



Europe's Sanitation Problem

Sustainable, Affordable and Safe Sanitation for citizens in the European Union – impossible?

Discussion Paper WECF

Women in Europe for a Common Future

The following document has been elaborated by a group of experts, based on a seminar on sustainable sanitation in the EU in Brussels on 29th January 2008. The purpose of the document is to point out problems relating to sustainable, safe and affordable sanitation in Europe, as well as posing a number of questions for debate. The document will be spread in preparation for, and used at a seminar during the World Water Week in Stockholm August 19, 2008 entitled "Europe's Sanitation Problem" organised by **WECF** in collaboration with **Global Water Partnership CEE, Coalition Clean Baltic, Earth Forever Bulgaria, Euroteleorman Romania, Creative Slovakia** and **TUHH Germany**.



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1. Lack of data on access to safe sanitation

According to an assessment carried out by the organisers of the seminar, 20-30 million European citizens lack access to safe sanitation. Many people have only access to pit latrines, soakaways or non-functioning flush toilets and sewage systems, sometimes the only option is open defecation. If the EU would aim to reach the Millennium Development Goal on Environment (MDG-7) within its own borders, – namely halving the amount of persons who do not have access to safe sanitation by 2015 compared to 2000 –, then it would need to install circa 1000 toilets per day. Rural areas in some of the 12 new European Member states show worrying examples of methemaglobinemia (blue baby disease), hepatitis-A and other diseases caused by a lack of hygiene as well as pollution of groundwater and surfacewater by animal dung and human excreta. However, knowledge and data about this precarious health and hygiene situation is not widely available.

Q: How can we collect and present data on households, schools, medical points and other public institutions in the EU that do currently not have access to safe hygienic sanitation?

Q: Are Water Safety Plans a methodology to be applied?

2. Closing the loop as a way towards sustainable sanitation

The principles of sustainable sanitation include the key aspect of closing the loop. One way to achieve the recycling

of nutrients from sanitation systems to agricultural land is to use sewage sludge and treated effluents from wastewater treatment plants as fertilisers, which is common practice in many EU countries. However, in conventional wastewater treatment, all wastewater sources are mixed i.e. recyclable fertilisers together with toxic chemicals. In countries such as Sweden, Germany and the Netherlands water agencies are testing source separating toilets as a way of improving quality of the sewage sludge and surface water.

Whereas some member states are testing these new wastewater and sanitation systems, a large share of EU funds goes to construction of conventional waste water treatment plants. Examples of oversized, inefficient and costly waste-water plants in Latvia, Poland, Bulgaria and Romania are worrying, not only because of their inefficiency, but also because they do not address improved sanitation for rural areas and for those populations who are currently most in need. In particular, settlements with a population lower than 2000 are not covered by the EC Urban Wastewater Treatment Directive 91/271/.

Another method for closing the loop is to construct decentralised systems for single households or small settlements designed to collect separated waste-water fractions such as urine, faeces, blackwater and greywater. These products are valuable resources in agriculture as fertiliser and for irrigation. The nutrients from 30 persons are sufficient to fertilise one hectare of agricultural land. If all 20 million Europeans who lack adequate sanitation today, were provided with source separating systems collecting urine and faeces, more than

600 000 hectares could be fertilised. With rising prices for agricultural products, fertilisers of this type will be more and more in demand.

Of particular significance is the recovery and reuse of phosphorous (P), a non-renewable resource. Sweden has a national goal to recycle 60% of P in wastewater, and half of this to arable land. This is a good example of a national policy on reuse of nutrients. In addition to nutrient recovery, sustainable sanitation technologies support water-saving by applying low-flush or even zero-flush toilets and reuse of greywater. Separation systems which prevent pollution at source, thus allowing low-cost treatment for reuse in agriculture, and are of special interest to Member States affected by water scarcity and/or high nutrient loads in surface waters.

Sustainable sanitation technologies exist in a wide range, from low to high tech. The low tech solutions are available at low cost, and therefore affordable also in lowincome rural areas of new Member States.

The WHO has issued guidelines for the safe reuse of human excreta in agriculture that are applicable on a global level, and should be the basis for European wide guidelines.

Q: How can targets, policies and guidelines be developed for planning and implementation of sustainable and affordable wastewater and sanitation infrastructure in the European Union?

Q: How can existing European funds such as rural development funds and cohesion funds be used to promote safe, affordable and sustainable sanitation methods in the EU?

Q: Can the WHO guidelines on safe reuse of excreta and waste water be transposed into EU regulation?

3. Policy framework for sustainable sanitation systems

There is a lack of policy and regulation supporting the development of decentralised, sustainable, affordable

and safe sanitation systems. Two examples are presented below: Solid research and implementation has shown that urine is a quick-acting fertiliser. Research in Sweden shows that compared to mineral fertiliser, urine is the superior option.

The cadmium levels in urine are up to ten times lower than in mineral fertilisers. The first step required towards reuse of wastewater nutrients is to promote its use in conventional farming. Unfortunately in Germany and other EU member states, urine is not certified as fertiliser, and thus not applicable in agriculture other than with exceptional approval. Safe reuse of urine in agriculture and gardening could contribute to poverty reduction and increased food production within the EU. Many organic farmers are interested in access to nutrient rich fertilisers from source separating toilet systems. This is not allowed according to EU Council regulation (EC) No 834/2007 of 28 June 2007 on organic production and labelling of organic products.

Another example from Romania shows that dry sanitation systems need to be located at least 10 meters from the a private home or a public building. At the same time modern affordable decentralised sanitation systems exist which can be safely used near home or even indoors. Toilets located far from home are a burden for women, children and elderly persons in climates with cold winters.

Q: To what extent are present EC directives a barrier to the reuse of nutrients from wastewater and source separated excreta in agriculture?

Q: How can national legislation be adjusted to allow for the development of new technologies decentralised, sustainable sanitation systems?

4. Market potential for entrepreneurs and construction in the sanitation sector

There is a large market potential for entrepreneurs in the sanitation sector, which would stimulate business opportunities and rural development. 1000 toilets per day until 2015 constitutes a substantial economic volume. Entrepreneurship includes construction, handling of excreta, recirculation and reuse. Agricultural companies are potential entrepreneurs in this sector, as well as sanitation experts, installation and construction experts. Innovative, sustainable sanitation systems need to be promoted and incentives need to be created in the same way as is being done for renewable energy systems.

Q: How can market introduction of innovative, resource-efficient sanitation and wastewater technologies be promoted?

Q: What steps need to be taken to insure high quality implementation of sustainable sanitation systems, independent evaluation of technologies and support to consumers?



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