## Health in EIA

The EIA Directive (2014/52/EU) was transposed into UK law in 2017, introducing population and human health into the roster of environmental topics to assess in EIAs, presenting us with the challenge of: ‘how can we improve consideration of human health in EIA to satisfy the new requirements?’ Currently, health is often ‘scoped out’ of EIA, deferring consideration of health to aspects of other technical assessments, or as a stand-alone HIA. This article looks at how human health is currently dealt with in EIA using examples from two technical topics, Air Quality (AQ) and Land Contamination (LC), and how it could be considered more robustly.

In AQ, standards and objectives are fundamentally set for the protection of human health. For fine particulates with a diameter below 10 microns (PM$_{10}$) concentrations, two 
**EU standards** have been set in relation to the impact that the length of exposure will have on human health: a short-term, 24-hour limit capped at 50 µg/m$^3$, and a long-term, annual average at 40 µg/m$^3$.

Importantly, a report suggests a 1 µg/m$^3$ reduction in fine particulate air pollution in England over the next 18 years could prevent c.50,900 coronary heart disease cases, 16,500 strokes, 9,300 asthma cases and 4,200 lung cancers.

However, if 28,000-36,000 deaths annually are attributed to long-term exposure to man-made air pollution, should the assessment of AQ-related human health go even further, such as looking more closely at site-suitability, especially for residential schemes?

LC assessments also considered human health before it became a requirement. Indeed, the ‘Source-Pathway-Receptor’ (SPR) model used is highly valued due to the receptor (human, fauna/flora or environment) being the direct focus. The SPR approach relies on understanding of the pathway(s) along which contaminants travel to arrive at the receptor(s), as well as the impact of different contaminants on receptors. The types and vulnerability of the receptors can therefore be determined, strongly influencing the assessment and driving the stringency of the screening process. For instance, if there is potential for contaminants to come into contact with children’s playgrounds, this will require a more rigorous assessment than if the same contaminants were to be present within landscaping around industrial estates.

While AQ does not differentiate between receptors, it does take a ‘worst-case’ approach, using the thresholds of the most vulnerable population as representatives.
For example, the annual average standards applicable to hospitals, schools and care homes also apply to all residential locations. Whilst the impact to human health is embedded in AQ and LC assessments, the effect of these health determinants is not transparent but only implied through the standards set (a proxy), driven by public health evidence. By identifying specific receptors, LC presents a more focused platform from which effects can be more accurately derived. However, all technical assessments need to address this gap.

The study of impacts on human health within these two technical assessments is currently taken from a physical stance. There is an opportunity for technical specialists to expand their scope to include the effect they will have on mental health and wellbeing. AQ assessments could explore (e.g.) the effect of dust on anxiety. A gap in the consideration of mental health and wellbeing also lies above the level of technical assessments; learning from HIAs, there is an opportunity to assess the potential impact from a proposed development as a whole, i.e. how will it impact on community cohesion, social justice, indices for mental health etc. HIAs also consider the cumulative effect(s) on health from other technical topics.

In conclusion, there are three key areas in which the assessment of human health in EIA needs to be developed:

1. Translate the impact of health determinants into the effect this will have on health; there is an opportunity for technical specialists to take on this role for their respective topics.
2. Bring together impacts from the technical topics in combination for an overall health and wellbeing perspective.
3. Include other holistic health impacts, such as those concerning mental health and wellbeing and community cohesion.

The latter two deliverables could be addressed in a separate ‘Health and Wellbeing’ EIA Report chapter.

Human health is already considered to a large extent in EIAs and the specific requirement to include it should not be viewed as challenging but seen as an opportunity to improve EIA practice and the extent that EIA can positively influence proposed developments through effective design building in appropriate mitigation, responding to health concerns raised in consultation, and supporting broader policy aspirations towards improved environmental quality.

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