



IFHE Statement on UN Sustainable Development Goal 6 With input from the Associated Country Women of the World (ACWW)



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

The 2030 Agenda for Sustainable Development includes a goal on water and sanitation. Sustainable Development Goal (SDG) 6 demands that governments, civil society, scientists, private entrepreneurs function in a way to **“ensure availability and sustainable management of water and sanitation for all”**. This goal manifests an ambitious and integrated water agenda.

Background

SDG 6 is ambitious because the aim is not only to half the proportion of people without access to improved water sources and basic sanitation, as has been the case within the Millennium Development Goal (MDG) targets, but to strive for universal access, so that every single person has clean drinking water and a hygienic toilet in the year 2030. Moreover, not only access to improved water sources is considered, but it calls for access to safe, clean drinking water.

SDG 6 outlines an integrated agenda through eight targets which consider not only access to water, sanitation and hygiene but also include:

- wastewater treatment,
- recycling and reuse,
- freshwater quality and water resources management,
- water-use efficiency and sustainability and
- the protection of water-related ecosystems.

This SDG calls upon expanding international cooperation and capacity-building support and strengthening of participation of local communities. In addition, water-related targets are embedded in other SDGs that need to be taken into consideration. This calls for a holistic approach or the application of the nexus-principle, taking synergies and trade-offs into consideration when taking decisions.

Relation to Home Economics, IFHE and IFHE Members

Water and sanitation within the sustainable development agenda is important to governments and stakeholders on all levels but also the field of Home Economics. Achieving SDG 6 requires multilevel perspectives: global, regional, national and communal. The global level is a contested space with issues such as trade with virtual water, tourism, water-related disaster management, global public health threats, fertilisers and pesticides in agriculture and household plastic bags in lakes and oceans - just to mention some examples. Water is a global resource that takes no notice of borders or nation states thus SDG 6 should guide communal, national, regional and international water and sanitation policy, planning and awareness rising.

Water is necessary for life be it for individuals, families and communities and is therefore a locally available good with strong and different local implications. It is also something that determines both the type and condition of the environment that needs to be rich in bio-diversity. As land custodians there is an ecological and humane responsibility to ensure safe and clean water systems. This is the basis for Home Economics research, education, family services and advocacy.

The founding principles IFHE support improving the quality of everyday life for individuals, families and households. Home Economists recognise that we are in relation to each other and with a social, economic and natural world. Thus, the IFHE Position Statement Home Economics content draws from multiple disciplines, synthesising these through interdisciplinary and transdisciplinary inquiry. This disciplinary diversity coupled with the aim of achieving optimal and sustainable living means that Home Economics has the potential to be influential in all sectors of society by intervening and transforming political, social, cultural, ecological, economic and technological systems, at global levels. This is driven by the ethics of the profession, based on the values of caring, sharing, justice, responsibility, communicating, reflection and visionary foresight. Home Economics practices are:

- an *academic discipline* to educate new scholars, to conduct research and to create new knowledge and ways of thinking for professionals and for society,
- an arena for *everyday living* in households, families and communities for developing human growth potential and human necessities or basic needs to be met,
- a *curriculum area* that facilitates students to discover and further develop their own resources and capabilities to be used in their personal life, by directing their professional decisions and actions or preparing them for life,
- a *societal arena to influence and develop policy* to advocate for individuals, families and communities to achieve empowerment and wellbeing, to utilise transformative practices, and to facilitate sustainable futures.

This consideration of SDG 6 with its focus on water and sanitation provides guidance to policy makers, stakeholders and Home Economists by informing them about current challenges and possible ways to reach the sustainable water and sanitation goal.

Remaining Challenges

The world's drinking water situation has shown improvement; however, there is still cause for concern. In 2012, at the World Water Forum in Marseille, the UN Secretary-General announced that the international community had reached the MDG target to halve the proportion of people lacking access to safe drinking water three years before the 2015 deadline. However, in 2015 672 million people were still without access to improved drinking water sources. While the improved access to water was a welcomed achievement, within the MDG framework, there is an important caveat. The proxy indicator used to measure progress towards the target "safe drinking water" was access to an "improved drinking water source". This indicator has limited meaning, as it does not represent a reliable measure of drinking water safety. In fact, a recent study commissioned by the World Health Organization (WHO) and UNICEF estimates that at minimum 1.8 billion people globally use faecal contaminated drinking water.

The global sanitation problem in contrast requires even more urgent attention. The figures of the WHO/UNICEF Joint Monitoring Programme (JMP) show that the MDG target has been missed for almost 700 million people. Thus 2.4 billion people still lack improved sanitation facilities and 946 million people practice defecation in open public/communal spaces.

In many parts of Sub-Saharan Africa, less than half the population uses a toilet. In South-East Asia almost 40% of the population defecates in the open. In cases where toilets exist it is important that they hygienically separate human excreta from human contact. But this by itself is not sufficient to protect health. There are other key factors. For example, excreta are often captured in latrine pits, however the faecal sludge is then dumped into surrounding water bodies having major negative health impacts on communities and the environment at large. Approximately 90% of communal wastewater in developing countries is discharged directly into rivers, lakes and seas. As a consequence, to realise any benefit from sanitation, IFHE demands governments, policymaker and local actors to implement a full sanitation chain that includes wastewater management.

Hygiene poses a global health challenge and is integrated into SDG 6. Its prioritisation recognises its importance that hand washing with soap could save 300,000 people annually. Safe drinking water and sanitation in the absence of hygienic behaviour will not prevent faeco-oral infections. Many households, for example, have no other option than to store water. Even if the original source of the water is safe, the water is frequently contaminated by unhygienic conditions and practices within the home.

Across the developing world, handwashing and menstrual hygiene facilities together with toilets that guarantee privacy are not available in schools. As a result, girls (especially those in their adolescence) are deterred from attending schools. In some parts of the developing world toilet facilities are absent in many rural schools. For many girls this leads to missing school whilst menstruating or dropping out altogether, once they enter menarche. Hygienic behavior is a central subject of Home Economics education, which can support prevention of faeco-oral infections. For women and girls especially, it is important to focus on sanitation and hygiene.

IFHE advocates for Home Economics Education to implement and improve hygiene conditions and behavior. At present there is no monitoring framework to track the uptake of improved hygiene practices, IFHE will use its influence so that indicators be developed.

Targets 6.1 and 6.2

Even after 15 years of significant global efforts to reach the water and sanitation targets within the MDG agenda, basic needs are still not being met and the human right to water and sanitation remains unrealised for billions of people. Therefore, the demand for clean drinking water and adequate sanitation into an SDG is still urgent.

Targets 6.1 and 6.2 are based on the human right to water and sanitation decided by the United Nations in 2010. This requires recognition of the human rights principles of non-discrimination and equality, transparency, participation, accountability and sustainability as well as the respect of the human rights criteria respectively the content of the human right that is availability, physical accessibility, quality and safety, affordability and acceptability/dignity/privacy. Any person irrelevant of their gender, age or ability, require equal and non-discriminatory access to a sufficient amount of safe drinking water drinking, personal and domestic uses that includes washing of clothes and food preparation, and personal sanitation and hygiene. Water sources and sanitation facilities must be safely accessible without barriers, available in the near surroundings and must be affordable so the poorest can access these facilities.

According to the UN Women report (2014) there is a global experience of women and girls still needing to trek long distances to get water to meet their families' basic needs. The time demands are enormous. In sub-Saharan Africa for example, women and girls spend 40 billion hours a year collecting water, equivalent to a year's worth of labour by the entire workforce in France. This is one of the factors that prevents many girls from being able to go to school regularly.

IFHE and Home Economist supports the SDG target 6.1 and 6.2 and advocate on all levels for drinking water, which must be safe and free from faecal or chemical contamination and toilets need to be hygienically, clean, equipped with hand washing facilities, lockable or gender separated, and culturally acceptable. The focus must also be for sanitation facilities beyond the home. Toilets are also needed in schools, clinics, workplaces, markets, bus and railway stations and other public places.

The water crisis has been identified by The World Economic Forum as the global systemic risk of third highest concern. Many developing countries are struggling to cope with current water and sanitation management challenges arising from population growth, rapid urbanisation and increased economic activity. It is within this context that policies, science, technology, institutions, and infrastructure are needed to put in place practices that improve drinking water, sanitation, hygiene and wastewater management. IFHE recognises the significance of the human right for access to safe and clean drinking water and the urgent action for improved sanitation facilities.

Adequate drinking water, sanitation and hygiene are essential ingredients to ensure human health. Improvements in public health especially in the developing world are curtailed by the burden of water-related diseases. For example, Diarrhea, most often related to unsafe drinking water, poor sanitation and inadequate hygiene, is one of the leading causes of death among children under the age of five and caused 840,000 deaths in low and middle-income countries in 2012. Diarrhea is therefore deadlier than Malaria or HIV/AIDS.

The growing evidence is that repeated exposure to unsafe drinking water, poor sanitation and inadequate hygiene contributes to poor nutritional status, due to for example intestinal worm infections, diarrheal diseases and environmental enteropathy. Cholera is an infectious and fatal disease transmitted via contaminated water. Since 2010 a cholera epidemic in Haiti has killed more than 8,000 people. The outbreak of Ebola in West Africa could have been contained, if the conditions had been hygienic.

Home Economics Education enables not only women but also men and children to follow basic hygienic knowledge and skills to promote human health. Thus water, sanitation and hygiene need to be a priority for policy makers and stakeholders. Local public health and extension workers need to play a big role in the prevention of such avoidable diseases – with equal or greater importance than curative approaches. To translate this recommendation into practice, IFHE advocates that the WHO along with other actors, should consider policies on drinking water, sanitation and hygiene as preventative medicine. By influencing funding allocation and policy design, this could provide real health benefits. Further it could bring dignity, equality and safety to individuals, families and communities.

Improving the lives of billions of people also makes economic sense. The WHO estimates that for every US dollar invested in improved drinking water and sanitation there is an economic return of four US dollars resulting from health and productivity gains. World Bank figures show that countries in sub-Saharan Africa lose more than 4% of their Gross Domestic Product (GDP) on average. Bangladesh and India are losing more than 6% of their GDP because of inadequate sanitation. In economic terms poor sanitation and water supply keep countries poor.

In this context, communities and nations are facing huge challenges. Home Economics practitioners challenge the UN system and its monitoring institutions to raising the awareness of the great impact of personal and household hygiene on health and appeal to responsible decision makers on all levels to install related programs. It will be an initiative of IFHE to address this gap.

Target 6.3

This target focuses on water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials. It also aims to halve the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally until 2030.

Composed of different aspects, this target is not only related to agriculture or industry and therefore asks for different problem solutions. The United Nations Environment Programme (UNEP) identifies new threats to aquatic ecosystems from consumers disposing pharmaceuticals and personal care products. IFHE advocates for immediate attention by regulatory authorities at all levels and asks consumers not wait for governments to decide on rules and regulations but simply change their consumption patterns. Home Economists in all professional fields and contexts will exert their influence in this regard.

Home Economists working in communities and education programs contribute to efforts for handling human waste appropriately. As already mentioned, almost one billion people are still defecating in open spaces and almost 90% of communal sewage in the developing world is being discharged untreated into the natural environment especially waterways. Thus, microbial pollutants are a huge threat and often result in infectious diseases such as cholera and typhoid fever, stunting of growth and malnutrition. But it also infects aquatic life and terrestrial life. In rapidly expanding cities, faecal sludge is a growing challenge especially for the poor. Home Economists support campaigns and advocate for building more toilets commensurate with the growth in population. Professionals working in Home Economics education and extension services should help to adopt a positive approach: waste should be regarded as a resource. It is necessary to promote the more careful use of the by-products of faecal sludge. Such as the excreta being used to produce compost or biogas and urine being used as a fertilizer. Such thinking requires problem solving to address implementation with adequate safety precautions

Household waste is composed of many different components. The disposal of plastic bags into waterways is now threatening fish life in every part of the world. It has been estimated that approximately eight million tons of plastic is dumped into oceans every year and that this will increase tenfold in the next decade. A growing imperative is the need to improve how garbage is collected and managed and how production processes are altered to adhere to environmental sustainability criteria. Home Economics sciences and research on consumption patterns can contribute to solutions. A simple but effective start is encouraging consumers not to use plastic bags but use their own bags and for retailers not to provide plastic bags at all. These two strategies have already shown considerable consumer and retailer support in range of location including Anglesea (Australia) since 2004.

Not only is visible plastic a threat to our environment but so too are micro particles, coming from degraded plastic., The globally combined mass of micro plastic particles is determined to currently be between 93,000 to 236,000 metric tons (Van Franeker). Huge amounts of plastics are thus “lost” in our oceans. This maybe even more worrisome than the known plastic soup itself is the trash-islands or garbage patches that are continuing to grow.

Home Economists in education and family services have for a long period supported and promulgated sustainable consumption and contribute to plastics reduction through information programs and helping to devise alternatives to plastic bags. As advocates they enlighten and support communities to implement sustainable ways of handling waste, garbage and rubbish in order to avoid water pollution and its danger for human beings and biodiversity at large.

Micro particles are known to be incorporated into personal and household hygiene products as a way to “improve” their performance. Although proportionally private Households are contributing only a small proportion of micro plastics pollution, it is nevertheless unnecessary. Consumers often do not know that micro particles are in cleaning agents, cosmetics and personal care products, make them smooth, to regulate the viscosity of liquids and creams and to form a “better” film on the skin. According to the Federal Environment Agency of Germany the European Union discharges approximately 3,125 tons per year of micro particles from polyethylene coming only from personal care products. Home Economics Education can integrate these aspects in education for sustainable lifestyles.

In recent years concern there has been a growing over pharmaceuticals being disposed of in ways that means they enter into lakes, rivers, and streams. Human and veterinary medicine, prescription drugs or over-the-counter medications, such as painkillers, blood thinners, hormones also cocaine and amphetamines make their way through human and animals’ bodies and into the natural environment.

As a case in point, in Germany alone 8,100 tons of environmentally relevant pharmaceuticals are used per year, with approximately 1,500 different agents. In veterinary medicine in Germany antibiotics, antiparasitics, anti-inflammatory drugs and hormones are the most used drugs, out of which the bulk are antibiotics with 1,700 tons used per year. More than 100 different substances can be found in almost all of Germany’s surface waters, in groundwater and occasionally even in drinking water. This is a complex problem and the risk is so far underestimated.

When drugs are either excreted or disposed of into waterways they pose a special challenge to wastewater treatment. Conventional treatment methods are insufficient and not designed to deal with these chemicals. Decreasing the residues of drugs can only be achieved if measures are taken along the value chain from production to its disposal.

Consumers also need to be more responsible in their handling of medicine. Home Economists in all working areas can point out all non-used medicine should go back to pharmacies and not be dumped somewhere else. Self-medication should be held at a minimum, preferably using easily degradable products.

Home Economists in their education programs focus on helping consumers to be aware that buying medicine which will not be used and subsequently thrown away not only damages the environment but also is wasted money.

Target 6.4

Households can use water more efficiently and thus contribute to target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

On a global perspective the different water-users include agriculture, industry and households. At 70% of all water consumption globally agriculture is the biggest user of water. Almost half of small-scale farmers are women farmers, mainly dependent upon rain-fed agriculture. Unfortunately, rain-fed agriculture is becoming increasingly unreliable due to climate change. This means that farmers require storage structures, such as micro-dams, to collect rainwater for irrigation. In some parts of the world uncontrolled crop irrigation has lowered the water table or caused the soil to become salty and toxic to both humans and plants. This situation calls for more rational use of ground water and training in water harvesting methods. Rural women's groups in India and Kenya have demonstrated that they can play an essential role in maintaining watersheds, by replanting and protecting the woodlands and forests needed for their protection.

Globally, industry is responsible for 20% of water use. Water is used to keep machinery operating through cooling processes or is needed in key stages of production but it can also be a key component of the product that is being made.

And finally, 10% of global water use is for domestic use with differences across regions. Although it is clear that private households consume the smallest portion of water, they do carry their responsibility nevertheless.

There are a range of strategies that are used by households and communities to manage water.

1. Rainwater Harvesting

Rainwater harvesting can be applied to any natural or human build environment all over the world. For households the collected water is available during dry seasons or when community restrictions are applied. Households can supplement the main supply and thus reduce the water bill, it can help to overcome scarcities and reduce the water demand on wells, which might otherwise become dry.

With proper treatment collected rainwater can be used for domestic purposes including drinking water. As it is principally free of salinity water can be collected for use in small scale farming, for animals and irrigation of gardens. Besides the traditional rooftop rainwater harvesting, there are a range of available technologies from rain barrels, cisterns, earthworks-curb-cuts to rain saucer systems and the groasis waterboxx, a system specially designed for catching water to help grow trees in dry areas.

2. Collecting grey Water

The use of greywater is an alternative water resource that also redirects water from sewage treatment plants. Greywater is used water from bathroom sinks, showers, tubs, and washing machines. It is not water re-directed from toilets or from washing diapers/nappies (Guerrilla Greywater Girls). However, it may contain traces of dirt, food, grease, hair, and environmentally-friendly household cleaning products but is a good source of irrigation water for the garden. If greywater is used in domestic gardens the nutrients become valuable fertiliser and help vegetables, flowers and fruit trees to grow that are problematic if released into rivers or lakes to become pollutants.

Not only private households can make use of greywater. The National Environmental Engineering Research Institute in Nagpur, India, for example have demonstrated how to use it in schools.

3. Preventing Water Wastage

Collecting water is one strategy however there is also a need to prevent unnecessary loss or wastage of water. During the UN Decade “Water is Life” between 2005 and 2015, the UN Water-Decade Programme on Capacity Development (UNW-DPC) was set up after it was clear, that water loss did not get the attention as needed. Water loss, only through dilapidated pipe systems, amounts globally to 45 million m³ a day, that could serve 200 million people and has a value of 18 billion US \$ according to UNW-DP. The megacities of Manila, Mexico and Sao Paulo are losing more than 50% of their water. Water operators and water suppliers are challenged to fix these pipes.

There are also places where water is lost in the household. Water taps are often dripping, the flushing of the toilet uses excessive water and doesn't have a dual flush system or the pipes in to and out of the house from the communal system leak.

One example to address these problems is the Water Wise Women Plumbers, trained in Jordan with the support of the Jordan Hashemite Fund for Human Development (JOHUD) and the German International Cooperation (GIZ). They are trained to repair water leakages not only in their own home but also in other households during the day, when only women are at home and no male plumber could enter the house. Their work as plumbers reduces water losses in the household, increases water leak detection, and improves the relationship with water providers. Jordan is one of the most water-scarce countries in the world and therefore water conservation efforts are significant.

Increasing the water efficiency of household labour saving devices is another important strategy. Producers of household appliances such as washing machines and dishwashers, should design the appliance to use less water or reusing water. Household technology can focus on water conservation and can develop recommendations for households and industries, which produce domestic appliances.

In certain regions, the care of the amount or quality of water used in their households is not an issue for some people. Water in the immediate surroundings may be available all day and relatively cheap, so there is no pressure to manage water use efficiently. However, there is an increasing awareness for sound water management. In some countries water saving fittings now are becoming standard for water flushing toilets as well as for showers and washing basins. There have also been improvements in making water circulation more evident. An increase in grass roofs, open water rinses, little lakes and rivers are part of the ecological building programmes of individual countries and communities preparing the public for the expected climate irregularities such as droughts and floods related to climate change.

4. Limiting Water Waste

Water is used to prepare our food and beverages and inevitably there is some wastage. According to FAO food waste figures, one third of the food produced today is thrown away. This equals roughly 1.3 billion tons a year globally. Food is lost after harvest, it is wasted along the distribution and consumption chain and food is thrown away by consumers. Besides the economic costs amounting to 750 billion \$US in 2007 the amount of water being squandered with this food was calculated as 250 km³, almost three times the volume of Lake Geneva, or the annual water discharge of the Volga River. Figures show, that in developing countries, most of the food gets lost at post-harvest and processing level, while in industrialised countries most gets lost at retail and consumer level.

The European and North American consumer waste between 95 - 115 kg per person a year. This is compared to consumers in sub-Saharan Africa, south and southeastern Asia throwing away 6 - 11 kg a year. this level of waste is alarming given that the World Food Programme estimates that 795 million people in the world do not have enough food to lead a healthy life. In addition, the world population is growing and thus there is a need to feed these additional earth-dwellers.

Home Economists in their work in academia, in education and training, in family services or as advocates are committed to help reduce food waste and implement supportive projects and programmes. Action is also needed at the political level. For example, Home Economists can influence European regulations and standards in order to revise the aesthetic requirements for fruit and vegetables. Supermarkets can sell “misshaped” items for a reduced price at the same time helping raise consumers’ awareness that odd-shaped does not equate with “bad”. Consumption habits need to be modified not only for what consumers understand about the condition of food but also the quantity. Thus, restaurants and food chains should offer smaller portions as options.

Home Economics Education especially in the subject food security and sustainable consumption discusses how food waste can be reduced. For example, in private households, functional refrigerators and effective use of leftovers are two high impact strategies. There is opportunity to rework products that are still safe and suitable for consumption but have been rejected by retailers. Cities and local governments should be efficient and effective in how they recycle food waste. For example, rather than merely disposing of such waste in landfills, it can be at least a resource for producing compost, fertiliser and biogas.

Target 6.5

Activities of private households have global transboundary implications. SDG 6.5 is focused on integrated water resources management becoming implemented at all levels, including through transboundary cooperation as appropriate, by 2030.

The concept of virtual water describes the volume of water required to produce a particular product. Virtual water is the water embedded in products and used in the production process of goods that people consume, be it for example food, textiles, furniture, household equipment or cars. The embodies the idea of water flow that occurs, often in hidden ways while consumer products are traded from one location to another.

Just to give some examples: to produce 1kg of beef costs 15,400 litres, 1kg cheese 3,178 litres, 1kg tomatoes 214 litres, 1kg maize 1,122 litres, 1 kg of rice 2,497 litres, 1 cup of coffee 132 litres, 1 glass of tea 27 litres, 1 cotton shirt 2,495 litres. The amounts of water used to produce a car range from 52,000 to 400,000 litres. Half of the virtual water of Germany's water footprint is imported and most of it comes with agricultural products from Brazil and Ivory Coast, influencing the water situation there.

Managing and minimising global water problems requires a reconsideration of personal consumption patterns. Use of calculators that are available on the internet can be used to inform consumers about the water footprint of the products that they purchase including food, textiles or luxury goods.

A second aspect of water use across boundaries is not the movement of water per se but the water used when people move. To spend vacations abroad is another global or transboundary dimension of water consumption. Many tourists from industrialised water-rich countries spend holidays abroad often in warmer, tropical locations. The available hotel pools or local beaches are often situated in water-stressed areas. Water consumption in Mallorca, a popular tourist destination by tourists can be directly correlates with the level of tourism development and the dominant tourism activities. Water consumption ranges between less than 100 litres per person and per day in rural areas compared to more than 400 litres in tourist centers. A golf course needs 2,000 m³ of water a day which is equivalent to the water consumption of a town with 8,000 inhabitants (Ruhr-University of Bochum).

In the 1990s tourism led to the lowering of the groundwater level and sea water infiltrated the drinking water resources. In a location where fresh water is scarce, tourism and water-intensive recreational activities such as golf contribute to local and regional water shortages (Ruhr-University of Bochum). How will this affect the local population in the long term is yet to be fully determined, however, it hints at a miscalculation of real costs, where benefits are privatised but costs are externalised.

Even less water intensive sports and enjoyment in water scarce countries will put some pressure on the local water situation. For instance, Egypt is a desert country with over 80 million inhabitants. Rain only falls along the coast at typically at about 200 millimeters of precipitation per year. In reality, most of the population depends almost entirely on the Nile as their source of water. In 2010 Egypt 14.7 million tourists were recorded.

Thus assuming a tourist uses 121 litres of water a day (an average of consumption per person per day in Germany then) and they only stay one day, this would draw 1,778.7 million litres from the available water. Thus, tourism poses a huge water burden on countries such as Egypt.

IFHE demands awareness building and more transparency for consumers related to water use and water scarcity in the local and regional context. Home Economics education will contribute to enable families to save water as much as possible.

Target 6.6

This target aims to “protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes by 2020”. It makes very clear, that water can only be preserved and protected, if this task is seen as part of wider environment protection. Forests are important for the water cycle, so it is of utmost importance to protect them by decreasing the use of wood for cooking in dry areas and spread alternative and renewable energy sources for household cooking. Where forests have been cut, reforestation, planting trees, where ever possible help to positively influence the climate and the water regeneration.

a) The Green Belt Movement in Kenya, as an example, was created around the conviction, that Kenya’s water towers need to be preserved through the preservation of the forests. Planting trees around the mountains has revitalised dozens of dried up springs, while providing the women with income, wood, fruit, and an education in ecosystem dynamics. The founder of the Green Belt Movement, biologist Prof. Wangari MAATHAI, was awarded the 2004 Peace Nobel Prize for her and the women she worked with.

b) In India watershed protection is receiving tremendous support for its multiple benefits and is a second example of how protecting the natural environment also contributes to water conservation. Watershed protection improves the livelihoods of the rural poor in much of dryland India. It also helps those living downstream through, regular water flows, flood mitigation and reduction in sediment flow for hydropower generation as well as municipal water supplies.

IFHE calls on governments and communities to strengthen their activities to protect and restore water-related ecosystems. Sustainable farming methods are very important in order to protect rivers and groundwater from pesticide residues and excess nitrates, which can emanate from chemical fertilisers and farmyard manure. Training of sustainable farming methods in Home Economics and agricultural extension work must be part and parcel of the curriculum.

Target 6.a

The IFHE and its members around the world will work to build bridges between professionals and activists for knowledge sharing and support and in doing so will contribute to Target 6.a. By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

Target 6.b

Based on Home Economics competences and skills professionals can contribute actively to this target: support and strengthen the participation of local communities in improving water and sanitation management. They can be part of local community activities, should guide and support participation in identifying the problems and the tasks, should see that local communities are part of the planning and decision-making process as well as the review and reporting activities. Home Economists advocate for the necessity of including private households as water consumers into the municipal planning processes of water and wastewater management.

Recommendations and Closure

IFHE, its members and Home Economics experts as scientists, educators and trainers, professionals working in ministries, public services, working institutions and associations that are involved in family services and households and as advocates support actively the aims and targets of the SDG 6. They advocate for:

- The availability of safe drinking water for human beings in households all over the world and lobby UN organisations to deal with water as a core issue of their mandate and allocate more core funding to water.
- The necessity of adequate sanitation including handwashing facilities, toilets that guarantee privacy especially for women and girls, at home and in public places.
- Home Economics education to improve the household hygiene in order to keep water safe.
- Creating alliances in campaigns to avoid plastic bags for shopping and thus decreasing the problem of polluting waterbodies with plastics.
- Enabling people to change their handling of medicine, to inform themselves about the content of plastic micro particles in households and personal hygiene products and reduce respectively avoid products accordingly.

- Informing stakeholders worldwide about the possibilities of rain water harvesting, water reuse and increasing the efficiency by repairing water leakages.
- Home Economics Education worldwide to enable individuals, families and communities to reduce food waste and thus water waste. individuals, families and communities to consider the water footprint of consumption products and make more sustainable choices. Developers and tourists to consider how their activities impact on the availability of water for the local population and food production in holiday destinations. Where water is scarce in tourist destinations regulations on water consumption should be devised and implemented.

IFHE, having consultative status with the United Nations (ECOSOC, FAO, UNESCO) will use its status to:

- address concerns that hamper progress in achieving SDG 6 and call for nothing less than a full-scale water-cultural revolution within the UN and its member states.
- insist that appropriate indicators are being applied for measuring drinking water that is safe and that indicators for hygiene are being integrated into the monitoring system of SDG 6.
- urge WHO, UNICEF and UN Habitat to ensure that the global regression in access to drinking water and sanitation in urban areas is better reported.
- help that WHO will endorse water, sanitation and hygiene as preventive medicine (primary prevention) thus breaking the vicious cycle of disease and malnutrition.

The main author of this chapter is Prof. Dr. Ursula EID, a member of the United Nation Secretary General's Advisory Board on Water and Sanitation (UNSGAB), its Co-Chair from its inception in 2004 and its Chair during its final phase until 2015.

Selected Resources:

The UNSGAB Journey. United Nations Secretary-General's Advisory Board on Water and Sanitation (2004-2015), New York, 18. November 2015 see:
<https://sustainabledevelopment.un.org/content/documents/8701unsgab-journey-web.pdf>

Figures on Water and Sanitation from 2015 see:

<http://www.greenbeltmovement.org/what-we-do/tree-planting-for-watersheds>
<http://edugreen.teri.res.in/explore/forestry/chipko.htm>

http://www.wssinfo.org/fileadmin/user_upload/resources/JMP-Update-report-2015_English.pdf and report wash_low.pdf

http://www.water-energy-food.org/en/whats_the_nexus/messages_policy_recommendations.html

<http://www.unwomen.org/en/news/stories/2014/3/collecting-and-carrying-water-burdensome-reality-for-women#sthash.Z7Xzbay4.dpuf>

UN Resolution on Human Right to Water and Sanitation, see:
http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/64/292

http://www.who.int/water_sanitation_health/publications/2012/globalcosts.pdf

<http://www.worldbank.org/en/news/press-release/2013/04/19/wb-confronts-us-260-billion-a-year-in-global-economic-losses-from-lack-of-sanitation>

<http://www.susana.org/en/about/sustainable-sanitation>

UN Water, Sanitation Drive to 2015. Planner's Guide. Big or small - sanitation for all. New York 2015, see:
<http://www.mondesign.net/public/UNICEF/PlannersGuide-V4b.pdf>

<http://waterfootprint.org/en/>

Sustainable Tourism:
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