Day of General Discussion on Children's Rights and the Environment

Submission of Kinderrechtencoalitie (Belgium)

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Key Message:
Action to protect children in environmental policy should be prioritized by States and the business sector, because children have the right to make a healthy start in life. The concept **'childnorm'** is an instrument to continuously improve the quality of life of children. Policy with a direct or indirect effect on the safety and health of children and product- and environmental standards should be based on the **perspective of children** in order to prevent damage to their developing bodies.

Introduction

Children have the right to life, good living conditions, health etc. Not only social, economic, financial and social factors ensure that these rights may be exercised but also environmental factors play an important role. The right to play cannot be fully guaranteed if there are no clean and safe places to play and the right to health cannot be guaranteed if the environment is polluted. Each year around three million children under the age of five die due to environment-related diseases.[1]

There is a rising concern about the influence of environmental contamination on our health via air (indoor and outdoor), food, drinking water and the hazardous components in consumer products. Children are a vulnerable group because the impact of pollutants and unsafe products on their development and health is much higher than it is on adult persons. Based on the precautionary principle, the Kinderrechtencoalitie[2] en Gezinsbond[3] propose to introduce a 'childnorm', introducing a horizontal policy approach which takes into account the vulnerability of children. In accordance to this thought, product- and environmental standards should be based on children in order to prevent damage to their developing bodies.

To develop the concept of the 'childnorm', the Flemish League of Families initiated and coordinates the informal interdisciplinary network Childproof.[4] This network consist of Non-Governmental Organisations (NGO's), scientists and doctors with the aim the protect the health of children. For the time-being, their work is focused on two environmental and health themes: air quality and endocrine disrupting chemicals (EDC's) and have developed positions based in scientific literature on European and Belgian policy and legislative initiatives.

Action to protect children in environmental policy should be prioritised because children have the right to make a healthy start in life.

Emerging environmental risks

Air pollution

According to the World Health Organisation (WHO), air pollution is a major environmental risk to health. It says that by reducing air pollution levels, countries can reduce the burden of disease from stroke, heart disease, lung cancer, and both chronic and acute respiratory diseases, including asthma.[5] Ambient (outdoor air pollution) in both cities and rural areas was estimated to cause 3.7

[1] http://www.who.int/ceh/en/
[2] Kinderrechtencoalitie is the Flemish child rights coalition. It currently consists of 28 ngo's and is (together with the French speaking child rights coalition CODE) responsible for the alternative report about the implementation of the UNCRC in Belgium. www.kinderrechtencoalitie.be
[3] Gezinsbond (Flemish League of Families) and a pluralistic organization representing 275.000 families in Brussels and Flanders.
[4] https://www.gezinsbond.be/Gezinspolitiek/Paginas/Childproof.aspx
[5] http://www.who.int/mediacentre/factsheets/fs313/en/

million premature deaths worldwide in 2012.[6] Acute respiratory infections annually kill an estimated 1.6 million children under the age of five. As much as 60 percent of acute respiratory infections worldwide are related to environmental conditions.[7]

In Europe, exposure to air pollution is responsible for more than 400,000 people each year. Evidence is growing for a range of effects of prenatal exposure, and exposure during early childhood, on health in adult life. Exposure to air pollutants during pregnancy can result in reduced foetal growth, pre-term birth, and spontaneous abortions. The associations are of the same order of magnitude as those reported for passive smoking.[8]

Why are children more susceptible to air pollution?

Although the evaluation indicates that numerous issues require further research, it also points to the sound evidence that already exists indicating a causal link between air pollution and children's health. Air pollution affects children as early as the prenatal period, affecting lung development and increasing the risk of infant death.[9] Air pollutants at concentrations common in European cities can aggravate respiratory infections, which are a primary cause of morbidity and death in young children. Moreover, traffic-related air pollution affects lung growth rates. These conclusions provide strong arguments for policymakers, legislators, administrators and all citizens to reduce air pollution and prevent its harmful influence on children's health and development.[10] According to UCLA Institute for the Environment and Sustainability there are several biological reasons why young children may be more susceptible to air pollution's effects. Children's lungs, immune system, and brain are immature at birth and continue to rapidly develop until approximately age 6, and the cell layer lining the inside of the respiratory tract is particularly permeable during this age period. Compared to adults, children also have a larger lung surface area in relation to their body weight, and breathe 50% more air per kilogram of body weight. The process of early growth and development is important for the health of the child in general, and therefore may also be a critical time when air pollution exposures can have lasting effects on future health. Additionally, children tend to spend more time outdoors doing strenuous activities, such as playing sports, so they are breathing more outdoor air compared to adults, who spend on average about 90% of their time indoors. Many studies in Southern California and around the world have linked exposure to traffic with various childhood respiratory health outcomes (see Annex 1).[11]

Endocrine Disrupting Chemicals (EDC's)

Several endocrine-related diseases and disorders are on the rise. There is mounting evidence that the so-called endocrine disrupting chemicals (EDCs) are to blame. Typical for EDCs is that they are uniquely harmful in specific stages of human development, especially when most tissues are still

[6] http://www.who.int/mediacentre/factsheets/fs313/en/
[7] http://www.who.int/ceh/en/
[8] http://www.eea.europa.eu/publications/environment-and-human-health
[9] Maternal Exposure to Particulate Air Pollution and Term Birth Weight: A Multi-Country Evaluation of Effect and Heterogeneity, Centre for Research in Environmental Epidemiology (CREAL) and Municipal Institute of Medical Research (IMIM-Hospital del Mar), Barcelona, Spain; and CIBER Epidemiologia y Salud Pública (CIBERESP), Spain, February 2012. Other studies on the impact of air pollution to children's health: Association of Improved Air Quality with Lung Development in Children, W. James Gauderman, Ph.D., Robert Urman, M.S., Edward Avol, M.S., Kiros Berhane, Ph.D., Rob McConnell, M.D., Edward Rappaport, M.S., Roger Chang, Ph.D., Fred Lurmann, M.S., and Frank Gilliland, M.D., Ph.D. The New England Journal of Medicine, March 5, 2015, vol. 372, No. 10; Blood Pressure and Same-Day Exposure to Air Pollution at School: Associations with Nano-Sized to Coarse PM in Children, Nicky Pieters, Gudrun Koppen, Martine Van Poppel, Sofie De Prins, Bianca Cox, Evi Dons, Vera Nelen, Luc Int Panis, Michelle Plusquin, Greet Schoeters, and Tim S. Nawrot; The Sinphonie project: http://www.sinphonie.eu/sites/default/files/ExecutiveSummary/lbna26730enn.pdf; see also Childproof position paper https://www.gezinsbond.be/Gezinspolitiek/Paginas/Childproof.aspx
[10] Effects of air pollution on children's health and development, A review of evidence, WHO, Special programme on health and environment, European Centre for environment and Health, 2005.
[11] UCLA Institute for Environment and Sustainability, Air pollution impacts on infants and children http://www.environment.ucla.edu/reportcard/article.asp?parentid=1700; Childproof's position on air quality (2012) https://www.gezinsbond.be/Gezinspolitiek/Paginas/Childproof.aspx

forming. This means that unborn, young children and teenagers are particularly vulnerable to the effects of EDCs. In 2012 the WHO published a second report on the state of science of EDCs and this report concluded that "disease risk due to EDCs may be significantly underestimated."[12] The 2012 report confirms that there has been a worldwide failure to adequately address the causes of endocrine-related diseases and disorders. Today many endocrine disruptors can be found in the environment and in products. So far endocrine disrupting properties have been identified for approximately 800 chemicals, and this is likely to be only the tip of the iceberg.[13]

Endocrine disruptors are most often manufactured chemicals that disrupt the functioning of the hormonal system.[14] Exposure to EDCs can occur through eating, inhaling or simply touching something. Inhalation of EDCs is possible with products such as air fresheners, hair sprays and deodorants. Ingestion of EDCs can occur, for example, through food, beverages or by using plastic food containers. Another source of exposure is dust. EDCs accumulate in house dust to which toddlers in particular are exposed. Research among 20 toddlers and preschool children aged 1.5 to 4 showed that the children had an average of 3.2 times more hormone disrupting fire retardants in their blood than their mothers.[15] Furthermore, many EDCs are absorbed in the environment and accumulated in fat. The Endocrine Society statement includes a review of 1,300 studies on EDCs, which show more evidence than ever of the links between EDCs and health problems including: obesity and diabetes, female reproduction, male reproduction, hormone-sensitive cancers in females, prostate cancer, thyroid, and neurodevelopment and neuroendocrine systems.[16]

Why are children more susceptible to the exposure of EDC's?
According to the European Environmental Agency, vulnerability to disturbance changes during life. Early human life stages, especially the embryonic, foetal and infant stages, are known to be particularly sensitive to chemicals. Exposure to chemicals in highly vulnerable periods has been linked not only with developmental disturbances and other health disturbances in childhood, but to health disturbances throughout life. Some adult diseases, such as testicular cancer in men and breast cancer in women, are speculated to be linked to early-life or even prenatal exposures; a growing number of studies reveals links supporting an 'early exposure — late effect' concept (Grandjean et al., 2008; WHO, 2012a).[17]

Standard methods for testing chemicals do not adequately cover the possible harmful effects of EDCs. Besides the effects of exposure to EDC's in early human life stages, EDC's have some special characteristics compared to other chemicals. The standard test methods for chemicals strongly rely on the idea that it is the dose that makes the poison - the higher the dose, the larger its poisonous impact, and that impact at lower doses is predictably less in a decreasing linear way.[18] The common notion that effects observed at a high dose can be extrapolated to effects at lower doses is not applicable to EDCs. The effect of a low dose may be relatively strong in comparison to a high dose. In other words: the relationship between dose and response is non-linear.[19]

According to Childproof, a final concern about EDCs is that there can be additive effects or so-called cocktail effects. The effects of chemicals are usually considered in isolation. Even though some EDCs may not show any effects in isolation, this can change with exposure to a mix of several EDCs.[20,21,22]

[12] WHO. (2012). State of science of endocrine disrupting chemicals.
[13] WHO. (2012). State of science of endocrine disrupting chemicals.
[14] WHO. (2012). State of science of endocrine disrupting chemicals.
[15] http://www.ewg.org/research/fire-retardants-toddlers-and-their-mothers
[16] http://press.endocrine.org/doi/10.1210/er.2015-1093
[17] http://www.eea.europa.eu/publications/environment-and-human-health; WHO. (2012). State of science of endocrine disrupting chemicals
[18] Childproof's position on Endocrine Disrupting Chemicals, 2013 https://www.gezinsbond.be/Gezinspolitiek/Paginas/Childproof.aspx
[19] WHO. (2012). State of science of endocrine disrupting chemicals.
[20] Silva E, et al. (2002) Something from "nothing"--eight weak estrogenic chemicals combined at concentrations below NOECs produce significant mixture effects. *Environmental Science & Technology.*

Additive effects of EDCs have in fact been reported in animal studies.[23,24] These findings bring into question the soundness of tests for individual chemicals while people in real life are exposed to a cocktail of hundreds of chemicals.[25]

Research shows that even unborn children, who are often thought to be protected by the placenta, can be exposed to a mixture of hundreds of toxic chemicals.[26] When we also realize that EDCs can already have strong effects at low doses, especially to unborn children, it becomes apparent that immediate action is necessary.[27]

Childnorm: setting children as the standard

Society needs to ensure a healthy environment for our children. The effects of our lifestyle on the environment and our health are well noted worldwide. To promote the living environment of children and other vulnerable groups, the interests of children must be included in present and future policy. As shown with the examples above, this is presently is not done enough! The establishment of child-friendly policy needs to be anchored in strategic objectives within the different policy domains, such as policy on air quality and EDCs. There is a need for a government that conducts a child-centered policy with the childnorm as a guideline.

The childnorm[28] includes the vision that where necessary measures intervening in society must be adapted to the most vulnerable link in our society, including children. This vision usually goes hand in hand with the 'design for all' principle: when protecting the weakest link is the benchmark, all other segments of society are also served by this policy.

The Children's Rights Convention is one of the pillars on which the concept of the childnorm is based. Although the right to a healthy environment is not specifically enshrined in the treaty, it does fit in with the spirit of the treaty. The second principle on which this vision is based is the precautionary principle: the precautionary principle enables rapid response in the face of a possible danger to human, animal or plant health, or to protect the environment. In particular, where scientific data do not permit a complete evaluation of the risk, recourse to this principle may, for example, be used to stop distribution or order withdrawal from the market of products likely to be hazardous.[29]

The childnorm is a concept which goes a step further than the goal of implementing child-friendly policy. A certain hierarchy is implied in the childnorm; policy that directly or indirectly affects the safety and health of children should be examined more from the perspective of children. Specific policy instruments can be linked to this, so that the impact for children can be examined both before (ex-ante) and after policy-making decisions (ex-post). On the other hand, there is also a strong need for a childnorm concerning product and environmental standards. These are often based on healthy adults, not children, and since they are physically still in development, children will ingest greater amounts of pollutants in proportion to their body weight.

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[21] Rajapakse N, et al. (2002). Combining xenestrogens at levels below individual No-observed-effect concentrations dramatically enhances steroid hormone action. *Environmental Health Perspectives*

[22] WHO. (2012). State of science of endocrine disrupting chemicals.

[23] Hass U, et al. (2007). Combined exposure to anti-androgens exacerbates disruption of sexual differentiation in the rat. *Environmental Health Perspectives.*

[24] Christiansen S, et al. (2009). Synergistic disruption of external male sex organ development by a mixture of four antiandrogens. *Environmental Health Perspectives*

[25] Childproof's position on Endocrine Disrupting Chemicals, 2013 https://www.gezinsbond.be/Gezinspolitiek/Paginas/Childproof.aspx

[26] http://www.ewg.org/news/news-releases/2009/12/02/toxic-chemicals-found-minority-cord-blood

[27] Childproof's position on Endocrine Disrupting Chemicals, 2013 https://www.gezinsbond.be/Gezinspolitiek/Paginas/Childproof.aspx

[28] Gezinsbond works with the concept 'childnorm', besides environment, also in different policy areas: public space, food and traffic; see https://www.gezinsbond.be/Gezinspolitiek/Paginas/Kindnorm.aspx

[29] (COM(2000) 1 definitief van 2 februari 2000)

Impact analysis are only part of policy development. Children are often not mentioned in the strategic objectives in environmental policy and legislation. In addition, one may question in what way children's rights are evaluated. How are results measured to evaluate the impact of certain policy objectives? Monitoring is necessary to improve and adjust policy.

The concept 'childnorm' is a broad policy concept that excludes narrow visions. It is meant to be a dynamic process to look for the new risks and social trends. Science can properly support the establishment of a norm at a certain level. The Childproof network fulfills this role in Belgium. The concept is an innovative process of creativity and child-friendly alternatives. The government should develop the policy framework and put a evaluation system in place. The goal is to continuously improve the protection of vulnerable groups. It is a participative process where children, youngsters, families, consumers take part. Finally, it is a complex process but with a clear objective: progress and improvement of the quality of life by including the interests of future generations in policy.

Annex 1: Recommendations

As a general recommendation, we ask the UN Committee on the Rights of the Child to draft a **new General Comment** on children's rights and the environment. The following recommendations can be used to identify obligations of the States and the business sector:

1. Develop the concept **'childnorm'** as an instrument to continuously improve the quality of life of children. This means that policy having a direct or indirect affect on the safety and health of children should be examined from the perspective of children. The concept can be applied in environmental policy but also in other policy fields where it seems not so obvious that children's interests are taken into account.

2. Environmental policy should be based on the following guidelines: (1) **children** and other vulnerable groups, such as the sick and elderly, defined as **main target** and (2) **environmental standards** that are **ambitious enough** to prevent children and other vulnerable groups to breathe air that is harmful to their health.

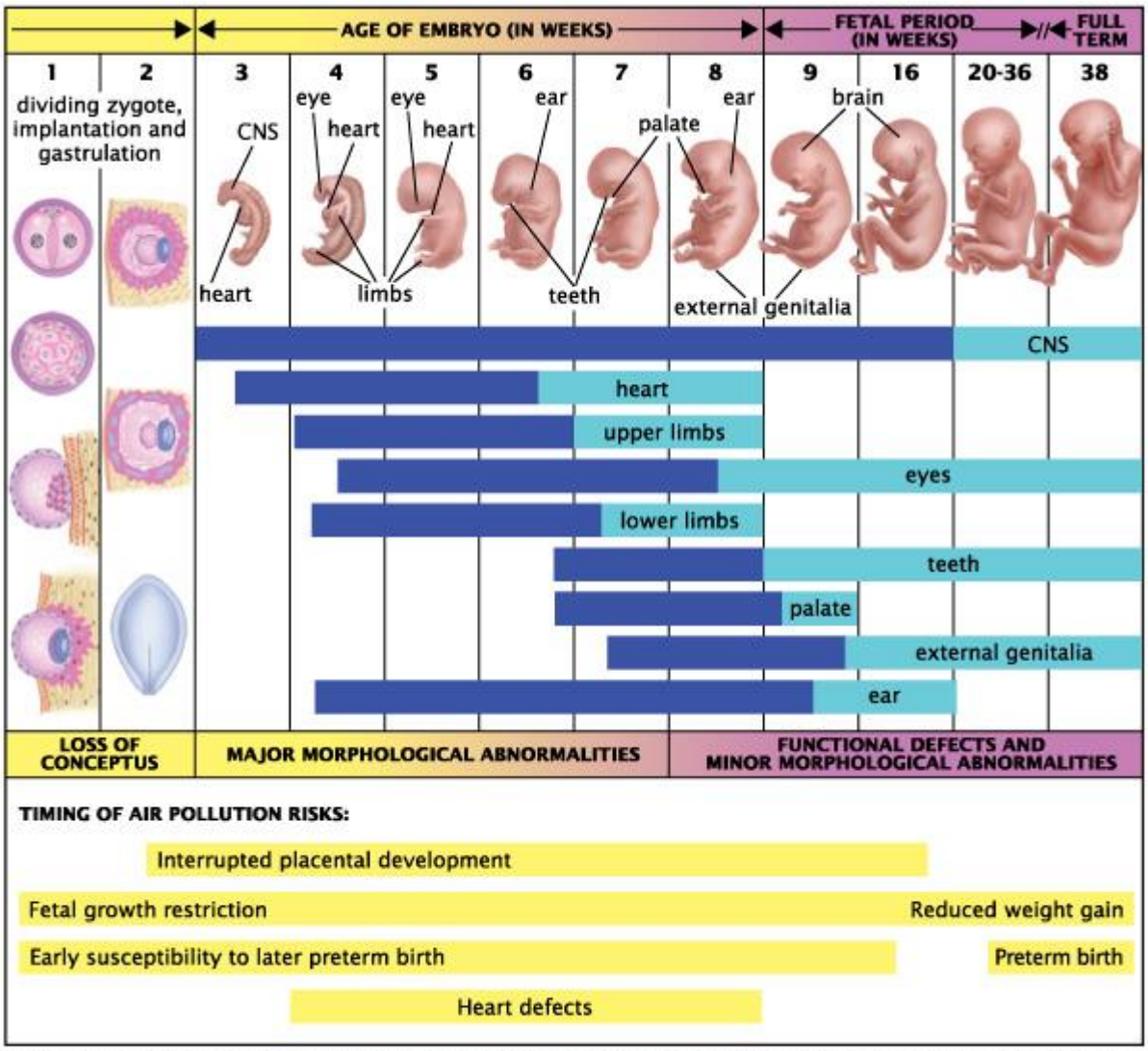
3. Adopt **impact assessment instruments** and evaluation instruments for policy decision that have a direct impact on children. The development of child-friendly policies needs to include explicit attention on the effects of proposed policy on the lives of young children: a review of children's rights. This "child impact assessment" tool should be applied automatically to each draft policy initiative or legislation in case the proposed decision has an impact on children. [30] Also when it comes to environmental policy.

4. Develop **environmental indicators for children's well-being**. With regard to children's safety, data may be available (number of registered cases poison control center, child focus, doctors ...). Data collection on asthma, childhood cancer, diabetes, obesity etc. focused on children to serve as the basis of an evaluation instrument.

[30] Flanders did develop a 'ex-ante' check of policy decisions that have a direct or indirect impact on children: the Child and Youth Impact Assessment, called 'JoKER'. Whenever a minister of the Flemish Parliament proposes a legislation that impacts persons under 25 years directly, the legislative proposal should be accompanied by a JoKER Since 2013, the JoKER has been integrated in the RIA (Regulation Impact Analysis) This JoKER is an important instrument to achieve more child-friendly policies but is not adult (yet) and does not systematically look after the interests of children in all policy areas. http://www.sociaalcultureel.be;

Annex 2: UCLA Institute for the environment and sustainability, Air pollution impacts on infants and children, Report card fall 2008,

http://www.environment.ucla.edu/reportcard/article.asp?parentid=1700



Note: Blue bars indicate time periods when major morphological abnormalities can occur, while light blue bars correspond to periods at risk for minor abnormalities and functional defects.

Figure 1. Fetal development and timing of air pollution risks.