

Sustainable Waste Management

Improving ecological, social and economic aspects of waste management

The challenge

Raw materials are becoming scarcer and energy more expensive, and all around the world, pollution of soil, air and water is on the rise. Day by day, the problems of waste are escalating because of changing consumption patterns, industrial development and urbanisation. Traditional systems of waste disposal are no longer appropriate.

In Europe, recycling systems to produce materials or energy from waste products have now become well established. In many developing and emerging countries however, the waste management systems in use are still inadequate, unsustainable and unable to cope with the most pressing challenges. Especially on the peripheries of urban centres, it is common practice to dispose of rubbish in unsafe landfills and illegal dumps, or directly in rivers and sewers. Local authorities are often unable to introduce integrated waste management systems due to the associated high costs. Very few models are capable of financing themselves while operating effectively.

Sustainable waste management and recycling systems aim to reduce the quantity of natural resources consumed by ensuring that any resources already taken from nature are reused many times and that the amount of residual waste produced is kept to a minimum and treated in an environmentally safe way. The processing of waste plays a key part in this.

Our approach

The Federal Ministry for Economic Cooperation and Development (BMZ) commissioned GIZ for the development of concepts for a sustainable solid waste management in developing countries and emerging economies. The advisory project builds on the results of finalised and on-going programmes. It analyses the

experiences gained through German and international development cooperation and takes into consideration the ecological, social and economic aspects of waste management. GIZ encourages close cooperation with national and international private-sector actors for knowledge transfer, networking, the provision of training and the development of strategies. The project acts as source of know-how, as an intermediary and as an advisor.

Central topics are the following three areas:

1. Sustainable operator models

The project analyses the management, monitoring and payment of services provided in different parts of the world in an extensive study. The results of this analysis not only provide a wide overview of different operator models in solid waste management and deeply analysed case studies in a *sourcebook*. The project also developed a *guidance paper* based on the observations, experiences and suggestions of experts and practitioners, to make it easier for decision makers to choose the most appropriate, efficient and sustainable operator model for their respective situations.

Additionally, during the research and analysis, *benchmark indicators for sustainable waste management* were developed further, based on first steps made by UN-Habitat and in cooperation with the experts involved in this study. The results have been presented in several conferences and publications.

2. Economic instruments

Waste management causes high costs to local or national administrations. To reduce or to cover them in an effective and socially acceptable manner, for instance by charging fees, it is important to first establish cost transparency. Based on these figures the financial gap can be assessed and the need for additional sources of income to cover the full costs can be clarified. The project is



Collection systems in
Mozambique, Benin and
Bulgaria

developing aids for decision making related to cost-recovering mechanisms. It is also promoting the use of economic incentives to stimulate the avoidance or recycling of waste. Examples of this include product levies, deposit systems or quantity-based waste disposal fees. Three case studies are elaborated and analyse different economic instruments in use in Mozambique, Bulgaria and the Philippines.

The advisory project is developing concepts based on experiences around the world, and is testing their application in a pilot project in India.

3. Waste management and other sectors

The potential of linking the approaches of waste management to other sectors and areas of work is known, but still remains only a theory. For example, programmes for basic sanitation or urban development rarely carry out additional measures for improving the management of waste services. Peripheral areas with illegal settlements are particularly affected. They have inadequate or no access to all urban infrastructure and services, constraining employment and income opportunities of the population, and therefore increasing further segregation of the poor to unserved areas.

By looking at combining waste management with other areas of intervention, synergies between sectors can be identified and exploited. The advisory project is developing concepts based on technically and logistically cost-effective solutions drawn from around the world, and is testing their application in a pilot project in Benin.

The pilot projects

The advisory project is committed to test the developed concepts and approaches in at least two pilot projects. After benchmarking different projects of GIZ and other organizations, analysing the advantages and disadvantages of implementing new activities, and checking cooperation will and capacity, the project decided to focus on two pilot activities, one in the field of economic instruments in India and the other on combining basic sanitation with waste treatment in Benin.

Economic instruments in India

In cooperation with GIZ IGEP Programme (Indo-German Environmental Partnership Programme) the advisory project has initiated a pilot study in one municipality of Andhra Pradesh. The objective of the study is to evaluate the applicability of economic instruments for achieving cost recovery and financial sustainability in municipal solid waste management. Appropriate additional cost recovering options are identified and presented to the decision makers. Together with the government of Andhra Pradesh the findings of the study have been turned into a training programme for municipal governments. Goals of the training are raising awareness for and providing hands-on advice and tools to improve the financial situation of municipal solid waste management. The incorporation of this training into the regular training programme for civil servants shows that the local government is aware of the importance of this issue.

Synergies between basic sanitation and waste management in Benin

Together with GIZ PEP (Water and Sanitation Programme, fr. Programme Eau potable et Assainissement) in Benin, the advisory project decided to implement a pilot activity in Lokossa, a city with a population of around 77,000 inhabitants and located in south-western Benin. The pilot project includes the construction of several ecosan latrines for semi-community use and a composting site, the provision of a waste collection truck, the collection of organic solid waste from the central market and wastes from the latrines, and the combined treatment of excreta and organic waste for the production of compost, complemented with trainings, awareness raising campaigns and monitoring activities. The cooperation with the Municipality of Lokossa, and the implementation through active organizations in the region (Protos, DCAM Bethesda and GI-Mono) and a local coordinator could be identified as success factors: they facilitated a participatory process and a strong ownership. The Municipality will take over the project in March 2014 and be in charge of the further project support.

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