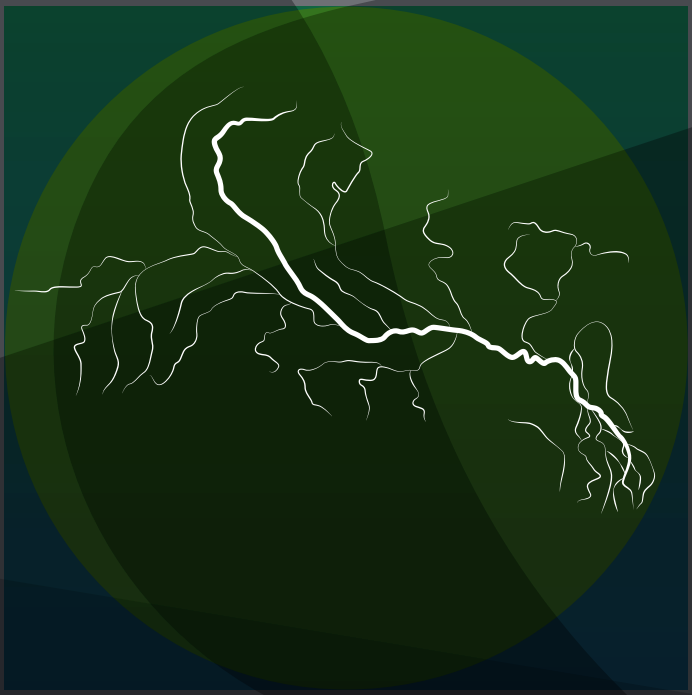
INDIA-EU WATER PARTNERSHIP

EUROPEAN INNOVATION PARNERSHIP ON WATER

INDIA



EIP Water
Boosting opportunities – Innovating water

The European Innovation Partnership on Water - EIP Water in short - is an initiative within the EU 2020 Innovation Union. The EIP Water facilitates the development of innovative solutions to address major European and global water challenges. At the same time, the EIP Water supports the creation of market opportunities for these innovations, both inside and outside of Europe.

You can find following Projects, Organisations, and Products & Services on the EIP Water Marketplace (www.eip-water.eu):

1. Projects:

- **Poverty Reduction of Desert Communities in the Dry Lands of Western Rajasthan through Integrated community Based Water Resource Management :**
  http://www.eip-water.eu/projects/poverty-reduction-desert-communities-dry-lands-western-rajasthan-through-integrated

The main objective of the action is to contribute to Millennium Development Goals on Poverty Eradication (MDG 1) and Environmental Sustainability (MDG 7) as well as to India's Eleventh Five Year Plan goals on expanding development opportunities for the disadvantaged.

- **Improving sustainable livelihoods and health status through integrated management of water resources in north Bihar:**
  http://www.eip-water.eu/projects/improving-sustainable-livelihoods-and-health-status-through-integrated-management-water

The main objective of the action is to contribute to improved livelihoods and health status of poor and marginalized communities living in flood-prone areas of north Bihar through the management of available water resources in an integrated, sustainable and ecologically relevant manner, with appropriate support of the state.

- **Integrated water management for poverty reduction and sustainable development amongst marginalized communities in Bundelkhand (Madhya Pradesh), Bihar and Jharkhand:**
  http://www.eip-water.eu/projects/integrated-water-management-poverty-reduction-and-sustainable-development-amongst

The main objective of the action is to to contribute to poverty reduction through integrated water management (MDGs 1 and 7) in selected states of India and to complement Government policies (National Water Policy) and programmes.

- **Community-based Sustainable Groundwater Management through Social Regulations and Local Governance (SuGWM):**
  http://www.eip-water.eu/projects/community-based-sustainable-groundwater-management-through-social-regulations-and-local

The over-all objective of the project is to ensure equitable and sustained access to water for the wellbeing and livelihoods of all people of selected Gram Panchayats of rural Andhra Pradesh, India.

More specifically, the objectives of the action are to achieve equitable and secure access to water for drinking, sanitation and domestic needs at affordable costs for all households, to achieve equitable and sustainable access to groundwater to small and marginal farmers through sharing of resources and socially regulated demand management of the resource and to institutionalize social regulations at Gram Panchayat level that governs the allocation, use and management of water for the different purposes.

- **IIWQ Series of Technical and Policy Case Studies - 11. A critical evaluation of selected Persistent Inorganic and Organic Pollutants in the hydrological system: A case study on Keoladeo National Park (KNP), a UNESCO World Heritage Site in India:**
  http://www.eip-water.eu/projects/iiwq-series-technical-and-policy-case-studies-11-critical-evaluation-selected-persistent

This work focuses on the Keoladeo National Park and its catchment areas, including satellite wetlands, which are at an increased risk of receiving toxic metals and pesticide residues. It critically analyzes the available information to generate databases on select toxic metals and organochlorine and organo-phosphorus pesticide residues, in and around the KNP, comprising the watershed area of the Banganga and Gambhir Rivers. Ultimately, it provides information on the potential persistent pollutants in hydrosphere (sources and occurrences), and contributes to the understanding on human and ecological implications in and around the UNESCO world heritage site in India.

- **IIWQ Series of Technical and Policy Case Studies - 8. Appropriate policy solutions for removal and control of emergent contaminants (ECs) in the solid residual remaining after sewage treatment– a blind spot in wastewater research and policy analysis: A cr :**
  http://www.eip-water.eu/projects/iiwq-series-technical-and-policy-case-studies-8-appropriate-policy-solutions-removal-and

This work identifies effective policy tools to reduce risks to human and environmental health caused by pollutants in sewage sludge in Mumbai, India. Furthermore, it carries out policy

analyses of existing regulations, guidelines and policies with a focus on tools and outcomes, and identifies characteristics of effective policy

- **Maharashtra Cotton Water Platform Launched:**
  http://www.eip-water.eu/projects/maharashtra-cotton-water-platform-launched

2030 Water Resources Group

2030 WRG recently launched the Maharashtra Cotton Water Platform to enhance and de-risk the livelihoods of more than 500,000 cotton farmers by delivering coordinated solutions for sustainable agricultural practices and water security in the Marathwada and Vidharba regions of Maharashtra. The platform addresses the present situation by convening key representatives of the government, private sector and civil society. The initiative seeks to integrate government schemes, on-farm technology and leverage market resources through the Public Private Partnership for Integrated Agricultural Development (PPP-IAD) framework, making cotton production more sustainable and enabling cotton farmers to be a part of the global sustainability initiatives in cotton.

- **Water4India:**
  http://www.eip-water.eu/projects/water4india

Fresh water of sufficient quality for human consumption is becoming a scarce resource and its availability is a concerning issue in India whose growing wealth and population create increasing needs leading to higher water consumption while quality standards for drinking water are being enhanced. In this context the overall objective of Water4India consists in studying the different centralized and decentralized options for water treatment at community level in India taking into account resource availability, management, treatment solutions, water quality, economic, environmental and social factors.

Water monitoring is of capital importance at each step of the process: different technologies will be considered in the frame of a Water Safety Plan. A Decision Support System (DSS) will be developed based on the previously stated information to assess policy makers take the appropriate decisions to solve the existing problem with drinking water. Water4India will deliver two forms of water availability assessment: the quality and quantity of available water and the resource management with information on current and expected water requirements.

- **ECO-India:**
  http://www.eip-water.eu/projects/eco-india

The overall aim of ECO-India is to design and develop innovative cost-effective solutions for community- based water- and wastewater- treatment systems. These systems will be deployed at pilot sites in arsenic-affected water-stressed regions in India.

- **Shree Cement on actions to reduce its negative impact on local water resources:**
  http://www.eip-water.eu/projects/shree-cement-actions-reduce-its-negative-impact-local-water-resources

Shree Cement, established in 1985, is among the largest manufacturers of cement in India (around 14 million tons of production capacity per year). Being concerned about its high impact on the environment, the company has challenged itself to substantially lessen its negative effect through innovation and efficiency in each stage of its cement production. As it operates in an already water-scarce area (India), one of the main pillars of the company's sustainability strategy is to reduce its water consumption.

- **PepsiCo' "WaterCredit" Initiave:**
  http://www.eip-water.eu/projects/pepsico-watercredit-initiave

PepsiCo is a world leader in snack, food and beverage markets. It is committed to achieving business and financial success while leaving a positive imprint on society (which it calls "Performance with Purpose") by addressing social and environmental issues. As an intensive water consumer in its operations, the company is aware of potential water-related risks for its business. Through its WaterCredit scheme, PepsiCo provides grants and microcredit loans for water and sanitation projects in developing countries. This initiative is being developed through a partnership with a non-profit organisation (Water.org) that acts as a link with local communities in India and the PepsiCo Foundation. Core elements of the initiative include delivery of safe water systems, access to improved sanitation, health and hygiene education, establishing a revolving loan fund of more than US$1 million for water and sanitation projects, and facilitating the growth of a commercial market for microcredit loans for water and sanitation. The partnership with Water.org will not only provide safe water for people living in India, but will also create a sustainable and scalable model to accelerate access to safe water and sanitation for hundreds of millions of people throughout the developing world.

- **PepsiCo action for safe water initiatives for developing countries:**
  http://www.eip-water.eu/projects/pepsico-action-safe-water-initiatives-developing-countries

PepsiCo runs a number of safe water initiatives, including:

- providing village water systems in Ghana (which is being expanded to West Africa)
- providing community-level safe water solutions in Rajasthan and Andhra Pradesh in India;
- supporting the development and launch of a micro-enterprise water kiosk model in rural Bangladesh;
- Developing rainwater harvesting systems in India.

This work is part of a three-year partnership with Safe Water Network, a non-profit organization. Each project is being pursued through a "stage-gate" process in which pledged funding and resources are committed based on achieving project milestones each year.

- **PepsiCo initiative to engage in community development as part of their responsible response for water consumption:**
  http://www.eip-water.eu/projects/pepsico-initiative-engage-community-development-part-their-responsible-response-water

PepsiCo is a world leader in snack, food and beverage markets. It is committed to achieving business and financial success while leaving a positive imprint on society (which it calls "Performance with Purpose") by addressing social and environmental issues. As an intensive water consumer in its operations, the company is aware of potential water-related risks for its business. PepsiCo is engaging in community development in areas where it consumes a large share of water resources. In 2008, the company launched a partnership with the Earth Institute and H2O Africa to improve access to water, sanitation and irrigation to local communities in Brazil, China, India and Africa. It donated US$8 million and internal managerial advice for the process. These two initiatives are part of the company's ongoing support of the Millennium Development Goals.

- **Reduce water consumption within business direct operations and supply chain:**
  http://www.eip-water.eu/projects/reduce-water-consumption-within-business-direct-operations-and-supply-chain

Cadbury is the one of the world's biggest confectionery companies. It operates in over 60 countries and works with around 35,000 direct and indirect suppliers. Cadbury used approximately 9 million tonnes of water in 2007. Its water strategy in 2007 was to ensure that all its sites have reduction programmes in place. However, the Asia-Pacific region is leading activity in this area and is helping to inform wider development, with the adoption of the target of water neutrality at manufacturing sites, through careful water management including reducing water use as well as capturing and treating wastewater for reuse. As part of its sustainability efforts (included in the vision for the year 2020, Purple Goes Green) the company developed energy- and water-saving toolkits which it distributed throughout its business operations and suppliers. These toolkits covered a variety of sustainability issues, giving practical advice on ways to improve management practices.

- **Coca Cola Co. Initiative for aquifer recharge at Hindustan Beverages:**
  http://www.eip-water.eu/projects/coca-cola-co-initiative-aquifer-recharge-hindustan-beverages

In India, TCCC's efforts to replenish groundwater are focused on the creation of rainwater harvesting structures, construction of check dams, restoration of ponds and traditional water bodies, and projects that help improve water-use efficiency in agriculture, such as drip irrigation. At the end of 2010, the company had installed more than 400 rainwater harvesting structures spread across 22 states. These structures have been installed in partnership with resident welfare associations, market welfare associations, educational institutions, industry associations, NGOs and local communities.

ALOK Industries ' optimised water consumption in the textile sector in India: http://www.eip-water.eu/projects/alok-industries-optimised-water-consumption-textile-sector-india

In order to reduce pressures on the freshwater environment, ALOK Industries Ltd has taken measures (Reducing chemical consumption by using canal water, rainwater harvesting, water saving by recovery of condensate). In the dyeing process, where chemical effluents can despoil the quality of the water, ALOK uses eco-friendly dyes. It also makes certain that the post-dyeing effluent water is suitably treated in one of Asia's largest effluent treatment plants before being released back into the environment as 'near potable' water. To reduce the depletion of groundwater usage, ALOK has installed reverse osmosis units at its plants. These recover fresh water from the treated water. Simultaneously, steam condensate recovery ensures that groundwater depletion is further reduced. ALOK also harvests rainwater at all its plants to ensure that the groundwater used in production is replenished.

- **ECO-India, Energy-efficient, community-based water- and wastewater-treatment systems for deployment in India:**
  http://www.eip-water.eu/projects/eco-india-energy-efficient-community-based-water-and-wastewater-treatment-systems

As the population of India continues to expand, the country' water resources become increasingly strained. Heavy pollution from open sewers is common place in urban areas and arsenic contamination of groundwater continues to threaten the health and well-being of local communities. India is defined as a 'water stressed' country and innovative methods to provide cost-effective water treatment to communities are a crucial requirement if growing populations are to be sustainable. The overall aim of ECO-India is to design and develop innovative cost-effective solutions for community-based water and wastewater treatment systems. These systems will be deployed at pilot sites in arsenic-affected water-stressed regions in India.

- **Water scarcity: Reduction of NRW in Rajkot, India:**
  http://www.eip-water.eu/projects/water-scarcity-reduction-nrw-rajkot-india

In 2013 Leif Koch joined a pilot project in Rajkot, India in collaboration with DHI and Grundfos. The goal was to improve and stabilize the water supply to the consumers in the area. Drinking water in this area is a scarce resource; therefore efficient distribution of water is very important. Leif Koch was responsible for leakage detection on the supply network. We dealt with household installations including installation of household meters, ball-type valves, automatic closing devices on the house tanks, control points in the main trunks, and meters within the pipes. Additionally, we trained staff so they could check the valves and perform other relevant procedures. The conclusion was that the total water use could be lowered substantially as a result of effective leakage detection and repairing.

- **3D mapping of groundwater resources:**
  http://www.eip-water.eu/projects/3d-mapping-groundwater-resources

World-wide the groundwater resources are becoming increasingly important as a source for drinking water supply and irrigation of farm fields. The airborne SkyTEM system developed at Aarhus University has been a key player for mapping the groundwater beneath the soils in Denmark. Now, a team of researchers from Aarhus University is on its way to India to work on groundwater mapping with Indian collaboration partners and the World Bank.

Once the project has mapped the groundwater reservoirs in India, the population and the authorities will have the necessary information to help manage the water resources without destroying them in the long term.

- **FAO - Macrocatchment Water Harvesting - Case study 1: "Sunken streambed structure":**
  http://www.eip-water.eu/projects/fao-macrocatchment-water-harvesting-case-study-1-sunken-streambed-structure

Dohs are rectangular excavations in seasonal streambeds, which are intended to capture and hold runoff to enhance groundwater recharge, thus increasing water for irrigation from nearby shallow wells. They also collect and impound subsurface flow. Dohs are built in semi-arid areas where rainfall is low and seasonal.

The excavated material is deposited along the stream banks as a barrier against siltation from surrounding areas. The slopes of the excavation are gentle so that water flows into it, and excess water out again, carrying silt rather than depositing it. The sides however are steep, to increase capacity – and would benefit from stone pitching to stabilise them. A silt trap comprising a line of loose boulders is constructed upstream across the streambed.

The technology is used in conjunction with shallow wells (odees), which enable farmers to harvest the increased groundwater for supplementary irrigation of annual crops – including vegetables such as chilli peppers. Water is pumped out of the wells.

- **SHUSHUK:**
  http://www.eip-water.eu/projects/shushuk

In every India and European river system serious conflicts are either already originating or shall become a potential threat from the available water resources which are not enough to sustain all the needs that exist for drinking water, agriculture (irrigation), fishery and industrial production. Not only is the quantity of the resource limited compared to the needs, but also the quality.

The main sources of pollution are agricultural runoff, untreated/partially treated wastewater from industries and urban sewage which have greatly degraded the water quality. With the modelling tools, SWAT hydrological model in this case, it is possible to estimate nutrient and sediment loads and to quantify the effects on water quality of downstream river reaches

and/or reservoirs, including the identification of pollution sources along with the required source apportionment that is needed to rank critical areas.

- **Greentech:** http://www.eip-water.eu/projects/greentech

In India, the availability of water for irrigation and industry is crucial due to the fact that its economy is agriculture based and the India's industry is growing at a rapid pace. Further, the purification of contaminated water and further re-use may lighten the predicted shortage of water. In this way, water purification is of major importance to promote India as a self-sustained country and to alleviate poverty. In this context, reclaimed water appears as a promising water source in a country like India with regional disproportion between natural sources and water demand. Water purification processes need to follow the green chemistry principles in order to be sustainable and to promote a sustainable water management. This project aims at starting a new cooperation between different higher education organisations in Indian and in Europe in the area of water related research and to support advance research in the area of green chemistry and technology applied to water purification.

- **AQUATEST:** http://www.eip-water.eu/projects/aquatest

The goal of this project is to build a strong scientific cooperation between different European nations and India to address this vital issue of 'Water' (water security). Wastewaters from urban communities, small scale industries, organic waste from farms, agricultural runoff, and rain storm waters containing faecal and chemical pollutants lead to plankton and macrophyte blooms in surface waters in rural and the urban-rural interfaces. Such microbial contamination of water resources can have a huge socio-economic impact. Hence, a fast, robust, reliable and cost-efficient system for the detection of waterborne pathogens is required for the management of the scarce drinking water resources. On-site testing capabilities would allow an earlier detection of potential disease agents, as well as a more precise identification of the origin of the possible microbial contaminations.

The second objective is the research towards light-activated, nanoparticle-based decontamination approaches, which could complement the variety of decontamination methods especially for small volume/mobile setups.

- **NaWaTech - Natural water systems and treatment technologies to cope with water shortages in urbanized areas in India:** http://www.eip-water.eu/projects/nawatech-natural-water-systems-and-treatment-technologies-cope-water-shortages-urbanized

The project NaWaTech aims at maximising the exploitation of natural and compact technical systems and processes for the effective management of municipal water resources, of water supply and sanitation services, and of the municipal water cycle as a whole in urbanised areas of India.

- **Water4Crops - Integrating bio-treated wastewater with enhanced water use efficiency to support the Green Economy in EU and India":** http://www.eip-water.eu/projects/water4crops-integrating-bio-treated-wastewater-enhanced-water-use-efficiency-support-green

Water4Crops provides a combination of technical improvements in the field of bio-treatment and agricultural water use within a transdisciplinary identification of novel agri-business opportunities. Water4Crops aims at: a) developing innovative biotechnological wastewater treatments for improved water recycling, b) initiating the co-creation of alternative combinations of bio-treatment, recycling of high value elements, and combinations for bioproducts leading to a better commercialization of biotechnology and agricultural products in Europe and India, c)improving water use efficiency at field level through agronomics, plant breeding and locally adapted new irrigation technologies and accurate crop water requirement measurements techniques.

- **SWINGS:** http://www.eip-water.eu/projects/swings

SWINGS project ("Safeguarding Water Resources in India with Green and Sustainable Technologies") started in September 2012 due to the interest of implementing integrated and optimized solutions for wastewater reuse in different areas of India.

A consortium of 10 partners from Europe and 11 partners from India, consisting of R&D, companies, SME, NGO and local body organisations with complementary expertises to improve the water reuse and sanitation in developing regions in India using low cost, easy to adopt, sustainable and zero discharge methodology based on biological and natural systems.

- **Supporting consolidation, replication and up-scaling of sustainable wastewater treatment and reuse technologies for India (SARASWATI):** http://www.eip-water.eu/projects/supporting-consolidation-replication-and-scaling-sustainable-wastewater-treatment-and-reuse

The poor condition of sanitation and wastewater management in India is well documented and has recently led the Asian Development Bank to call for a revolution in wastewater management across Asia. Innovative, decentralised systems aiming at various benefits are needed. A main benefit in the context of SARASWATI is the reuse of treated wastewater for different purposes. Other benefits include reuse of energy and nutrients, which are also important. Despite the overall poor condition of wastewater treatment across South Asia, India has already considerable experience with such decentralised approaches. Over the last decade, hundreds of decentralised wastewater treatment plants of different technology types have been installed all over India.

However, not all are functioning well and several also failed, due to various reasons. Also, there is no consolidated evaluation and review of all those existing plants available. As a result there is only very limited knowledge on the performance of those existing technologies available.

SARASWATI will perform such a comprehensive and independent evaluation and hence provide key suggestions for the improvement of existing technologies. In addition, SARASWATI aims at deploying selected proven EU technologies with a potential for solving grave water challenges in India.

2. Organisations:

- **AUTARCON:** http://www.eip-water.eu/organisations/autarcon

Our vision is to develop, produce, and implement robust water treatment technologies that can be applied in regions where access to energy, operating supplies and maintenance personnel is limited. In fact most of our units successfully run in remote developing regions, such as in the Western Desert of Egypt, in Mountains of Lao or in tribal Areas of central India. Here they can generate income possibilities.

- **VERTECH-GROUP:** http://www.eip-water.eu/organisations/vertech-group

Vertech-Group (VER) is a French research intensive SME that focuses its business on providing advanced environmental and sustainable solutions for different sectors such as water management and treatment, industry and energy efficiency. Vertech Group is specialized in sustainability assessments of novel technologies and innovative materials and is a National and European expert on the application of LCAs and LCCs to several industrial sectors, such as water treatment, secondary raw materials recovery & recycling, energy efficiency at industrial level, etc. VER is member of the French Life Cycle Assessment Platform (Avnir). VER currently contributes in seven R&D projects, framed in FP7 and H2020 programmes. For instance, we can mention the project Water4India.

- **VODNÍ ZDROJE a.s.:** http://www.eip-water.eu/organisations/vodn%C3%AD-zdroje

Profile: Organization VODNÍ ZDROJE a.s. evolved from the large enterprise founded in 1957. It follows-up many years lasting successful tradition in building and servicing groundwater resources, water management and remediation, land use management and natural hazards assessments. VODNÍ ZDROJE company (Water Resources Company) is SME, which realizes wide range of hydrogeological, geophysical, ecological, geological and engineering works, form small scale projects to large regional and international actions. VZ keeps the analytical laboratory, a well equipped workplace providing complex services in chemical analysis of environmental elements. The laboratory owes the certificate of Czech Inspection of Environment, the ASLAB certificate and ISO 9002.

- **ACCIONA AGUA, S.A.U.:** http://www.eip-water.eu/organisations/acciona-agua-sau

ACCIONA Agua is a leader in the water treatment sector with the ability to design, construct and operate drinking water treatment plants, residual purification plants, tertiary treatment plants for re-use and reverse-osmosis desalination plants. ACCIONA Agua is committed to innovation and the application of the latest technologies, together with ensuring water quality in the different areas of activity.

- **POWER ELECTRONICS:** http://www.eip-water.eu/organisations/power-electronics

POWER ELECTRONICS is a Spanish multinational company specialized in the manufacturing of low and medium voltage variable speed drives and soft starters. POWER ELECTRONICS provides potable water to more than 100 Million people worldwide, working with national and international leading companies in the sector.

- **HYDRO INDUSTRIES:** http://www.eip-water.eu/organisations/hydro-indsutries

The company has been actively growing for the past 5 years since its conception in 2011. Core technology revolves around electrochemical coagulation. The technology is used globally for a range of applications. These include the removal of heavy metals, colloidial suspension, oil seperation and the reduction in COD and BOD. The technology uses unique electrode dosing treatment to neutralise particle charges so that they attract each other and grow (coagulation), allowing them to be easily filtered. Hydro already has a precence in India working on drinking water projects in addition to trialing its technology succesfully in the ETP and STP industrial sectors.

- **EUROPEAN BUSINESS AND TECHNOLOGY CENTRE:** http://www.eip-water.eu/organisations/european-business-and-technology-centre

European Business and Technology Centre (EBTC) is a programme co-funded by the European Union (EU) and implemented by EUROCHAMBRES. EBTC promotes EU clean technologies in India by utilising existing networks, initiatives, partners, and institutions both in Europe and India. EBTC is a conduit for EU-India business and research cooperation, particularly for SMEs

3. Products and Services:

- **Water treatment plants, wastewater treatment plants, desalination plants and services:** http://www.eip-water.eu/products-and-services/water-treatment-plants-wastewater-treatment-plants-desalination-plants-and

ACCIONA Agua is the ACCIONA business division responsible for managing the complete water cycle to serve end users in areas ranging from water collection and water purification —including desalination— to wastewater treatment and return to the environment. Thanks to the innovation in the design, implemation and operation of the treatment plants, the company is a leader with the global solutions which contribute to

sustainable development in the water industry. Acciona agua's strategy is to maintain its presence in the complete water cycle, construction, operation and services - both in Spain and in international markets. Today Acciona agua serves the supply needs of a total population of more than 70 million people in 20 countries accross the world. In 2014 it had backlog valued at 9.4 billion euros and a turnover of 409 million euros.

- **UNESCO/IHE - Benchmarking water and sanitation services:**
  http://www.eip-water.eu/products-and-services/unescoihe-benchmarking-water-and-sanitation-services

Services provision to the urban poor requires dedicated leadership, pro-poor technology and financial instruments, adequately capacitated and incentivized organisations and tailor-made institutional arrangements. Benchmarking is a proven tool to compare performance and to learn from those who do better, and could well be used to assist stakeholders tasked with providing the poor. However, conventional tools are not tailored for this specific use.

The PROBE project has developed a new benchmarking tool to address this deficiency. Based on the work of about 15 MSc students over the past 5 years, the project has conceptualized, developed and successfully tested a pro-poor benchmarking framework with a total of 13 indicators.

- **UNESCO/IHE - Fluoride removal family filter:**
  http://www.eip-water.eu/products-and-services/unescoihe-fluoride-removal-family-filter

Millions of people in Africa, Asia, Europe, America and Australia are exposed every day to high fluoride levels in drinking water. Long-term exposure to elevated fluoride concentration in drinking water is responsible for dental and skeletal fluorosis, and increased incidence of cancer and other diseases. The UNESCO-IHE fluoride removal family filter, based on a modified locally available low-cost adsorbent, has been demonstrated to effectively remove fluoride from drinking water. The filter is simple to operate, does not require electricity and can be produced locally.