

Science for Environment Policy

Odour and environmental concerns of communities near waste disposal facilities

A recent study has investigated how waste disposal sites in southern Italy have affected residents living nearby. Villagers reported being annoyed by odours, but the perceptions of residents living in the village closest to the facilities were possibly influenced by receiving financial compensation for the presence of the facilities.

Public opinion of waste management facilities can influence where sites are located and how waste management services are delivered. Obtaining the support of communities around municipal solid waste (MSW) facilities is an important part of the successful operation of these services. One common complaint from local communities concerns unpleasant smells emitted from waste disposal facilities, such as from landfill sites.

To understand how living close to a [waste](#) disposal facility affects peoples' perceptions of odours and local pollution, this study questioned residents in four villages located near a cluster of waste disposal sites in southern Italy. Two sanitary landfill sites (designed to isolate the waste from the environment) were constructed in the 1990s and a refuse derived fuel (RDF) plant (where MSW is shredded and dehydrated to recover materials for fuel) was built in 2001. All facilities were closed in 2008.

Residents were questioned in 2003, when the facilities were operating, and again in 2009, when they had closed, about their perception of and attitudes towards pollution and odours in the local area. They were also questioned about their awareness of the waste facilities in the area. One of the study's key findings was the possible impact of financial compensation on local residents' views of waste disposal facilities. For example, comparatively fewer people in the nearest village to the facilities thought that the waste sites were damaging to the local environment. This may be surprising as it could be expected that, given their proximity to the sites, they would be more aware of the facilities and their possible impacts. However, residents of this village had received financial compensation for potential environmental impacts from the waste facilities and the researchers suggest that this possibly changed the residents' views. The compensation was provided by the Italian Campania region and included money from the Italian Ministry of the Environment.

Nonetheless, the results indicate that the closure of the facilities had a greater impact on villages closest to facilities than villages further away. Residents in all four villages reported being less annoyed by the perception of smells in the air after the facilities had closed, but this was particularly so for the two villages closest to the sites, whereas earlier, in 2003, residents in all villages thought the intensity of the odours had increased in the previous two years. In addition, most respondents could clearly identify the type of smell (e.g. 'rotten eggs') in 2003, but in 2009, more residents were unsure how to describe the smell. This suggests the odours were weaker and therefore more difficult to describe and this effect was especially noticeable in the two villages closest to the facilities.

After closure of the sites, residents were less concerned about the long-term health effects of odours, and about the waste disposal facilities deteriorating the local environment. Older residents were more aware of the changes in odour levels after the opening and closing of the sites and also more concerned about environmental pollution and the health impacts of emitted odours. In 2009, after years of media coverage on waste disposal problems in the area, residents' knowledge about waste disposal had increased, but detailed awareness of the particular types and operation of the facilities had not increased to the same extent.

The study concluded that, when new MSW facilities are installed in future, it is important that residents are informed and consulted about the processes involved in these facilities, as well as the need to provide essential infrastructure to the surrounding areas. Otherwise, residents may oppose the new facility, possibly resulting in protest and conflict.



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