

The impact of SODIS projects



No one questions the fact that consumption of contaminated drinking water can lead to diarrhoea. The treatment of drinking water can improve people's health. Indeed, the correlations are, however, not always so clear in practice. Diarrhoeal pathogens are transmitted not only through water, but also via dirty hands or food. It is therefore important to determine to what extent our projects actually lead to a health improvement among the population. Researchers at several universities are currently conducting studies on this topic.

Health study in Togo

Monika Tobler, Project Manager Togo

Ana Assiou lives with her family in the small village of Awandjelo in northern Togo. In 2008, she was trained in the use of the SODIS method and has ever since been a keen user. The hygienic conditions in her village are precarious. Hardly anybody owns a latrine and the water sources are heavily polluted. It is therefore important for her that her 3-year old son should drink only treated water.

Nationwide studies

Ana's family is one of 520 families that took part this year in a large-scale health study conducted by Eawag, the Swiss Federal Institute of Aquatic Science and Technology. The study aimed to examine whether the health of the population was improved by the SODIS project. The quality of the conducted training was also assessed. The researchers questioned the families on various topics such as age and health of their children or origin of their water. They collected data on the educational profile of the parents, their financial situation and

hygienic conditions. Microbiological tests were conducted to analyse the water quality in the household. Finally, they asked questions related to the households' knowledge of the SODIS method, whether and how they apply the method, and on the number of bottles they use.

Less diarrhoea thanks to clean water

The researchers used statistical methods to examine the influence of these factors on the health of children. They focused mainly on diarrhoea, as this disease is directly related to the consumption of contaminated water. The analysis clearly revealed that treatment of drinking water with the SODIS method improved the health of children. Their rate of illness due to diarrhoea was significantly lower than that of neighbouring children who drank untreated water. However, other factors also influence diarrhoeal diseases, such as the child's age or use of a public toilet by the families. Older children

are less affected by diarrhoea due to their stronger immune system. Public toilets contribute to the spreading of infections by diarrhoeal pathogens, as they usually lack handwashing facilities. Despite these influences, treatment of drinking water proved to be the most important factor in diarrhoea prevention.

The SODIS project – a success story

Ana and her family have long since been aware of their improved health thanks to the SODIS method. For them neither a study nor statistics are necessary to prove this fact. The data obtained is nevertheless very valuable, as it confirms scientifically that the project could achieve a positive effect on the health of a broad segment of the population.



A social scientist interviewing a woman in Bagb-Kpenji, a village in southern Togo.

Towards a greater commitment by the government of India

Samuel Luzi, Project manager India

India is the country with the highest annual number of deaths from diarrhoea worldwide. Nonetheless, compared to other Asian countries, public health programmes pay little attention to water treatment at the point of use. While the private sector successfully sells high-tech water treatment equipment to wealthy families, less sophisticated and cheaper water treatment methods remain largely unknown to the poorest population.

SODIS projects in Delhi, Tamil Nadu, West Bengal, and Assam contribute to raising the awareness about the importance of clean drinking water and sanitation, and to anchoring the practice of drinking water treatment at the point of consumption.

Our partner organisations in India are committed to integrating SODIS and similar technologies increasingly in government strategies and programmes: In West Bengal, the information material of SODIS projects carry the logo of the Ministry of Health, in Tamil Nadu, promotional activities are being conducted in collaboration with various government agencies, and in Delhi, a planning consortium with key national stakeholders will soon be created. As part of a new dynamic

development in the fight against diarrhoea in India, we expect that the awareness raising activities and active cooperation with the government will rapidly spread the household water treatment practices beyond the various project areas.



The health authority supported and hosted the SODIS workshop in West Bengal.

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The Nyalenda A slum in Kenya is characterised by a lack of infrastructure and poor hygienic conditions. The critical water supply is a major challenge for the slum dwellers. Private owners, who sell the water at exorbitant prices, control the public water outlets. Moreover, the water sold to the slum dwellers is frequently contaminated and therefore unsuitable for direct consumption. Our water kiosk project thus contributes to solving these problems.

Women groups improve the drinking water situation

Regula Meierhofer, Project Manager Kenya

The Nyalenda slum A is located in the city of Kisumu in western Kenya. To combat the rampant diarrhoea in the slum, we educate the slum dwellers not only in the SODIS method, but also in improved hygiene practices.

Since the SODIS method can be applied without major investments, it is often met with great interest. Nonetheless, the promoters need to follow up regularly until the trained families change their behaviour and practice systematically both drinking water disinfection and hand washing with soap. To form this habit, the promoters regularly visit the households for about a year. More than 21 000 families in the Nyalenda slum have been trained so far.

Last year we were able to integrate women and youth groups in SODIS promotional activities. Jointly with the groups, SODIS promoters develop solutions to improve the health situation. The group members then inform their neighbours, family members and friends about the SODIS method.

To secure access to PET bottles, the women groups collect used bottles from local hotels and sell them to SODIS users in the slum. However, during project evaluation, we discovered that the profit generated by the women groups is relatively small compared to the effort required to ensure a supply of PET bottles. We therefore supported four groups of women in the construction of water kiosks. In the water kiosks, women now sell water, empty PET bottles and hygiene products, such as soap and detergent.

The women also inform their customers about drinking water disinfection options and suggest hygiene improvements at household level. With the sale of additional products, the women can achieve a significant income that allows them to perform this activity also on a longer term and to steadily improve the health of the Nyalenda slum dwellers.



The women group Wamalanda is the proud owner of this water kiosk. The women advise the residents of the Nyalenda slum and sell water, PET bottles and hygiene products.



School project launched in Bolivia

We are training 40 Bolivian schools in the field of water and sanitation within the framework of the „Escuela con Agua Segura“ (School with Safe Water) project. In the current project phase, the schools learn how to treat their own water with the SODIS method or with chlorine. A handbook, which we specifically developed for schools, assists them in this task.

Students in Torreni in the mountains of Tiquipaya discuss the SODIS method.



Improved physical development

The prestigious Royal College of Surgeons in Ireland, which has been investigating the SODIS method for many years, has recently presented its latest results. Scientists examined the impact of SODIS training courses on the health of Kenyan children aged between 6 months and 5 years. They also considered for the first time the effect of the SODIS method on the growth of children. The study revealed that children consuming exclusively SODIS-treated drinking water were not only less affected by diarrhoea, but also physically more developed than children of a control group who drank untreated water. The results obtained confirm the long-term positive impact of SODIS projects on children's health.

Children in the Kibera slum in Kenya learn how to use the SODIS method in school.



The efforts to develop a SODIS bag continue

As we previously reported, a pilot version of the SODIS bag has been tested in Bolivia, DR Congo, Nepal, Nicaragua, and Kenya. Based on these experiences an improved version is now being produced with the purpose of facilitating future interventions in disaster situations. The prototypes will be field tested in Haiti later this year, in cooperation with local organizations.

SODIS-user in Nepal testing the SODIS bag.

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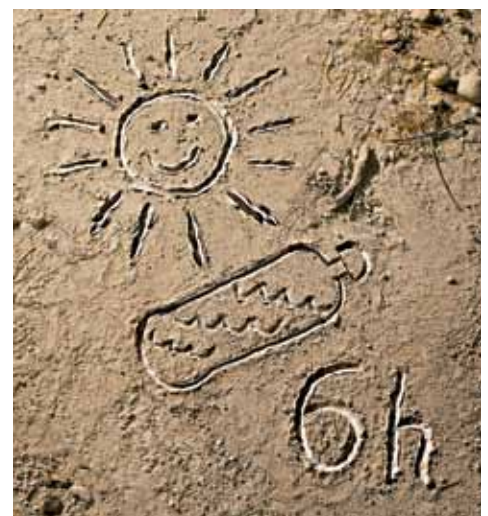
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