

1.65 Ecological Engineering: Sustainable Solutions for Management of Household Waste and Wastewater

NOTING that Ecological Engineering, also called Ecotechnology, may present sound solutions on pollution problems with a long-term sustainable perspective;

RECOGNIZING the worldwide need for long-term sustainable solutions for management of wastewater and waste from households in rural and urban settlements;

RECOGNIZING also that there are other areas of human environmental impact where development of long-term sustainable approaches are needed;

RECOGNIZING also the importance of public participation to develop widespread understanding and popular support for the use of long-term sustainable approaches, such as ecological engineering, to solve pollution problems;

AWARE of the need to find solutions to avoid pollution problems from household wastewater, such as eutrophication and bacterial pollution of ground water, river systems, lakes and seas; and realizing that certain pollution problems come primarily from untreated or inadequately treated sewage;

ALSO AWARE that water is a scarce resource in many parts of the world, and seeing the importance of developing and implementing water-saving systems to reduce the amount of domestic wastewater;

CONSCIOUS that 75–90 per cent of the total content of nitrogen, phosphorus and potassium from human excrement is found in urine, and that this may make it a good nutrient source to be used as fertilizer;

RECALLING Chapter 17 of Agenda 21 on protection of the oceans, all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources, Chapter 18 of Agenda 21 on protection of the quality and supply of freshwater resources: application of integrated approaches to the development, management and use of water resources, and Chapter 21 of Agenda 21 on environmentally sound management of solid wastes and sewage-related issues;

ACKNOWLEDGING the sustainable approach of ecological engineering systems for the treatment of wastewater that may employ natural treatment systems, such as constructed wetlands, in creating solutions for treatment of household waste and wastewater, and that may use source separation, such as urine-sorting/separating toilet systems, and direct recycling of nutrient resources to agricultural land;

ALSO ACKNOWLEDGING that the use of ecological engineering systems will be an important component in the development of an approach to reach the sustainability goals of Agenda 21;

AWARE of the importance of developing and creating long-term sustainable systems for treatment of wastewater, and that ecological engineering solutions are important parts of such development, and that conventional solutions/technologies for wastewater treatment may be improved considerably by involving ecological engineering;

RECOGNIZING that the development of systems in rural and urban areas for treatment of household waste and wastewater, such as ecological engineering systems, should be an important area for IUCN;

NOTING the need for the development and application of technologies, such as dry systems without use or minimized use of water, for direct recycling of nutrient resources from household waste and wastewater to agricultural land;

The World Conservation Congress at its 1st Session in Montreal, Canada, 14–23 October 1996:

1. CALLS UPON all States, national and international funding institutions, non-governmental organizations and the business community to give consideration to increase the use of effective ecologically oriented solutions for wastewater treatment, such as use of natural treatment systems in recycling, and specifically:
 - a) to allocate funding resources for demonstration projects using sustainable ecological engineering solutions to control household waste and wastewater pollution;
 - b) to encourage the use of experts and consultants on ecological engineering in the planning process and for feasibility studies to solve household waste and wastewater pollution problems in a sound way;

- c) to always encourage the study of ecological engineering systems as alternatives to or in conjunction with conventional wastewater treatment systems when studying solutions for treatment and management of household waste and wastewater;
2. ALSO CALLS UPON IUCN members actively to support the use and development of ecological engineering approaches to create environmentally sound solutions for treatment of household waste and wastewater, and specifically:
- a) to promote the practical uses of these approaches;
 - b) to incorporate ecological engineering approaches for the long-term sustainable management of wastes into relevant IUCN projects and related initiatives.

Note. This Recommendation was adopted by consensus. The delegation of the State member Australia indicated that had there been a vote the delegation would have abstained. The delegation of the State member Netherlands stated that the Netherlands recognized the importance of the subject of this Recommendation, but considered that it touched the Mission of IUCN only indirectly and its implementation would imply additional work for IUCN.