International Baby Food Action Network
Red internacional de grupos pro alimentación infantil
Réseau international des groupes d'action pour l'alimentation infantile

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"Children's Rights and the Environment"

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Introduction

Infants and young children are the first victims of pollution and climate change. The negative impacts of pollution and climate change affect all people, but especially the world's most vulnerable population: newborns, infants and young children, whose immune and reproductive systems are still immature. Even the healthy development of the foetus during intrauterine life can be compromised by the impact of pollution and climate change. Every child's right to the enjoyment of the highest attainable standard of the health constitutes an inclusive right that extends to its underlying determinants, including the right to a safe, clean, healthy and sustainable environment. States Parties should adopt appropriate measures to protect this right "taking into consideration the dangers and risks of environmental pollution" (article 24.2 (C) Convention on the Rights of the Child). The strong terms 'dangers and risks' are fully justified by the evidence accumulated since 1989 on the harmful impact of climate change and environmental pollution and degradation on child health.

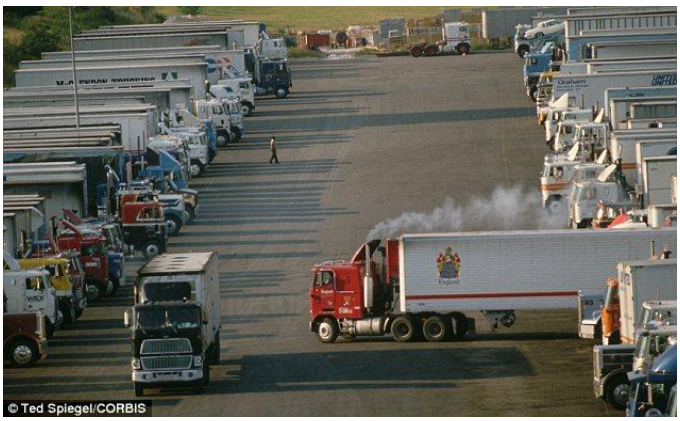
Scientific evidence shows that every year an estimated 823,000 deaths, or 13.8% of total deaths, in children under 2 years of age would be prevented if breastfeeding were scaled up to a near-universal level in high-mortality low- and middle-income countries.[1] In addition, many children see their development impaired by environmental toxicants and suffer consequent disabilities which prevent them reaching their full potential. Despite the life-saving impact of optimal breastfeeding practices, the total world milk formula sales volume grew by 40.8% from 5.5 to 7.8 kg per child (per year) in the period from 2008-2013. This figure is projected to increase to 10.8 kg per infant/child by 2018.[2]

[1] See Victora C.G. et al., "Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect", The Lancet, 2016: http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)01024-7/abstract
[2] See Baker P. et al., "Global trends and patterns of commercial milk-based formula sales: is an unprecedented infant and young child feeding transition underway?", Public Health Nutrition, 2016:

Working Group 1 - Children's exposure to environmental toxicants

Water as an underlying determinant of the right to health. Climate change and environmental pollution and degradation are already exacerbating water shortages and contamination of water supplies. Infants and young children are vulnerable to dehydration during periods of hot weather. Prolonged heat waves and severe droughts diminish aquifers; lower water levels concentrate the toxic elements in underlying rocks as well as residues of poisonous chemicals used as pesticides and fertilizers. Infants and young children who are breastfed are less exposed to these risks of water pollution, but those fed baby milk formulas are at double risk from the toxic chemicals used to produce the ingredients of formulas as well as from the contaminated water used to reconstitute powdered formulas.

Water contamination by arsenic. Arsenic is classified as toxic and dangerous for the environment. Contamination of groundwater with arsenic affects millions of people across the world, leading to widespread arsenic poisoning. Falling water tables often mean higher concentrations of arsenic. Whereas breastfed babies are protected against arsenic exposure, because very little arsenic is excreted in breastmilk, formula fed babies are exposed to increased concentrations of arsenic in the ground water used to prepare formula feeds. They are also exposed to high levels of arsenic in certain formulas containing brown rice syrup used as a sweetener. This is caused by irrigation of rice paddy fields using arsenic-contaminated water. Certain weed killers such as MSMA also contain arsenic and their widespread use in brown rice cultivation means that the brown rice syrup can be contaminated by toxic residues. Formula feeding does not provide any protection to the foetus exposed to chemicals in the womb. Furthermore, the formula itself can contain toxic elements and chemicals and these include pesticides as well as arsenic, aluminium, cadmium, lead and manganese. In addition, "[d]rinking water used to mix powdered formula may add significantly to the concentrations in the ready-made products".[3] The aluminium content of formula also remains problematic.[4]



Air quality as an underlying determinant of the right to health. Air quality has a direct impact on the health of millions of infants and young children. Prenatal exposures to neurotoxic particles from indoor and outdoor air pollution affect foetal development, and cause severe respiratory diseases in babies and young children. Air pollution is increasing with urbanization and also industrialization of food production. The production and transport of formula contributes nitrogen dioxide and particle matter that cause outdoor air pollution and in many countries

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http://journals.cambridge.org/download.php?file=%2FPHN%2FS1368980016001117a.pdf&code=39b405f22da1e50eef0a6e06d5ccf9fa

[3] See Ljung K. et al, "High concentrations of essential and toxic elements in infant formula and infant foods – a matter of concern", Food Chemistry, 2011: http://www.ncbi.nlm.nih.gov/pubmed/25214082

[4] See Chuchu N. et al., "The aluminium content of infant formulas remains too high", BMC Pediatrics, 2013: http://bmcpediatr.biomedcentral.com/articles/10.1186/1471-2431-13-162

the preparation of formula using solid fuels contributes to indoor air pollution. Breastfeeding emits no toxic particles; it requires no industrial production and no transport and is always available on-site. At the same time, breastfeeding has a protective effect: neither particle matter nor nitrogen dioxide exert a harmful effect on breastfed babies for at least 4 months.[5]

The harmful impact of Endocrine Disrupting Chemicals on child health. Endocrine Disrupting Chemicals (EDCs), such as dioxins, DDT, phthalates, PCBs and bisphenol A (BPA), are substances that may mimic or interfere with the function of hormones in the body. Endocrine disruptors may turn on, shut off, or modify signals that hormones carry, which may affect the normal functions of tissues and organs. Many of these substances have been linked with developmental, reproductive, neural, immune, and other problems in wildlife and laboratory animals. Some research suggests that these substances are also adversely affecting human health in similar ways, resulting in reduced fertility and increased incidences or progression of some diseases, including obesity, diabetes, endometriosis, and some cancers. [6] Mothers exposed to EDCs can unknowingly transmit these substances to the foetus; the placenta provides a barrier but not against these 'hormone impostors'. Even minute doses can have a disruptive effect and different EDCs can accumulate to provide a toxic cocktail during these vulnerable stages of development. The potential for adverse effects caused by EDCs thus begins even before conception and then continues via prenatal and postnatal exposures to these industrial chemicals. Several recent UN Reports provide evidence that chemical exposure to EDCs, particularly during critical developmental periods such as early infancy, is positively correlated with low semen quality, genital malformations, adverse pregnancy outcomes, neurobehavioural disorders, endocrine-related cancers, obesity, cardiovascular disease and diabetes, among other diseases.[7] It is proven that bottle-feeding increases the exposure to EDCs such as phthalates and BPA, a dangerous EDC affecting child development and health which has been classified as 'toxic to reproduction' and as a 'presumed reproductive toxicant'. BPA mimics the female hormone oestrogen and thus acts like an artificial hormone in our bodies, causing altered hormone levels which also affect male fertility.[8] Although traces of EDCs can be detected in breastmilk, breastfeeding provides a strong protective effect against earlier and continuing chemical exposures. Indeed, breastfeeding strengthens the infant's maturing immune system and constitutes the first immunization providing protective antibodies and growth factors.[9]

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[5] See "Breastfeeding mitigates the health impacts of indoor and outdoor pollution", IBFAN, 2015: http://ibfan.org/docs/2015-Breastfeeding-mitigates-the-impacts-of-air-pollution-for-website.pdf

[6] See Endocrine Disruptors factsheet, US National Institute of Environmental Health Science: https://www.niehs.nih.gov/health/materials/endocrine_disruptors_508.pdf; Olsson I.-M. et al., "The cost of inaction: a socioeconomic analysis of costs linked to effects of endocrine disrupting substances on male reproductive health", Nordic Council of Ministers, 2014: http://norden.diva-portal.org/smash/get/diva2:763442/FULLTEXT04.pdf

[7] See "The public health impact of chemicals: knowns and unknowns", WHO, 2016: http://apps.who.int/iris/bitstream/10665/206553/1/WHO_FWC_PHE_EPE_16.01_eng.pdf?ua=1; "Endocrine disrupters and child health: Possible developmental early effects of endocrine disrupters on child health", WHO, 2012: http://apps.who.int/iris/bitstream/10665/75342/1/9789241503761_eng.pdf; State of the science of endocrine disrupting chemicals – 2012, UNEP/WHO, 2012: http://www.who.int/ceh/publications/endocrine/en/

[8] See Rhie Y.-J. et al., "Influence of Bottle-Feeding on Serum Bisphenol A Levels in Infants", Journal of Korean Medical Science, 2014: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3924007/

[9] See "Benefit and risk assessment of breastmilk for infant health in Norway", Opinion of the Steering Committee of the Norwegian Scientific Committee for Food Safety, 2014:

The importance of breastfeeding for mitigation of climate change. Optimal breastfeeding practices (early initiation of breastfeeding within the first hour after birth, exclusive breastfeeding until 6 months of age and continued breastfeeding until 2 years or more along with the appropriate complementary feeding) are the first step towards protecting human health, short- and long-term. Breastfeeding not only prevents and mitigates the effects of exposures to many environmental toxicants, it also protects the health of our environment: Breastfeeding safeguards the health of babies, their mothers and our planet.

In a 2014 report on this issue, IBFAN explains why formula feeding is the formula for disaster for the environment and weighs the environmental impact of formula feeding compared to breastfeeding. It provides statistics on the use of scarce natural resources needed for formula feeding and on the significant contribution of effluents from dairy production and of non-biodegradable plastics to environmental degradation and pollution.[10] Breastfeeding has an almost zero carbon and water footprint and generates no waste for disposal. It constitutes humanity's first step towards protecting the environment and ensuring the sustainable use of natural resources by reducing emissions of greenhouse gases such as carbon and methane and the depletion of water resources; all of these are caused by dairy milk production and transport as well as by the processing and packaging of milk formulas. In this way, breastfeeding helps to mitigate the global warming that causes climate change and provokes extreme weather.

Breastfeeding alleviates the suffering caused by extreme weather events. Providing the best nutrition for babies in crisis situations, breastfeeding also helps alleviate the suffering caused by extreme weather events consecutive to climate change and environmental degradation. Whenever natural disasters strike, breastfeeding protects babies' health and can ensure they survive in the post-disaster period. Scientific research has provided the evidence for this protective effect on infants' health and that of their mothers. Supporting breastfeeding mothers to establish or re-establish breastfeeding thus alleviates

http://www.english.vkm.no/dav/af230e02c9.pdf; IBFAN written submission to the stakeholder meeting of joint FAO/WHO Expert Meeting to review toxicological and health aspects of Bisphenol A, IBFAN, 2010: http://ibfan.org/art/Written_Submission_by_IBFAN_stakeholder_meeting_WHO_FAO_on_BPA-2010.pdf; IBFAN call for coordinated international action to protect against toxic chemicals: http://ibfan.org/ibfan-calls-for-coordinated-international-action-to-protect-against-toxic-chemicals

[10] See "Formula for Disaster: Weighing the Impact of Formula Feeding Vs Breastfeeding on Environment", IBFAN, 2014: http://ibfan.org/docs/FormulaForDisaster.pdf

the severe impact on the survival and health of vulnerable infants during the increasing number of disasters caused by climate change. On the other hand, use of milk formula in the suboptimal conditions prevailing during the disasters perpetuates the already existing risk of serious infectious diseases like diarrhoea and pneumonia.[11] Breastfeeding is a lifeline in emergencies.

The high impact of the carbon footprint of formula feeding on the environment. The production, transport and processing of milk for baby formula and the manufacture, packaging and transporting of industrially produced formula create greenhouse gas emissions and atmospheric pollution. Formula feeding also has a large water footprint. Formula feeding utilizes our planet's ever scarcer natural resources, such as grazing land, water supplies and minerals. IBFAN Asia/BPNI has studied the economic, environmental and social impact of formula feeding in the six countries of Asia-Pacific: India, China, Philippines, Malaysia, Australia, and South Korea. The study has revealed that milk formula is emerging as an important source of greenhouse gas emissions; a total of 2,893,029 tonnes of carbon dioxide equivalent (CO2-eq) was found to have been released for the 6 countries in 2012, which is equivalent to 6888.1 Million Miles driven by an average passenger vehicle or to the CO2 sequestered by 74.1 Million tree seedlings grown for 10 years. Projections show an ever increasing sale of these products with consequent increase in the GHG emissions. More worrisome is the increased use of follow-on and toddler milk formulas in all study countries[12] even though the World Health Organization recognizes that these products are unnecessary and unsuitable when used as a breastmilk replacement.[13]

Environmental and sanitary risks of the broad use of palm oil in formula. The ingredients of formula include vegetable oils and especially palm oil. Research has shown that oil palm plantations cause deforestation, resulting in significant secondary external impacts such as water pollution, soil erosion, and air pollution.[14] In addition, there is recent concern that harmful Glycidyl fatty Esters (GE) are formed during the process of refining palm oils and fats at temperatures of above 200°C. The report of the Contaminants Panel of the European Food Safety Agency (EFSA) explains that these substances have genotoxic and carcinogenic and some have nephrotoxic effects: infants who are formula fed have higher average exposures. According to the Chair of the EFSA Panel "The exposure to GE of babies consuming solely infant formula is a particular concern as this is up to ten times what would be considered of low concern for public health."[15]

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[11] See "Climate Change and Health", IBFAN, 2015: http://ibfan.org/docs/climate-change-2015-English.pdf

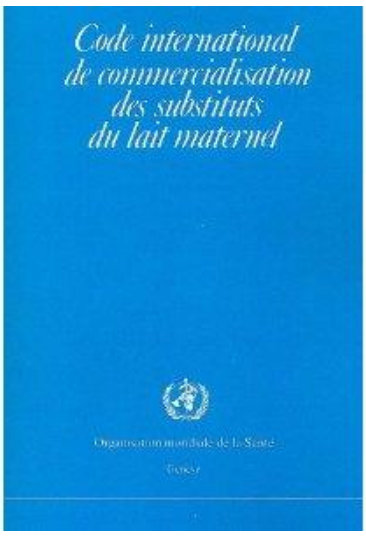
[12] See "Report on Carbon Footprint due to Milk Formula: A Study from Selected Countries from the Asia-Pacific Region", IBFAN/BPNI, 2015: http://ibfan.org/docs/Carbon-Footprints-Due-to-Milk-Formula.pdf

[13] See "Information concerning the use and marketing of follow-up formula", WHO, 2013: http://www.who.int/nutrition/topics/WHO_brief_fufandcode_post_17July.pdf

[14] See Obidzinski K. et al., "Environmental and Social Impacts of Oil Palm Plantations and their Implications for Biofuel Production in Indonesia", Ecology and Society, 2012: http://www.ecologyandsociety.org/vol17/iss1/art25/

[15] See "Process contaminants in vegetable oils and foods", EFSA, 2016: https://www.efsa.europa.eu/en/press/news/160503a

States obligations with regard to child's right to a safe, clean, healthy and sustainable environment



The International Code of Marketing of Breastmilk Substitutes. The International Code of Marketing of Breastmilk Substitutes, adopted by the World Health Assembly in 1981 regulates the marketing of breastmilk substitutes. It constitutes a "minimum requirement" and aims to "contribute to the provision of safe and adequate nutrition for infants, by the protection and promotion of breastfeeding, and by ensuring the proper use of breastmilk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution." Since 1981, the scope of the Code has been further extended and completed by a series of subsequent relevant resolutions from the World Health Assembly.[16] Apart from the Code itself, who calls States to implement it "in its entirety", the CRC General Comments No 15 on the right of the child to the enjoyment of the highest attainable standard of health and No 16 on State obligations regarding the impact of the business sector on children's rights, both adopted in 2013, urge States to implement and enforce the Code and subsequent relevant WHA resolutions. The 2016 WHO UNICEF IBFAN status report on national implementation of the Code reveals that countries continue to face significant challenges in ensuring effective implementation of the Code and subsequent relevant WHA resolution. Yet, aggressive marketing of breastmilk substitutes continues to undermine efforts to improve breastfeeding rates worldwide and national legal measures need to be strengthened to give effect to the Code and subsequent relevant WHA resolutions.

Extraterritorial obligations of States regarding the Code. Baby food companies that produce breastmilk substitutes are not territorially confined and have become increasingly powerful, capturing large portions of the global trade and playing a major role in the current trend of globalization of markets. Recognizing that territorial limitation of obligations has led to gaps in human rights protection and noting the lack of adequate regulation in this matter, the Maastricht Principles on Extraterritorial Obligations of States in the area of Economic, Social and Cultural Rights were issued on the 28 September 2011. The Maastricht Principle 25 clearly reiterates that States must adopt and enforce legal measures to protect economic social and cultural rights of people from the harm resulting from the activities of corporations registered or domiciled, or which has its main place of business or substantial business activity, in their territory. In this sense, States have an obligation to ensure that companies based in (or significantly tied to) their territory do not infringe the human rights of people in other countries. This principle was reaffirmed by the CRC Committee in its General Comment No 16 that provides that a State's jurisdiction should not be restricted to its "territory" and that "host States must ensure that all business enterprises, including transnational corporations operating within their borders, are adequately regulated within a legal and institutional framework that ensures that they do not adversely impact on the rights of the child and/or aid and abet violations in foreign jurisdictions". Thus, States should be

[16] See the International Code for Marketing of Breastmilk Substitutes: http://ibfan.org/the-full-code

held accountable for adopting binding regulations and measures to ensure that companies registered or domiciled on their territory comply with the Code anywhere where they operate.

The Operational Guidance on Infant and Young Child Feeding in Emergencies. Over the last decade, the IFE Core Group (constituted by WHO, UNICEF, UNHCR, WFP, IBFAN-GIFA, CARE USA, Foundation Terre des hommes and the Emergency Nutrition Network/ENN) issued two training modules[17] as well as an Operational Guidance[18] that aim to provide concise, practical guidance on how to ensure appropriate infant and young child feeding in emergencies. In 2010, the World Health Assembly urged all Members States to "ensure that national and international preparedness plans and emergency responses follow the evidence-based Operational Guidance for Emergency Relief Staff and Programme Managers on infant and young child feeding in emergencies, which includes the protection, promotion and support for optimal breastfeeding, and the need to minimize the risks of artificial feeding, by ensuring that any required breast-milk substitutes are purchased, distributed and used according to strict criteria".

The outcomes of the Second International Conference on Nutrition. The Rome political declaration[19] recognizes the need to address the impacts of climate change and other environmental factors on food security and nutrition and to tackle all forms of malnutrition, including by protecting, promoting and supporting exclusive breast feeding during the first six months, and continued breastfeeding until two years of age and beyond with appropriate complementary feeding. Therefore, the Framework for Action[20] encourages States to encourage the establishment of facilities for breastfeeding and recommends them to conduct appropriate social marketing campaigns and lifestyle change communication programmes to adequate breastfeeding and complementary feeding, to adapt and implement the International Code of Marketing of Breast-milk Substitutes and subsequent relevant World Health Assembly resolutions, to implement policies and practices, including labour reforms, as appropriate, to promote protection of working mothers, to implement policies, programmes and actions to ensure that health services promote, protect and support breastfeeding, including the Baby-Friendly Hospital Initiative, to encourage and promote – through advocacy, education and capacity building – an enabling environment where men, particularly fathers, participate actively and share responsibilities with mothers in caring for

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[17] See "Infant Feeding in Emergencies Module 1 - For emergency relief staff", WHO/UNICEF/LINKAGES/IBFAN/ENN, 2011 : http://www.who.int/nutrition/publications/emergencies/ife_module1/en/; "Infant Feeding in Emergencies Module 2 Version 1.1 - For health and nutrition workers in emergency situations for training, practice and reference", ENN/IBFAN-GIFA/Fondation Terre des homes/CARE USA/Action Contre la Faim/UNICEF/UNHCR/WHO/WFP/Linkages, 2007: http://www.who.int/nutrition/publications/emergencies/ife_module2/en/

[18] Infant and Young Child Feeding in Emergencies - Operational Guidance for Emergency Relief Staff and Programme. Available at: http://www.ennonline.net/pool/files/ife/ops-guidance-2-1-english-010307-with-addendum.pdf

[19] See 2014 Rome Declaration on Nutrition: http://www.fao.org/3/a-ml542e.pdf

[20] See 2014Framework for Action : http://www.fao.org/3/a-mm215e.pdf

their infants and young children, while empowering women and enhancing their health and nutritional status throughout the life course, and to ensure that policies and practices in emergency situations and humanitarian crises promote, protect and support breastfeeding.

The ILO Convention No 184 on Safety and Health in Agriculture. Potentially toxic chemicals used in agriculture are of serious concern for all workers, but especially those of reproductive age. The ILO Convention No 184 on Safety and Health in Agriculture addresses Sound Management of Chemicals in Article 12.[21] It includes article 16 on Young Workers and Hazardous Work: "The minimum age for assignment to work in agriculture which by its nature or the circumstances in which it is carried out is likely to harm the safety and health of young persons shall not be less than 18 years." It also includes Article 18: "Measures shall be taken to ensure that the special needs of women agricultural workers are taken into account in relation to pregnancy, breastfeeding and reproductive health". This Convention entered into force on 20 September 2003 but greater efforts need to be made to ensure wider ratification as well as implementation and monitoring.

Inclusion of breastfeeding in school curricula on environmental awareness. The article 29(e) of the CRC states that the education of the child shall be directed to "[t]he development of respect for the natural environment." Breastfeeding is the norm to feed babies, and has an almost zero environmental and carbon footprint. Therefore, breastfeeding should be included as an environmentally-friendly practice in unbiased, independent, free from conflicts of interests and scientifically based school curricula aimed at raising children's awareness about the need to respect and protect the environment and reduce carbon emissions. Such training would motivate them to take action in their daily life to counter the increase in global warming.

[21] See ILO Convention No 184 on Safety and Health in Agriculture: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_INSTRUMENT_ID:312329

Recommendations

In order to ensure that all children enjoy the right to a safe, clean, healthy and sustainable environment, States should:

1. Implement fully the International Code of Marketing of Breastmilk Substitutes and relevant subsequent World Health Assembly resolutions and enforce the national legislation through an effective monitoring system including a deterrent sanction mechanism for Code violations;
2. Adopt a legal and institutional framework to ensure that business enterprises within their borders do not adversely impact on the rights of the child in foreign jurisdictions, which includes full compliance with the International Code of Marketing of Breastmilk Substitutes and relevant subsequent World Health Assembly resolutions abroad;
3. Ensure that national and international preparedness plans and emergency responses follow the evidence-based Operational Guidance for Emergency Relief Staff and Programme Managers on infant and young child feeding in emergencies, which includes the protection, promotion and support for optimal breastfeeding, and the need to minimize the risks of artificial feeding;
4. Ratify the ILO Convention No 184 on Safety and Health in Agriculture and take all appropriate measures to ensure that the special needs of women agricultural workers are taken into account in relation to pregnancy, breastfeeding and reproductive health;
5. Develop unbiased, independent, free from conflicts of interests and scientifically based school curricula aimed at raising children's awareness about the need to respect and protect the environment and reduce carbon emissions, including through environmentally-friendly practices such as breastfeeding.

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