hydration research and the collection of scientific data from around the world. Through studies published in scientific journals, presentations at international congresses and product information to both consumers and health care professionals, Nestlé Waters constantly helps to underline and further its understanding of the importance of water and hydration to good health. The company's scientific programmes address a variety of fields including health and nutrition aspects of water consumption, effects of minerals, and other water-related topics concerning packaging, environment and analysis. Nestlé Waters' research programmes are the result of close collaboration of the Nutrition Development Director for Nestlé Waters, the Product Technology Centre on Water in Vittel, France, the Nestlé Research Center in Lausanne, Switzerland, and independent scientists recognised for their expertise in the major areas of interest.

Above: The choice of water as a beverage promotes a healthier diet and lifestyle: it reduces excess calories from sweetened soft drinks, considered to be one of the drivers of over-weight and obesity

> Nestlé Waters constantly helps to underline and further its understanding of the importance of water and hydration to good health

Florence Constant, Nutrition Development Director, Nestlé Waters

Daily calorie intake from beverages, by adults in the USA, 1965-2002



Source: K. Duffey and B. M. Popkin (2007), Shifts in patterns and consumption of beverages between 1965 and 2002, Chapel Hill, NC

International conferences on water and health

To maintain close contact and facilitate fruitful collaborations between Nestlé Waters' own researchers and the external scientific community, the company organised three international conferences on hydration between 1998 and 2004 and sponsored a conference on hydration and health in April 2006.

More on Nestlé's participation in these conferences can be found online at www.nestle.com/water/15

Pilar Rodriguez checks the alkaline balance (pH) of source water to ensure quality at the Herrera del Duque factory in Spain

Research on water and obesity

Obesity is a serious and widespread public health problem, so new strategies are needed to help the general public avoid over-consumption of calories. Nestlé engaged Professor Barry Popkin to study the potential role of water as a healthy diet option for losing weight systematically. A first study applied innovative statistical analyses to the United States NHANES III (National Health and Nutrition Examination Survey III; 1988-1994) database to understand the link between water consumption and weight loss. The results showed that people with higher water consumption had healthier diets: they consumed less energy, fewer soft drinks and fewer sweet or salty snacks. However, the data also demonstrated that much more needed to be understood to clarify the direct and specific potential of water in healthy diets for all consumers. In a second research study, data were evaluated from a study of 4755 people who followed different weight loss diets over a period of one year. The data showed that diets that were relatively higher in drinking water, as opposed to caloric beverages, were positively associated with weight loss. The conclusion from the research is that promoting the intake of drinking water may be an efficient alternative to lower the intake of caloric beverages and may help to avoid calorie over-consumption, the main cause of obesity.

Further details of the two studies, published in scientific journals, may be reviewed online at www.nestle.com/water/16

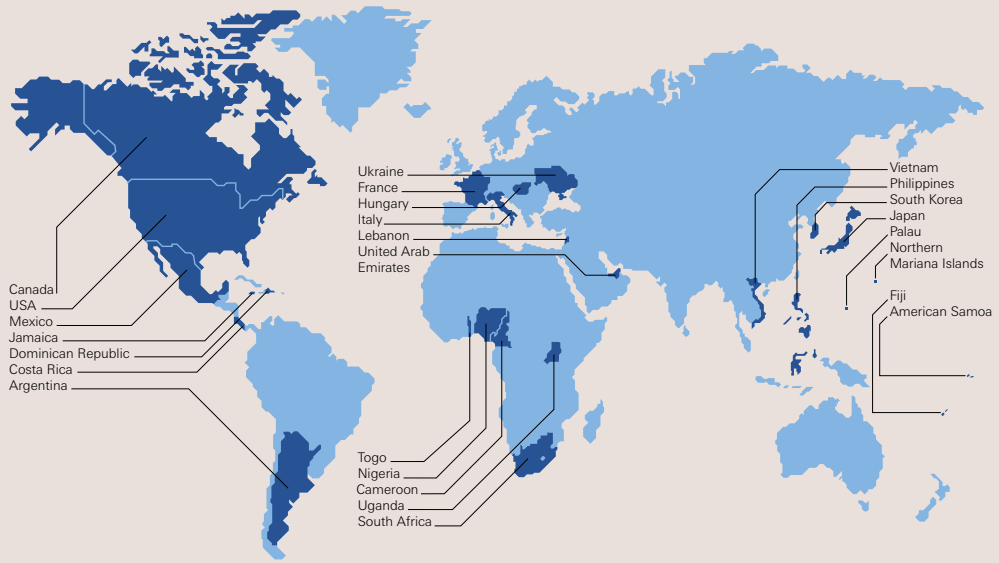
Preparing future generations on water issues

Water Education for Teachers (WET) is a non-profit organisation and publisher, providing education resources which facilitate and promote the awareness, appreciation, knowledge, and stewardship of water resources. Launched in the United States in 1984 and first sponsored by Nestlé Waters in 1992, Project WET workshops and programmes have trained over 400 000 teachers, reaching several million children in over 20 countries.

Its significance was recognised at the 4th World Water Forum in Mexico, March 2006, where it was invited to lead the education activities of the Forum, along with the Mexican Institute of Water Technology. The Special Session on Water Education for Children and Youth stressed that "it is through education that habits are changed and increased water conscientiousness is fostered. This can build long-term stewardship." At the Forum, Project WET also launched the Children's Water Education Fund, to support its new global initiative on Action Education for children.

> An added benefit has been the involvement of the Nestlé Waters' employees and their dedication to bringing water education to children in their communities
>
> *Dennis Nelson, President and CEO, Project WET International Foundation*

Locations of Project WET workshops and programmes



In Kaleke, India, children learn the benefits of clean water and hygiene. The classes are an integral part of a programme that also includes a new well. Operational since late 2006, it is a source of safe drinking water for more than 250 children at the local school

Response to humanitarian disasters

Co-founded and sponsored by Nestlé, Crystal Springs Preserve welcomes students – from kindergarten to doctorate level – for an up-close opportunity to learn about the Spring, as well as the plants and animals who make it their home

With its interdisciplinary approach and over 300 hands-on activities, Project WET is a much-appreciated resource by the nearly half-million teachers who have used it to date.

"With Nestlé Waters' support, we are able to increase the programme's flexibility and expand efforts to reach new communities around the world," said Dennis Nelson, President and CEO, Project WET International Foundation. "The partnership has yielded many successes, from bringing water education to rural villages in Mexico and the Philippines, starting new programmes in Lebanon and the United Arab Emirates, and bringing interactive lessons to schools in Vietnam. An added benefit has been the involvement of the Nestlé Waters' employees and their dedication to bringing water education to children in their communities."

Human beings can survive without food for several weeks, however, without access to water, dehydration leads to death within a few days. Nestlé's key competence in serving its customers is the fast and efficient delivery of safe drinking water in a transportable form. Therefore, supporting disaster relief with water donations is an area where Nestlé can make an important positive social impact.

US Hurricane Katrina

In August 2005, Hurricane Katrina caused severe devastation of the north-central Gulf Coast. To help fight the humanitarian catastrophe, Nestlé delivered over 1.5 million bottles of water to a number of relief organisations. Details of other Nestlé contributions to disaster areas can be found on-line.

More on this story online at www.nestle.com/water/17; "Sri Lanka tsunami relief aid" at www.nestle.com/water/18; "UNHCR partnership" at www.nestle.com/water/19

North America Gulf coast disaster response partnership with AmeriCares

Nearly one year after hurricanes Katrina and Rita devastated the Gulf Coast region, and at the onset of the busiest part of the 2006-2007 hurricane season, AmeriCares and Nestlé Waters have created a reserve of one million water bottles for rapid distribution after a natural disaster.

More on this story online at www.nestle.com/water/20

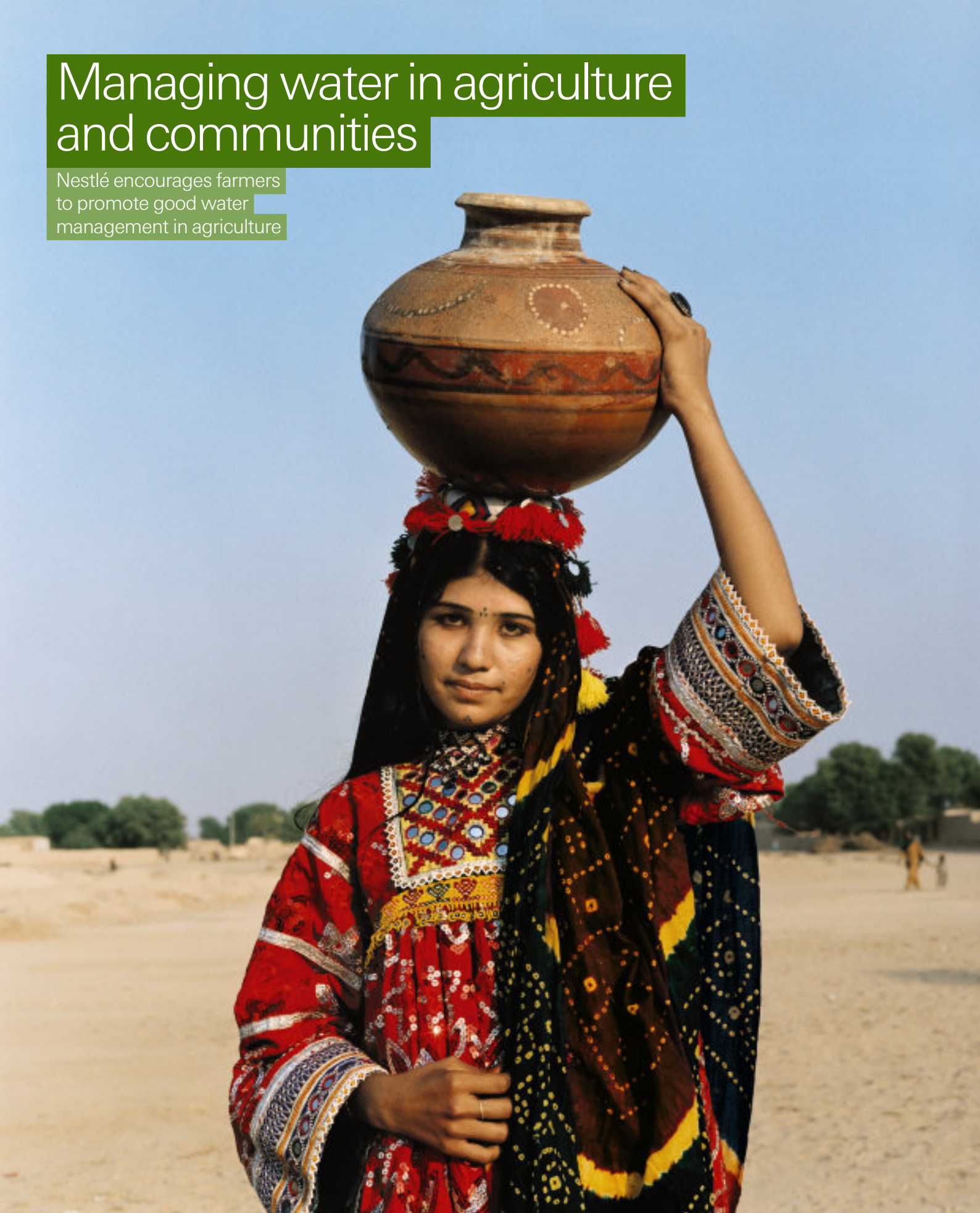
Pakistan earthquake

In October 2005, an earthquake hit Pakistan causing a death toll of more than 70 000 and leaving more than 3 million homeless. Nestlé Pakistan management immediately instituted a Nestlé Voluntary Relief Fund to which all Nestlé employees, vendors, distributors and contractors could contribute. Nestlé Pakistan provided about 80 truckloads of food and water products to support the work of local and international relief efforts.

More on this story online at www.nestle.com/water/21

Managing water in agriculture and communities

Nestlé encourages farmers to promote good water management in agriculture



Influencing better management of water in agriculture

Quality is the key element in all of Nestlé's businesses. A reputation for quality sustains the trust and confidence of Nestlé's consumers. To deliver this confidence, Nestlé depends on the long-term supply of safe and high-quality agricultural raw materials. Increasing water scarcity in many regions of the world threatens this supply and may also create social and economic risks for farmers and communities. To address this risk proactively, Nestlé is turning the attention of its agronomists to the water problem.

Sustainable Agriculture Initiative Nestlé

In 2002, the Sustainable Agriculture Initiative Nestlé (SAIN) was launched to optimize the supply chain "from farm to factory". Its objectives are to improve efficiency, risk management and to support sustainable agriculture.

To provide a more systematic framework for the many on-going water-related projects in Nestlé's global supply chain, the company decided in 2006 to make water a central SAIN contribution area to strengthen its own competencies of managing food supply in a water scarce environment. As water becomes increasingly related to supply quality and security as well as to sustain the livelihoods of farmers and communities, this SAIN focus can make an important contribution to society and to Nestlé. Therefore, for decades Nestlé agronomists have closely worked with farmers around the globe to provide technical advice and know-how, to foster learning, and transfer best practices on growing agricultural materials. A number of cases document the potential of good water management practices in the areas of milk and coffee production – the main raw materials purchased by Nestlé.

Opposite: In Yazman, Pakistan, Sadia Nawab carries water from one of the 250 desert wells, built by Nestlé. Top and above: DaDong Cao and Yaru Liang have worked for Nestlé as milk farmers since the opening of the Shuangcheng factory. Agronomists at Nestlé's demonstration farm introduced home use of biogas, produced from the effluent of cows, which as a result does not pollute local water sources. The biogas installations also provide DaDong and Yaru with clean and cheap energy for cooking

More on industry collaboration online at Sustainable Agriculture Initiative Nestlé (SAIN) www.nestle.com/water/22

Managing farm effluents at the Shuangcheng milk district, China

To address environmental impacts caused by the growth of the milk district for Nestlé's Shuangcheng factory, a sustainability evaluation was made by the University of Bern that highlighted the importance of adequate manure storage to prevent possible contamination of ground water. As common manure storage systems require high investments with no immediately-tangible financial benefits, the incentive for farmers to construct proper storage is low. In support of an initiative of the local authorities, Nestlé identified cheap, adequately-sized biogas digesters as a possible solution. In cooperation with the local government, Nestlé agronomists trained farmers in correct handling and storage of farm manure and helped to install more than 1500 small biogas plants. These biogas generators not only help to prevent water pollution but also create energy for basic uses such as cooking and heating for the farmers. Even larger units are being tested, that may provide additional electricity for a number of community and household uses.

Quick fact New Nestlé coffee washing technology is reducing water use by 96% in Ethiopia

Sharing best practices in South Africa

South Africa receives little more than half of the worldwide average annual rainfall and is classified as a semi-arid country. The National Water Act was introduced in 1998 with the purpose of protection, optimum usage, development, conservation, management, and control of South Africa's water resources. Nestlé Agricultural Services contributes to fulfilling the objectives of the Water Act in several ways. Working with its milk producers, Nestlé implements the Work for Water Project where teams engage with farmers and big dairies to optimize the use of water at all levels. The project is sponsored by the National Department of Water Affairs and Forestry. Nestlé encourages water efficient evening and night irrigation as well as the introduction of computerised irrigation systems and recommends pastures with lower water demand in water-scarce areas. Farmers receive advice on minimum tillage practices with specific tools to keep soil moist. Nestlé also works with farmers to improve efficient and safe effluent removal from their dairy shed areas as a pre-requisite for their registration with the National Health Regulations and compliance with Nestlé's quality management policies for farmers.

More on this subject can be found online at www.nestle.com/water/23

Colombian coffee expert Gerardo Jara Pascuas demonstrates the new water-saving coffee processing technology developed in Latin America, and now shared in Kochere Woreda, Ethiopia

Saving water through improved coffee irrigation, Vietnam

Nestlé participates in the Public Private Partnership Project Promotion of Sustainable Robusta Production in Daklak that trains farmers on efficient irrigation techniques through timing and calibration of the irrigation dose per tree. There are small basins around the trunk of the coffee trees which allow for direct, more efficient application of water directly to the tree's roots system. Furthermore, farmers are encouraged to use chronometers for optimal timing of irrigation phases. From current experience, it is estimated that water savings of more than 60% could be achieved.

Further details from the preliminary findings, published in leading agricultural science journals, may be reviewed online at www.nestle.com/water/24

Saving water during post-harvest coffee processing, Ethiopia

Ethiopia is one of the world's poorest countries, and at the same time the place that first cultivated the coffee tree. Ethiopian coffee farmers are mostly small-holders living from subsistence agriculture, and coffee is one of the few cash crops which they can count on as income. Nestlé promoted and financed the installation and operation of an eco-friendly processing facility in Kochere Woreda. Initially, 50% of the 2004/2005 crop processed at this unit was treated in the new facility. Rather than using the water from the river, a dedicated water well was drilled as part of the project. The new technology uses only 6 litres of water per kilogramme of green coffee, thus saving about 26 million litres of water per crop, a 96% reduction of water use. Furthermore, all the pulp and mucilage discarded from the wet mill is treated separately with calcium carbonate and returned to coffee farms as organic fertiliser. Together with the filtration of the remaining process water, this reduced water pollution by 99% when compared to the old technology. As a side effect, energy saved in the new process lowered energy-related costs by 96%, creating savings of more than USD 17 000 per crop.

Another example of water-saving coffee processing in Mexico can be found online under "Improving post-harvesting water use in coffee production" at www.nestle.com/water/25

An expert voice on agriculture and water

By Prof. Stefan Tangermann, Director for Food, Agriculture and Fisheries, Organisation for Economic Cooperation and Development (OECD)

Agriculture is the major user of water in OECD countries, due to the expansion of irrigated farm area. Overuse of scarce water resources is an increasing concern. While agriculture is a major source of water pollution, it also contributes to ecosystems. Subsidies to agricultural production and inputs, especially for water, continue to misalign farmer incentives and aggravate overuse and pollution of water.

Water use and the impact of agriculture on water resources involves complex trade-offs between economic, social and environmental demands. The major challenge is to ensure that water resources used by agriculture are best allocated among competing demands to produce food and fibre efficiently, minimize pollution and support ecosystems, while meeting social aspirations under different property right arrangements and institutional frameworks.

> Agriculture, as the largest single water user, has an important role to play in making sure that this resource is used properly
>
> *Stefan Tangermann, Director for Food, Agriculture and Fisheries, OECD*

As a higher priority is being attached to water issues, policies and actions are starting to contribute to sustainable agricultural water management in OECD countries. A mix of market-based, voluntary and regulatory approaches is being used to address these issues, including better pricing structures and tradable permits. A growing concern is the impact of climate change and climate variability on agriculture and the role of policies to facilitate adaptation.

Water, and in particular unpolluted water, is increasingly scarce, and may become the scarcest natural resource in the future. Agriculture, as the largest single water user, has an important role to play in making sure that this resource is used properly. Given that so much that happens in agriculture is shaped by government policy, governments must see to it that their policies do not provide farmers with the wrong incentives, and that the institutions are put in place to help create the conditions under which farmers will properly take care of the scarce resource that is water.

The full text of Stefan Tangermann's article can be viewed online at www.nestle.com/water/26

Above right: Part of the SAI sustainability project introduced by Nestlé in the Bosawas Biosphere Reserve, in Nicaragua, focuses on improvements such as water treatment ponds. The first step is simply informing farmers not to pollute the water

Improving access to clean water in rural areas

Nestlé engages in a number of projects that help overcome the barriers faced by many communities in accessing safe and clean water. The relationship between Nestlé and communities is often a fruitful symbiosis. Not only does Nestlé provide services to communities, but it also learns from them by engaging community leaders. For example, a respected opinion leader in India explains how traditional and practical solutions may overcome governance failures: "In remote schools in villages around the world, the groundwater is often full of iron, or a high content of fluorides or salinity," says Bunker Roy, founder of Barefoot College, India. "There is an opportunity for Nestlé to learn from the wisdom of the elders in villages and start promoting roof top rain water harvesting on a large scale. Rain water is less costly to collect, and then the collection and distribution can be controlled, managed and owned by rural communities."

A community water pump organised by Nestlé and the International Federation of Red Cross and Red Crescent Societies in the village of Rimbaue, Mozambique

India clean drinking water project

In 1999, around its factory in the state of Punjab, Nestlé India initiated a project to provide clean drinking water facilities in village schools, create awareness in the community about water issues and involve them in improving the water situation. After identifying schools where the village community is able to take joint ownership, Nestlé India invests in the drilling of deep bore wells and constructing water tanks that store the clean water, allowing the school children regular access to clean drinking water. The project also includes an education component that teaches students about the importance of clean water, the need for water conservation and the link between clean water, hygiene, health and wellness. As of today, 71 drinking water facilities have been completed, reaching around 25 000 school children. In June 2005, Nestlé India's factory in Punjab was awarded the Punjab Government's Award for Environmental Excellence in recognition of its efforts, amongst others, in the construction of these clean drinking water facilities.

In the words of Sukhminder Singh, a farmer from Bhoondri in the State of Punjab: "Now our children come home and explain to us how to make proper use of water, for example while brushing teeth one should use a cup of water rather than letting water taps flow freely. This will lead to proper water management in the village community."

Red Cross and Red Crescent Global Water and Sanitation Initiative

In 2002, Nestlé had the privilege of becoming a founding member of the International Federation of Red Cross and Red Crescent Societies' new Africa Health Initiative. Over a period of four years Nestlé committed CHF 3.4 million to various programmes to prevent the spread of HIV/AIDS in Africa. In 2006, Water and Sanitation was added as a new dimension to this partnership. As the first private sector organisation to be invited by the Federation, along with the European Union (EU), to support the Red Cross Global Water and Sanitation Initiative, Nestlé is dedicating the major part of its support over three years to activities in Africa addressing the immense life-threatening problems resulting from the chronic lack of water and sanitation.

Quick fact 71 drinking water facilities have been completed in India, reaching around 25 000 school children

As a first step, in close collaboration with the Mozambique Red Cross and the International Federation, Nestlé has begun a new initiative to assist vulnerable communities in Northern Mozambique in improving their access to safe water and sanitation. The programme will assist communities in remote rural areas to establish safe water supplies and improved sanitation, provide all-important training in operation and maintenance, and encourage behavioural change in hygiene practices. The impact will also reduce the time wasted in travelling long distances for safe water, allowing more time for farming and other productive activities, releasing children, especially young girls, to further their education, and reducing the impact of poor water and sanitation among those affected by the HIV/AIDS endemic.

"This new partnership between Nestlé and the Red Cross Red Crescent Societies is a further milestone in the long-standing relationship between the two organisations," said Peter Brabeck-Letmathe, Chairman and CEO of Nestlé. "I am pleased that the world's largest bottled water company is contributing knowledge and resources which will benefit the people of Africa through Red Cross Red Crescent programmes."

Read the full story online at www.nestle.com/water/27

Top: More than 5000 women in Pakistan learn new skills in raising livestock. The programme includes water management elements.
Above: Elsewhere in Pakistan Nestlé helps provide freshwater for families via wells like this one in Yazman

EcoLink and LEAP

In rural areas of South Africa, a large part of the population has no access to piped water. The daily burden of accessing remote water sources, and carrying water over long distances, rests most heavily on rural women. EcoLink and LEAP, sponsored jointly by Nestlé and several community-based organisations in South Africa, are projects that have made progress in finding simple but effective solutions to this problem.

EcoLink, a non-governmental organisation based in the Mpumalanga Lowveld which Nestlé helped establish in 1985, and project LEAP are seeking ways to harvest limited water resources and improve water and waste management to help overcome the problems of water-borne diseases. A number of relatively simple and low cost solutions have been identified which involve the community, teach certain basic skills, create jobs and provide a vastly improved water supply. These include the building of rainwater tanks and the capping of natural underground springs.

Accompanying this project is the Earthcare programme, which teaches villagers how to grow vegetables using the trench garden method. Over 150 000 villagers have been taught this method of growing their own food and together with a reliable supply of safe water, and have benefited enormously from the work of EcoLink through the creation of new income opportunities.

Read more about this initiative online at www.nestle.com/water/28

New opportunities for women, Pakistan

In September 2006, the United Nations Development Programme (UNDP) together with Nestlé Pakistan and Engro Foods signed a joint programme to empower 5000 local women through information on livestock development, training and credit in Pakistan's rural provinces. This complements on-going programmes initiated by Nestlé in rural communities in its milk districts to help establish tube wells and hand pumps to provide access to water. The new programme includes a training curriculum for women that emphasises improved water management practices on milk farms as well as issues related to water, health, and hygiene.

Read online about Nestlé in Pakistan and access to water for rural populations at www.nestle.com/water/29

Stakeholder engagement

Nestlé has actively promoted dialogue on the issue of improving access to clean water and on the dangers of water scarcity in the future. The following are some of the major actions taken.

WEF Open Forum: the debate on human rights and water economics

In January 2006, at Nestlé's encouragement, the World Economic Forum (WEF) hosted an Open Forum in Davos, Switzerland to discuss a topic considered to be at the forefront on the global agenda toward meeting the Millennium Development Goals: "Water: Property or Human Right?"

Peter Brabeck-Letmathe shared views and insights with water experts from the public, private and NGO sectors in a lively and multi-facetted discussion, reflecting the enormous complexity of the topic. Participants elaborated issues ranging from understanding the drivers of water scarcity and lack of access for millions of people, to the economic aspects of water such as pricing and the role of agriculture. Mr Brabeck-Letmathe acknowledged the responsibility and consequently the efforts of Nestlé to continuously increase its own water efficiency. He also stated that the global water challenge requires priority given to address the inefficiencies of water use in agriculture and asked: "Do those who have water rights live up to their responsibility to use water efficiently?"

Nancy Birdsall, President, Center for Global Development, USA, emphasised the important roles of governments and

A well, created by Nestlé in Kaleke, India, close to the company's Moga factory, provides safe, clean water for the school children and their families

governance processes to create policies and accountability to manage water resources. Without setting the right economic incentives, private industry can not be expected to make the necessary investments to improve water systems. She made clear that "Water needs a price. If you don't have a price, the rich will get it free; the poor will pay a lot."

The World Economic Forum Water Initiative

The World Economic Forum Water Initiative helps build multi-stakeholder involvement between private, public and non-governmental partners to contribute to the water-related Millennium Development Goals. It does so through engaging its members in:

- Promotion of best practice water use technologies, techniques and strategies;
- Participation in multi-stakeholder water resource management strategies within watersheds or specific regions;
- Participation in broader (national, multinational) water policy and governance dialogues.

More on this initiative can be seen online: "Nestlé engages with the WEF Water Initiative directly through Peter Brabeck-Letmathe" at www.nestle.com/water/30

2006 Stakeholder Engagement Project

Understanding a subject as complex as water can not be achieved from the perspective of any single organisation. Nestlé engaged AccountAbility to identify, clarify and synthesise the views of key stakeholders on water issues. A number of water experts from a diverse set of organisations from the civic, public and private sectors in several countries were interviewed in order to understand their opinion on the following:

- General, as well as Nestlé-specific, views on current water management.
- What needs to be done and on Nestlé's role in relation to water management.
- What value there is in Nestlé producing a report on water.

The discussions with stakeholders revealed three main findings on expectations for Nestlé's activities around water issues. These are:

- *All issues need to be addressed.* Stakeholder concerns go beyond direct operational impacts. The majority of consulted

stakeholders trust that Nestlé has high standards of efficiency and responsibility in its directly owned and managed production facilities. Therefore, while production is addressed in the report, there is also concern with the beginning and the end of the value chain.

● *Be a visible leader.*
Nestlé should take a leadership role by driving sustainable water management beyond the scope of its own operations and by facilitating innovations that address major challenges. "Leadership" means Nestlé should target positive results in environmental and social areas, as well as economic targets, referred to as "triple-bottom line" impacts.

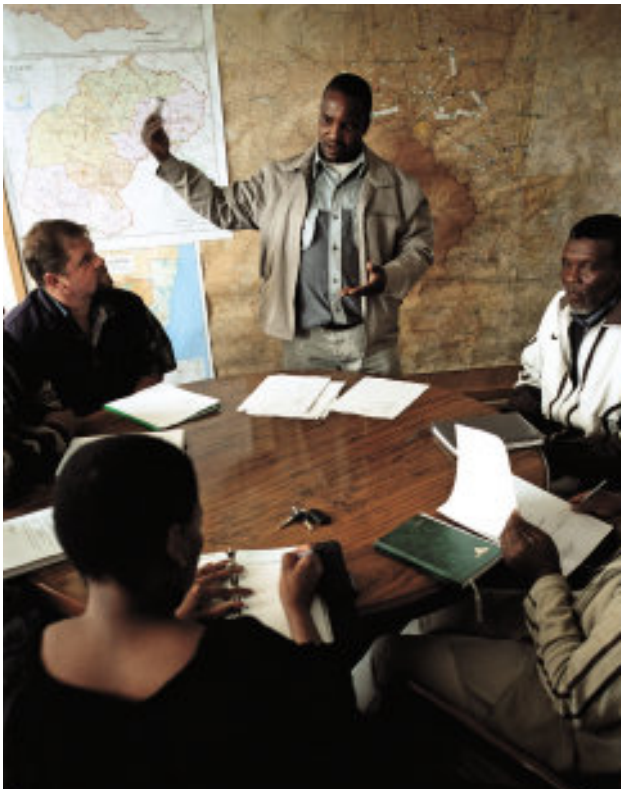
● *Stakeholders want to engage.*
Most stakeholders are very willing to engage with Nestlé. They would therefore like to see this report as the first step in on-going engagement, and view these efforts as the basis for joint investigation into, and subsequent action toward, more comprehensive solutions.

Engagement at the 4th World Water Forum, Mexico, March 2006

Mexico City was host to the 4th World Water Forum (WWF), attended by over 10 000 persons concerned about water, and organised by the World Water Council in cooperation with the Mexican government. The WWF also provided an opportunity for Nestlé to engage with a wide range of stakeholders in water, through a Nestlé public discussion space open to anyone, and through participation in presentations, panels and informal dialogue. For Nestlé it was a welcome focus on the importance of water as a global challenge and the opportunity to review the company's strengths and weaknesses in water.

Important lessons from the event were summarised by Carlo Donati, Executive Vice President, Nestlé and Chairman and CEO of Nestlé Waters: "Most people have an opinion about the role of private corporations in water, whether positive or negative. Still, we find that many may not be aware of the less visible ways that water matters in a corporation. That water is an issue not only for water distribution and bottled water companies but for all companies. Also, many may not think of business as a credible voice on water. There is work to do for corporations to share more of what they are doing, show that there is expertise and experience that can be of interest for others. In water management, everyone has a role to play. "

Read more on this subject online at www.nestle.com/water/31



Above: Dairy farmers, local government officials and NGOs meet with Nestlé agronomists near Harrismith, South Africa, to discuss water management and other issues. The workshop is part of Nestlé South Africa's Black Economic Empowerment agricultural programme, providing income to more than 140 dairy farmers, as well as assistance for infrastructure and access to local markets.
Right: Nestlé highlighted the global challenge of water, welcoming dialogue with stakeholders at the 4th World Water Forum in Mexico

> There is work to do for corporations to share more of what they are doing, show that there is expertise and experience that can be of interest for others
>
> *Carlo Donati, Executive Vice President, Nestlé and Chairman and CEO of Nestlé Waters*

Future directions in water management

Nestlé offers its experience to the broader water management debate

Increased attention to local water conditions

Continuous improvement in water management

Nestlé's global operations will continue to seek improvements in water consumption, reducing water usage, and reducing even further our water footprint. While substantial progress has been made, we will not be complacent and satisfied with the status quo.

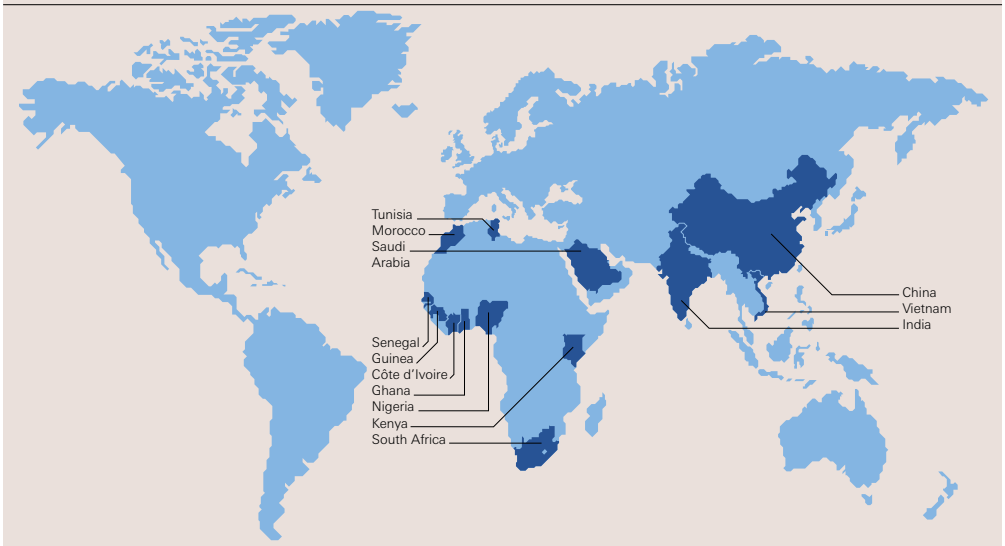
Most of Nestlé's factories are not in water-stressed regions. However, 49 of Nestlé's 481 factories are in 13 countries which are amongst the 45 most water-stressed countries in the world, as noted by the World Water Council's Water Poverty Index.*

As a result, an evaluation of the relative performance of factories located in those 13 countries was performed, revealing that additional water-use efficiency is possible. These factories receive special focus, the objective being to assist local factory management to further understand the challenges, to prompt local stress assessments that generate new water-saving projects, and assure that local management is informed about and involved in community activities related to water.

Development of a proprietary water stress index

To further improve capacity for water management amongst local management, Nestlé Waters is developing its own internal water stress index that combines the national-level Water Poverty Index with a local-level index of water stress issues at the actual Nestlé Waters factory location. Nestlé Waters will assess a series of local parameters to better understand and monitor the specific risk any potential water issue would pose on its operations and the local communities. The index allows for a broader set of indicators to be evaluated when deciding on priorities and future strategy.

Locations of Nestlé factories in the most water-stressed countries*



* Located in lowest 30th percentile of the Water Poverty Index

Opposite: In the greenhouses of Nestlé's R&D Centre at Tours in France, scientists are developing coffee and cocoa plants which may be tested for potential drought resistance.
Right: David Bonilla, National Water Resources & Environment Manager, is responsible for regulatory affairs at the Herrera del Duque factory in Spain

*The Water Poverty Index (WPI), developed by the UK's Centre for Ecology and Hydrology (CEH) Wallingford, and the World Water Council (WWC) grade 147 countries for their characteristics and performance in five dimensions of potential water stress: resources, access, capacity, use, and environment. Each of these component indices is made up of several sub-indices providing sufficient granularity to enable identification of local causes and challenges of water stress

Scaling-up efforts in agriculture

Nestlé is working with farmers in its direct supply chain to improve the state of water management.

An evaluation of Nestlé's current water-related competencies and opportunities for impact identified several areas where additional efforts could contribute to better water management in agriculture and surrounding communities.

Nestlé's training and evaluation programme

- *Strengthen capacity.*

A programme will be started to raise awareness amongst Nestlé agronomists on the topic of "sustainable water usage in agriculture". A number of key staff from Nestlé headquarters and from markets will be trained on water management around Nestlé's direct supply chain. This key staff of "agricultural water experts" will train other Nestlé agronomists and also support the water-related Nestlé initiatives in their markets. Contacts will be established with relevant research institutions, NGOs and consultants in order to use their expertise in training of Nestlé staff, awareness creation amongst stakeholders and in advising markets on specific problems and projects.

- *Field studies.*

As one of the first steps, Nestlé agronomists will evaluate the state of water usage in Nestlé's direct supply chain from different perspectives including local water "poverty" levels, water consumption, types of irrigation, waste water production, post-harvesting methods, spring management and others. This assessment will enable better monitoring of impact and identification of priority areas for structuring projects and allocating resources.

Nestlé agronomists in Talwandi Rai, India, educate farmers on water management on their dairy farms, which provide fresh milk to Nestlé's Moga factory

Building a repository of advanced water practices

Different Nestlé markets sourcing agricultural raw materials from farmers have embarked on various initiatives to improve water management. These initiatives are important and have proven successful. However, so far there has been too little exchange of related information between markets. In order to collect the knowledge already available in some Nestlé markets and to make it available throughout the company, Nestlé's agricultural department will take the following stepwise approach:

- Collect information about existing Nestlé and industry initiatives, their experiences, and the most advanced practices and indicators elaborated.
- Summarise and arrange the information in an Advanced Water Practice Repository accessible to all relevant Nestlé staff.
- Disseminate the know-how through case examples, training, and workshops.

Quick fact Following Hurricane Katrina, the Tsunami and the Pakistan earthquake, Nestlé Waters got nearly two million litres of safe, fresh, bottled water to those in the direst need

- Include advanced water practices as far as applicable in the Nestlé Farm Assurance Manuals implemented in the different markets.
- Champion an industry-wide initiative on water and agriculture from within the Sustainable Agriculture Initiative (SAI) platform to improve water efficiencies on a much larger scale and to create a level playing field for all companies.

Advanced water practices and indicators are continuously updated based on the experiences of different markets.

From science to field: a new focus on quality, yield and water efficiency

In common with many tropical crops, coffee and cocoa are considered "orphan crops" from an R&D perspective. Because money is earned at the product and not at the seed level and because they are perennial species, current investments in innovation of planting material are very limited. Coffee and cocoa plants were traditionally selected by a few public institutions to optimize yield but not water-related characteristics. Many varieties are vulnerable to even short periods of drought. The resulting loss of yield is threatening not only overall raw material supplies but also the livelihoods of thousands of farmers. In the worst case, water-sensitive plants may not survive prolonged droughts (or produce a very poor crop for one to two years before recovering) and many farmers could not afford the investments in time and money required to replant trees (or survive without any crop during the time for recovery).

> As one of the first steps, Nestlé agronomists will evaluate the state of water usage in Nestlé's direct supply chain
>
> *Hans Jöhr, Corporate Head of Agriculture, Nestlé*

In the lab and greenhouses of R&D Tours, plant scientists are developing new varieties and propagation tools for high yielding and quality plants which may also be screened for better survival and recovery under drought conditions

Nestlé R&D employs a unique set of competencies to create new momentum in raw material innovation of coffee and cocoa. Advanced competencies in molecular and plant biology as well as propagation techniques enable Nestlé R&D to rapidly drive down the time "from science to field" as it has already demonstrated in other areas of business interest.

Two new initiatives by Nestlé R&D aim to overcome the lack of innovation in coffee and cocoa:

- Employ conventional selection and breeding to identify coffee plants that could reduce the amount of water needed to produce high yield and high quality produce.
- Further develop and share propagation capabilities to help farmers grow cocoa plants that are better adapted to an environment of water scarcity than their traditional counterpart from rooted cutting or grafting.

More on these initiatives can be found online: "Cocoa propagation project" at www.nestle.com/water/32; "Coffee project" at www.nestle.com/water/33

Spring, well and groundwater protection programme

Springs and groundwater wells are a valuable source of water supply for human, animal and crop usage. Many rural properties and communities have springs at their disposal. But in many countries, they are not adequately protected from contamination. In the agriculture environment, contamination sources include livestock, wildlife, crop fields, forestry activities, septic systems and human activities (for example, fuel tanks, fertilisers, or pesticides) located in the neighbourhood of the spring outlet, which is called the "eye". Some springs are in danger of falling dry if their water catchment areas are not appropriately protected.

Nestlé's Sustainable Agriculture Initiative will add a new module around the theme of protecting water supply springs, groundwater and wells at farm and community levels. The spring protection initiative will fit different protective structures that can be easily built up when spring water eyes are identified, for example, spring boxes, seepage spring preservation structures, horizontal wells, or fencing.

Technical spring protection measures alone do not yet ensure effective protection of this important water resource. Therefore spring protection will be accompanied by education programmes for farmers, school children, and villagers on preventing contamination, protecting water catchment areas, and developing afforestation programmes in order to prevent springs from becoming dry.

Fire prevention protects spring water flows by avoiding soil erosion. Since 1998, the Nestlé Sustainable Maintenance Plan near the Santa Maria source has increased forest coverage with a 75% survival of four new pine species, restored 60 hectares of natural forest, and trained local fire brigades

Encouraging debate on water management

As noted on pages 28 to 29, Nestlé has promoted dialogue with stakeholders on water issues in a number of ways. Moving forward in 2007, Nestlé intends to stage and sponsor a range of public forums to discuss solutions to the problem of clean water, particularly in the area of water governance, which is recognised as a critical factor in solving our water problems.

Nestlé, water management and agriculture

By Hans Jöhr, Corporate Head of Agriculture, Nestlé

Nestlé's cooperation with farmers is based on long-term experience in sourcing agricultural materials. Where appropriate, the company assists farmers in producing these materials through sustainable practices which include, amongst others, environmentally-safe production methods covering responsible water management and protection. Nestlé currently assists approximately 400 000 farmers in improving their income.

Since Nestlé uses significant quantities of agricultural materials and agriculture is a major user of water, the company decided in 2006 to re-evaluate its cooperation with farmers, in order to better respond to increasing water needs and to deal with water scarcity. Current agricultural and water-related activities, which are an integral part of our Sustainable Agriculture Initiatives, are being used as the base for future sourcing programmes and for new insights with regard to water issues.

Above right: Agricultural field services in most countries where Nestlé sources raw materials – primarily milk, coffee and cocoa – develop awareness amongst local farmers in water usage and protection

> Nestlé's future sourcing programmes will concentrate on areas where we have close relationships with farmers and primary processors, as well as in regions of water scarcity
>
> *Hans Jöhr, Corporate Head of Agriculture, Nestlé*

The main orientation of Nestlé's future sourcing programmes will concentrate on areas where we have close relationships with farmers and primary processors, as well as in regions of water scarcity. The company will contribute to improving water usage and protection through its R&D facilities and with its agricultural field services. Improved knowledge and better awareness will help in establishing programmes such as training of field agronomists to better disseminate good practices on water usage, to make better use of available water sources, and to protect these sources adequately for the benefit of farmers and rural communities.

However, water programmes need global efforts and individual companies can only have limited impact. Nevertheless, Nestlé, through its field services, can contribute to programmes launched by governmental or intergovernmental organisations in addressing solutions through public-private partnerships in rural areas.

Summary

As discussed in this report, availability of water for the environment and human use is challenged by population growth, disruption of natural water cycles and pollution through human activity, and increasing demand for water-intensive foods and lifestyles. Situations of water stress and scarcity pose a problem in an increasing number of water basins across the world where today's policy frameworks, water governance and individual behaviours are inadequate to protect the resource and ensure its basic provision for human use.

Experts and stakeholders have helped Nestlé understand the problem and have contributed to this report to explain the origins of the current situation and how to improve water management. Their input and the engagement of Nestlé's employees have helped Nestlé further develop its understanding of potential roles and commitments on water, specifically Nestlé will:

- *Leverage areas of direct control over its own manufacturing operations.*
Nestlé will continue to improve efficient water management, building on good progress to date, and will strive for the highest standards possible in water extraction, use and disposal.
- *Encourage farmers to promote good water management in agriculture.*
Beyond its core business activities, Nestlé will expand its efforts in sharing good water management practices in agriculture, particularly in its direct supply chain where it can have a significant impact. In some cases, these investments will also help provide clean water to rural communities.
- *Offer its experience to the broader water management debate.*
Nestlé will engage with a wide range of stakeholders to improve the state of water management throughout the world. Focus will be on projects to improve local water management, working with others to establish better standards of water resource management, continuing ongoing efforts in education about water conservation, and participating in the debate on the impacts of agricultural policies, amongst others, on water resources.

Although much progress has already been made, we always seek to improve further, both in terms of our own operations as well as by contributing to positive developments in broader water management and approaches to the subject of water.

Nestlé's Commitments on Water, presented at the World Water Forum in Mexico, March 2006, summarize Nestlé's overall engagement in water:

W ork to continue reducing the amount of water used per kilogramme of food and beverage produced.

A ssure that our activities respect local water resources.

T ake care that water discharged into the environment is clean.

E ngage with agricultural suppliers to promote water conservation among farmers.

R each out to others to collaborate on water conservation and access, with a particular focus on women and children.

Opposite: Water stored in ponds enables the Chachoengsao factory in Thailand to run for several months without external water supplies

Writing and editing
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Verabutr Piriyanontana, Bangkok, Thailand;
Philippe Prêtre/apg image, Vevey, Switzerland;
Paul Weinberg/Panos Pictures, Durban, South Africa

Printing
Entreprise d'arts graphiques Jean Genoud S.A., Le Mont-sur-Lausanne, Switzerland

Paper
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