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LitusGo Manual

Module 14

**Community annoyance 2:
Odour, light, thermal,
electromagnetic, aesthetic
and air pollution.**



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Preface to the LitusGo Education Manual

The LitusGo Manual is part of the LitusGo educational package which is included in the LitusGo portal: www.litusgo.eu. LitusGo aims at the training and capacity building of Local Authorities and local stakeholders in Integrated Coastal Zone Management issues and the reaction to the impacts of climate change.

This Manual consists of 20 autonomous, self-contained and inter-related modules. The modules are available in four languages, Greek, English, Maltese and Turkish and in three different forms: the dedicated wiki application in the LitusGo portal, the dvd and the hard copy version. This hard copy version of the LitusGo Manual consists of 20 self-contained booklets, one for each module, kept in a hard collective case.

List of modules of the LitusGo Educational Manual

- Module 1: European legal framework
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- Module 19: Energy use, consumption and management
- Module 20: Green buildings

Credits

The LitusGo Education Manual has been developed by the LitusGo Educational Manual Working group:

Modules 1, 2, 6, 7, 8, 9, 12, 13, 14, 16, 17, 18, 19 have been prepared by the scientific team of the beneficiary/coordinators ISOTECH Ltd. Major authors: Michael I. Loizides, Chemical/Environmental Engineer and Xenia I. Loizidou, Civil/Coastal Engineer. Constantinos Georgiades (MSc in ICZM) is responsible for the overall editing. The hard copy of the educational Manual is designed by Anastasia Georgiou.

Modules 3, 4, 5, 10, 11, 15, 20 have been prepared by the scientific team of the Sustainable Aegean Programme of ELLINIKI ETAIRIA - Society for the Environment and Cultural Heritage. Major authors: Georgia Kikou, Geographer, MSc Environment (Manager of the Sustainable Aegean Programme), Alexandros Moutaftsis, Economist, MSc Environment, Leonidas Economakis, Political Sciences, MA International Development.

Dr Alan Pickaver on behalf of partner The Coastal & Marine Union (EUCC) was responsible for the quality control of the educational material.

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www.egaio.gr

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Malta:

Municipality of Kirkop www.kirkop.gov.mt

The Netherlands:

EUCC – The Coastal & Marine Union www.eucc.net

Module 14
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Odour, light, thermal, electromagnetic, aesthetic
and air pollution

1| Theoretical background

The term community annoyance is defined as the sum of all the parameters that are negatively affecting the quality of life of a community's residents by interfering in the microclimate of their living area. It includes everything that can be unpleasant to the human senses and is mainly: noise, odour, light, thermal, electromagnetic, aesthetic and air pollution. The parameters of community annoyance do not necessarily have a direct negative effect on human health. They can be just disturbing.

Noise pollution is presented separately in module 13 and is therefore excluded from this module.

All people at one point, even for a short period of their lives, have faced one activity that disturbed them and ruined their mood or took away the enjoyment of a pleasant time. Despite that, local-national particularities and priorities have deprived the European Union's competent bodies of the potential of determining a common legislation that would define even the basic principles of managing community annoyance (assessment through to problem solving) in the EU member states. As a result, most Member States are dealing with community annoyance at a national level with the assessment

of such complaints being conducted primarily by the local authorities. Most of the Member States' legislation, and specifically in the Municipalities Act, includes provisions for community annoyance and for possible intervention of both the municipality and the police where such complaints are reported against activities by third parties. In many cases (e.g. Cyprus and Greece) both the assessment methodology and target limits are not clearly defined. These remain at the discretion of each local authority to propose and impose.

This lack of competency of several EU member states to identify, assess and solve community annoyance incidents has led to disturbance questions reaching the European Court of Human Rights after all legal means in the individual countries have failed. For most of those cases, the direct connection of community annoyance with the violation of a number of provisions of the Charter of Human Rights was identified [4].

2| Objective

As the density of population is increasing, especially in big cities, the free space of each resident becomes more and more limited. For the purpose of this module, “personal free space” is defined as the space in which each citizen may act freely, without interfering within the neighbour’s personal space and annoy him/her. Therefore any conflicts concerning community annoyance incidents are expected to happen more frequently and with more intensity as the population density increases.

There is a significant gap in the “acquis communautaire” regarding the subject of community annoyance. Even though it is an issue that affects the majority of European citizens, the European Union has been unable to find a common ground between the Member States in order to establish even the simplest guidelines. It remains at the discretion of each local authority to handle problems that may arise between citizens. However, usually local authorities, especially the small ones, do not have the necessary infrastructure and manpower, nor the training to handle such complaints. In limited cases of northern Member States, national legislation was formed to address some community annoyance parameters (e.g. odours in Sweden).

LitusGo with this informational module is making an effort to support the Local Authorities with their preparation and skill’s development in order to efficiently confront such matters of community annoyance or at least to be knowledgeable of the presence of such problems, the way they interfere with the quality

of life of their citizens and how those problems could have been properly identified, assessed and resolved.

3| Problem

For each person, his/her residence is a private space that should at least provide him/her the possibility of relaxation. Any external intervention in this important microclimate can disturb the human senses and the peace of mind and therefore the basic use of space for rest and relaxation. The following examples represent such external interventions:

Light pollution: Is there something I can do for the security lights that illuminate the perimeter of my neighbour's house and dazzle me each night when I sit on my porch to relax?

Odour pollution: the smell that comes from the chimney of the local tavern very often reaches my house and disturbs me while I am eating. Also, all of my clothes and house smell like grilled skewers. How do I approach this issue in order to find a solution?

Air pollution: I have to leave my house with my asthmatic child each time my neighbour decides to spray each of the dozen different types of trees he has in his yard with insecticides. All the poisonous sprays are directed into my house by the wind. What can be done?

Thermal pollution (comfort index): My neighbour's central air conditioning system emits exhaust heat to my child's window which

we constantly keep open during the hot summer time due to the permanent problem of asthma. How much heat is my neighbour entitled to emit in my house?

Electromagnetic pollution: A GSM transmitting antenna has been placed on the opposite building and it faces my house. How much of the electromagnetic field's interference should I tolerate in my house given the presence of my newborn child and what can I do about it?

Aesthetic pollution: My neighbour has a compulsion for gathering scrap metal in his yard creating an ugliness that embarrasses me to invite my friends over. In addition, he decided to paint his house pink. Is he entitled to do whatever he wants in his property?

The above examples are some of the everyday community annoyance problems of the European citizens that the local authorities are called to face. What are the procedures to effectively deal with such problems? What methodologies and instruments are there? Is there enough manpower to sufficiently solve such cases of community annoyance?

Below you may find an attempt to answer these questions briefly and provide examples of successful interventions.

4| How to deal with the problem

This section briefly provides the available methods for dealing with community annoyance complaints and also on how to measure each parameter separately (these parameters are difficult to measure and quantify).

Education/Training:

It is important that Local Authorities organise structured training programs, with on-the-job training, for their employees and local engineers who can develop the required skills and be able to control the community annoyance of their area.

Campaigns:

Local Authorities should organise awareness campaigns on the parameters of community annoyance, how they can affect the life quality of the citizens, what can citizens do to ensure their good life quality and how the person responsible for the annoyance can take action to minimize it. Such campaigns help the citizens understand the relatively new and quite unknown problem of community annoyance, their rights and become aware of the existing possible solutions.

Method of approaching the problems of odour, light, thermal, electromagnetic, aesthetic and air pollution:

- **Method of comparison:** One of the most common approaches that could be applied to all community annoyance parameters is the comparative method: what is the state-level-intensity of the potential annoyance parameter (for example odour) in a resident/receiver, before the examination with the external intervention and after its presence. The term “external intervention” can be for example the odour (smell) coming from the kitchen of a restaurant. This smell “intervenes” in the state of smell of the area as an “added odour annoyance”. The question is how we measure the levels of odour. This is described in the next paragraph. With this comparative method we can determine the net contribution-intervention of the smells from the kitchen of a restaurant to the level of odour in the area. The net contribution of the exogenous source (the smells from the kitchen of the restaurant in our example), can be assessed whether it is an annoyance problem or not, by using a level database (usually international).
- **Specify the level-limit of nuisance:** This method is much simpler than the first one and a more common method of approaching the matter of community annoyance. It sets a specific level-limit for each parameter which is tolerable and not intrusive for the average person. Beyond this limit, any external source of emission is considered as disturbing.

How to measure the community annoyance parameters:

It is important to know that each of the community annoyance parameters can be measured, quantified and documented so that Local Authorities can take actions based on scientific data. The most common types of community annoyance complaints concern citizens-receivers who are disturbed from an external annoyance source on a regular basis. In this section are presented the common examples for each nuisance parameter. Information is provided on how to measure each parameter.

Light pollution: measured using a photometer. The results can be presented in units: i) in Candela and Impetigo to measure the intensity of light radiation, ii) in lumen for measuring luminous flow, iii) in lux as a measure of brightness.



Image 1. Example of a simple photometer by Pro-Lite Technology

Thermal pollution: measurements are carried out with the use of an instrument with simultaneous measurement and analysis of humidity, temperature, wind direction and intensity, for automatic extraction of the thermal comfort index.



Image 2. Example of the «Heat Stress» instrument by P.T Has Environmental.

Odour pollution: the olfactometric procedure uses the olfactometer. In cases of air pollution, the samples of the expected chemical substance are taken and measured with the appropriate instrument. For example, for chemical sprays, a gas chromatographer is being used. If it is a paint sample then a flame ionization detector is being used.



Image 3. Example of the olfactometric set-up by Odotech.

Electromagnetic radiation: there are international standards to be followed depending on the emitter and the receiver (schools, workplaces, hospitals and infants, etc.). Usually, the measuring unit is W/m^2 .



Image 4. Example of the electromagnetic field meter by Narda.

Aesthetic pollution: although there is no formal structured and institutionalized process of measuring its quantity, some general principles in each country allow the Local Authorities to interfere both in public and within private spaces. For more information see the relevant informational module by LitusGo for landscape conservation.

Cases of exception:

Community annoyance cannot be justified when the source of annoyance is not regular. For example, an outdoor concert, which is announced and organized by the local authority for the purposes of, for example, the annual cultural week, where cooking grills are set in the area creating odour and strong lights are used, can hardly be denounced as a disturbing case of odour or light pollution and therefore nobody should expect the police to interfere. However, in

cases where the space is frequently used for such intrusive events are excluded and the neighbouring region is entitled to suggest mitigation actions to the local authority.

Conclusion: Involvement of citizens/stakeholders – Role of Local Authorities.

It is important to have a complaint by a citizen in order for a case of community annoyance to proceed for investigation by the Authorities. This requires that the citizens are aware of their rights and of the harm that community annoyance parameters, the most important of which are described in this module and in module 13 (noise pollution), can cause to their health. Local Authorities have an important role to play, as it is described above: they must organise and support well structured information and awareness raising campaigns among the citizens and promote public participation in several levels of the effort to combat community annoyance in urban areas.

References/useful information:

E-Sources:

1. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:042:0038:0044:EN:PDF>
2. <http://staff.washington.edu/rneitzel/standards.htm>
3. http://www.europarl.europa.eu/charter/pdf/text_el.pdf



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