

Rights To A Healthy Future: Environmental Hazards And Children's Physical Health

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ABSTRACT

Children are particularly vulnerable to environmental hazards due to their developing bodies, physiological sensitivity, and greater exposure to contaminated air, water, food, and surroundings. This study evaluates the primary environmental hazards affecting paediatric populations, with particular focus on heavy metal toxicity, ambient air pollution, chemical contaminants, and climate-related health risks. These environmental threats can adversely affect children's physical development, respiratory health, neurological functioning, and overall well-being, while also raising significant concerns regarding their fundamental rights.

The paper examines the constitutional and legal framework in India for protecting children from environmental harm, particularly the right to life and health under Article 21, relevant Directive Principles of State Policy, and environmental legislation. It further analyses judicial developments concerning environmental protection through the principles of sustainable development, the precautionary principle, the polluter-pays principle, and intergenerational equity. The study also considers India's international obligations under the Convention on the Rights of the Child (CRC) and relevant global frameworks, including the Sustainable Development Goals, particularly Sustainable Development Goal (SDG) 3 and SDG 13.

The paper argues that existing environmental and child-protection frameworks remain fragmented and insufficiently child-centred. Paediatric populations living in economically disadvantaged and environmentally vulnerable communities face disproportionate exposure to environmental risks, contributing to environmental inequality and intergenerational injustice. Inadequate monitoring, weak enforcement, limited institutional coordination, and insufficient integration of child health considerations into environmental governance further restrict effective protection.

The paper advocates a child-centred environmental justice approach that integrates environmental protection, public health, and children's rights. It recommends stronger regulatory enforcement, child-sensitive environmental impact assessments, preventive measures, health surveillance, institutional accountability, and meaningful consideration of children's health in environmental policymaking. Protecting paediatric populations from environmental hazards is essential for safeguarding their present health and securing a healthier future for generations to come...

Keywords: Environmental Justice, Physical Health Impacts, Environmental Hazards, Children's Rights, State responsibilities, etc..

INTRODUCTION

A safe and healthy environment is an essential determinant of children's health, development and quality of life. Environmental conditions influence health from the prenatal period through childhood and adolescence, with early-life exposure to pollutants capable of producing both immediate and long-term consequences. The World Health Organization (WHO) recognises air pollution, hazardous chemicals and waste, unsafe water and sanitation, radiation, and climate change among the principal environmental risks affecting children. Environmental exposure during critical stages of growth may contribute to respiratory disorders, neurological impairment, developmental abnormalities, infectious diseases and other adverse health outcomes.

Children constitute a particularly vulnerable population because their physiological and developmental characteristics increase their susceptibility to environmental hazards. Children are particularly vulnerable to environmental contaminants because, relative to their body weight, they breathe more air and consume more food and water than adults do, while their respiratory, immune, neurological, and other organ systems are still developing. Moreover, children have limited ability to control the environments in which they live, learn and play. Environmental exposures may therefore occur through multiple pathways, including inhalation, ingestion and dermal contact. The consequences of such exposure may extend beyond childhood, with certain toxic substances and pollutants producing effects that become apparent only later in life.

Among the environmental threats of particular concern are heavy metals such as lead and mercury, ambient and household air pollution, pesticides and other chemical contaminants, contaminated water, hazardous waste and climate-related hazards. Heavy metal exposure is particularly significant because substances such as lead and mercury can adversely affect neurological development and other physiological functions in childrenⁱ. Similarly, air pollution has been associated with respiratory morbidity and other adverse health outcomes, while climate change creates additional risks through heat exposure, extreme weather events, changing patterns of infectious diseases, food insecurity and disruption of essential health servicesⁱⁱ. These risks demonstrate that environmental degradation is not merely an ecological concern but an important public-health and child-rights issue.

The environmental determinants of children's health also have significant social and distributional dimensions. Children living in poverty, informal settlements, polluted industrial areas and climate-vulnerable regions may experience greater exposure to environmental hazards while having fewer resources to prevent or mitigate their effects. Consequently, environmental harm can reinforce existing socioeconomic inequalities and disproportionately affect children who are already vulnerable. The protection of children's health therefore requires not only clinical and preventive interventions but also effective environmental governance and legal accountability.

From a human rights perspective, the protection of children from environmental harm is closely connected to the rights to life, health, dignity, development, and equality. The CRC places obligations upon States to protect children's health and recognises the importance of environmental conditions in achieving the highest attainable standard of healthⁱⁱⁱ. More recently, the United Nations Committee on the Rights of the Child, through General Comment No. 26 (2023), expressly recognised the profound impact of the climate crisis, pollution and environmental degradation on children's rights^{iv}. At the international level, the recognition by the United Nations General Assembly of the human right to a clean, healthy and sustainable environment further strengthens the normative basis for environmental protection.

In India, environmental protection has progressively developed as an integral component of constitutional governance. The Constitution of India has been judicially interpreted to encompass the right to a healthy environment^v, while it further reflects constitutional commitments towards public health and environmental protection^{vi}. The Supreme Court of India has developed significant environmental jurisprudence through principles including sustainable development, the precautionary principle, the polluter pays principle and intergenerational equity^{vii}. The Court has also increasingly recognised the relationship between environmental degradation, climate change and fundamental rights^{viii}.

Despite these developments, the protection of children's environmental health remains fragmented across environmental, public health, and child rights frameworks. Existing environmental regulation often addresses pollution and ecological harm in general terms without adequately incorporating children's distinctive physiological vulnerabilities and long-term health interests. This creates a need for a child-centred approach that places paediatric health at the centre of environmental decision-making.

This study investigates key environmental threats to children, emphasizing heavy metal poisoning, air pollution, chemical exposure, and climate health risks. It uses an interdisciplinary legal and public health approach to assess current constitutional, legal, and international protections. The paper advocates for a preventive, rights-based, child-focused environmental justice framework to safeguard children's health now and for future generations.

2. CHILDREN'S RIGHT TO A HEALTHY ENVIRONMENT: A HUMAN RIGHTS PERSPECTIVE

2.1 Right to Life, Health and Dignity

The right to a healthy environment is closely connected with the fundamental rights to life, health and human dignity. In India, Article 21 of the Constitution guarantees that no person shall be deprived of life or personal liberty except according to procedure established by law. Over time, the Supreme Court has interpreted the right to life broadly to include conditions necessary for a meaningful and dignified existence. Environmental quality forms an important component of such a life because polluted air, contaminated water, toxic substances and unsafe surroundings can directly threaten physical health and human well-being.

The relationship between environmental protection and the right to life has been firmly established in Indian constitutional jurisprudence. In *Subhash Kumar v. State of Bihar*, the Supreme Court recognised the right to enjoyment of pollution-free water and air as part of the right to life under Article 21^{ix}. The Court has subsequently developed environmental principles that require the State and other responsible actors to prevent environmental degradation and protect public health.

For children, this constitutional protection assumes greater significance. Environmental exposure during childhood can interfere with physical growth, neurological development and respiratory health and may produce consequences extending into adulthood^x. Consequently, the protection of children's health cannot be separated from the protection of the environment

in which they live, study, and develop. Article 21 therefore provides an important constitutional foundation for requiring preventive action against environmental hazards affecting paediatric populations.

The right to health is also reflected in the Directive Principles of State Policy. Article 47 places a duty upon the State to regard the improvement of public health as among its primary duties^{xi}, while Article 39(e) directs the State to ensure that the health and strength of workers and children are not abused. Article 39(f) further requires the State to ensure that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity. Read together with Article 21, these provisions establish a constitutional commitment to protecting children from conditions that may adversely affect their health and development.

2.2 Right to a Clean, Healthy and Sustainable Environment

The right to a clean, healthy and sustainable environment has increasingly emerged as an important component of contemporary human rights law. Environmental degradation can impair the enjoyment of several established rights, including the rights to life, health, food, water, housing and development. Environmental quality has consequently moved from being viewed solely as a regulatory or ecological objective to being recognised as a human rights concern.

At the international level, the United Nations General Assembly, through Resolution 76/300 adopted on 28 July 2022, recognised the human right to a clean, healthy and sustainable environment^{xii}. Although the resolution is not itself a treaty that directly creates enforceable obligations, it represents an important development in the international recognition of environmental protection as a human rights issue.

The CRC provides a particularly important framework for children's environmental rights. Article 24 recognises the child's right to the highest attainable standard of health and requires States to take measures regarding environmental pollution, safe drinking water, adequate nutrition, and other determinants of health^{xiii}. The Committee on the Rights of the Child has further strengthened this approach through General Comment No. 26 (2023), which specifically addresses children's rights and the environment, with a special focus on climate change^{xiv}.

General Comment No. 26 expressly recognises that children have a right to a clean, healthy and sustainable environment and links this right with the rights to life, survival and development, health, an adequate standard of living and education. The substantive elements of this right include clean air, a safe and stable climate, healthy ecosystems and biodiversity, safe and sufficient water, healthy and sustainable food and non-toxic environments.

The recognition of a healthy environment is particularly significant for children because environmental conditions can affect them throughout the life course. A failure to control environmental hazards may therefore compromise not only present health but also children's future ability to enjoy their rights and participate fully in society. The concept of a healthy environment must consequently be understood as encompassing safe air, water, food, soil and living conditions, together with protection from toxic substances and climate-related threats.

The Indian constitutional framework is compatible with this rights-based approach. Articles 48A and 51A(g) specifically recognise environmental protection, while Article 21 provides the fundamental rights basis for judicial protection against environmental degradation. Indian environmental jurisprudence has also incorporated principles such as sustainable development, the precautionary principle and intergenerational equity^{xv}. These principles are particularly relevant to children because environmental decisions taken today may determine the health and environmental conditions experienced by future generations.

2.3 Children's Special Vulnerability to Environmental Hazards

Children are not simply smaller versions of adults; their developmental and physiological characteristics make them particularly susceptible to environmental hazards. Their organs and immune systems are still developing, and exposure to pollutants during critical periods of growth may produce effects that are more severe or persistent than those experienced by adults. Children may also have greater exposure relative to their body weight through breathing, eating and drinking, while behavioural patterns such as hand-to-mouth activity can increase exposure to contaminated environments^{xvi}.

The World Health Organization identifies children as particularly vulnerable to environmental risks because they breathe more air, consume more food and drink more water in proportion to their body weight than adults, while their central nervous, immune, respiratory and other systems are still developing^{xvii}. These developmental characteristics create particular windows of vulnerability during which exposure to environmental toxicants may produce irreversible or lifelong effects.

Heavy metals provide a clear illustration of this vulnerability. Lead exposure can adversely affect neurological development and cognitive functioning, while mercury exposure can affect the developing nervous system^{xviii}. Similarly, exposure to ambient and household air pollution has been associated with adverse respiratory and other health outcomes among children. Climate change adds another layer of risk through extreme heat, floods, droughts, food insecurity, changing patterns of infectious diseases and disruption of essential health services^{xix}.

Children also have limited control over the environmental conditions in which they live. Decisions concerning housing, sanitation, transportation, industrial activity, waste management and access to clean water are largely determined by adults, institutions and public authorities. This creates a distinctive rights-based obligation upon States to ensure that environmental policies adequately account for children's health and developmental needs^{xx}.

The vulnerability of children is further intensified by socioeconomic inequality. Children living in poverty or environmentally degraded communities may experience higher exposure to pollution while having limited access to healthcare, nutritious food, safe housing and clean water. Environmental risks can therefore reproduce existing social inequalities and create disproportionate burdens for disadvantaged children^{xxi}.

This vulnerability also underscores the importance of the principle of intergenerational equity. Children are both rights-holders in the present and members of future generations who will inherit the consequences of current environmental decisions. Environmental policies that permit long-term ecological degradation may therefore undermine their present rights as well as their future health and well-being. The protection of children's environmental health consequently requires a preventive and child-centred approach that integrates human rights, public health and environmental justice.

The recognition of children's right to a healthy environment should therefore extend beyond formal legal protection. It requires effective implementation, environmental monitoring, preventive health measures, accountability for environmental harm and meaningful consideration of children's health in environmental decision-making. A rights-based environmental framework must ultimately ensure that every child has the opportunity to grow and develop in conditions that support a healthy and dignified life.

3. ENVIRONMENTAL HAZARDS AND THEIR IMPACT ON CHILDREN'S PHYSICAL HEALTH

Environmental exposure during childhood is increasingly recognised as an important determinant of physical health and development. Children may encounter environmental hazards through the air they breathe, the water and food they consume, the soil in which they play, and the environments in which they live and study. Because childhood involves rapid growth and physiological development, exposure to environmental contaminants during this period may lead to acute and long-term health consequences. The major environmental hazards of concern include heavy metals, ambient air pollution, chemical contaminants, contaminated water and climate-related risks.^{xxii}

3.1 Heavy Metal Toxicity

Heavy metals constitute a significant environmental threat to paediatric health. Lead, mercury, arsenic and cadmium may enter children's bodies through contaminated drinking water, food, soil, household products, industrial emissions and occupational or community-level exposure. Children are particularly susceptible to heavy-metal toxicity because their developing nervous, immune and other organ systems can be affected during critical periods of growth.

Lead exposure is of particular concern because there is no known safe level of exposure for children. Even relatively low levels of lead exposure may affect cognitive development, learning ability, behaviour and neurological functioning^{xxiii}. Chronic exposure can also contribute to anaemia, impaired growth and other adverse health outcomes^{xxiv}. Mercury exposure, particularly methylmercury, may affect the developing nervous system, while arsenic exposure has been associated with developmental, cardiovascular and other health effects^{xxv}.

The health consequences of heavy-metal exposure demonstrate the importance of preventive environmental regulation. Once developmental or neurological damage occurs, medical intervention may not completely reverse the consequences. Therefore, environmental monitoring, early detection and elimination of exposure sources are particularly important components of child-health protection.

3.2 Ambient Air Pollution

Air pollution is one of the most significant environmental risks to children's health. Major pollutants include particulate matter, nitrogen dioxide, sulphur dioxide, ozone and other toxic substances generated by transportation, industrial activity, construction, waste burning and household combustion. Children may experience both outdoor and indoor exposure, particularly in areas affected by traffic emissions, industrial pollution or the burning of solid fuels.

Exposure to particulate matter and other air pollutants has been associated with respiratory infections, asthma, impaired lung development and other respiratory conditions in children^{xxvi}. Early-life exposure may also affect lung function and increase vulnerability to respiratory disease later in life^{xxvii}. Air pollution therefore represents not merely an immediate environmental concern but also a long-term public health challenge.

Children living in densely populated urban areas or near major sources of pollution may face disproportionate exposure. Socioeconomic factors can further increase vulnerability where families have limited access to clean energy, adequate

housing, healthcare and safe recreational environments. Effective air-quality regulation must therefore incorporate child-health considerations when establishing emission standards, monitoring systems and pollution-control measures.

3.3 Chemical Contaminants and Toxic Substances

Children may be exposed to pesticides, solvents, industrial chemicals, endocrine-disrupting chemicals, persistent organic pollutants and other hazardous substances through food, drinking water, household products, agricultural environments and industrial activity. Their developing biological systems may be particularly sensitive to chemical exposure during prenatal and early childhood periods.

Certain chemicals can interfere with neurological, endocrine, reproductive and immune functions^{xxviii}. Exposure to pesticides, for example, has been associated with adverse neurodevelopmental outcomes, while exposure to endocrine-disrupting chemicals may interfere with hormonal processes that regulate growth and development^{xxix}.

The widespread use of chemicals creates a regulatory challenge because children may be exposed to multiple substances simultaneously. Conventional regulatory approaches that assess chemicals individually may therefore fail to capture the cumulative or combined effects of environmental exposure. A precautionary approach is particularly relevant where scientific uncertainty exists concerning long-term health consequences.

3.4 Contaminated Water, Food and Soil

Safe water, food and soil are fundamental to healthy childhood development. Contamination of drinking water with pathogens, heavy metals, pesticides or industrial chemicals can produce significant health consequences. Unsafe water and sanitation contribute to diarrhoeal diseases and other infections, while chemical contamination may cause chronic toxicity.

Children are also particularly vulnerable to soil contamination because of frequent outdoor activity and hand-to-mouth behaviour. Contaminated soil may contain lead, arsenic, pesticides and other hazardous substances. In communities surrounding industrial areas, mining sites or improperly managed waste facilities, children may experience prolonged exposure through direct contact, inhalation of contaminated dust or ingestion.

Environmental contamination can simultaneously undermine several dimensions of child health. A child exposed to unsafe water, inadequate sanitation, contaminated food and polluted air may experience multiple interacting risks rather than a single isolated environmental exposure. This highlights the need for integrated environmental-health policies.

3.5 Climate Change and Climate-Related Health Risks

Climate change represents an increasingly important environmental determinant of paediatric health. Rising temperatures, heatwaves, floods, droughts, wildfires and changing patterns of infectious diseases can directly and indirectly affect children^{xxx}. Extreme heat may cause dehydration and heat-related illness, while floods and other disasters can result in injuries, displacement, unsafe water, and interruptions to healthcare and education.

Climate change can also affect children's nutritional status through its impact on agricultural productivity, food availability and food prices. Changes in temperature and precipitation may alter the geographical distribution of vector-borne diseases, increasing children's exposure to certain infectious diseases^{xxxi}.

Children's vulnerability to climate change is also connected with their dependence on adults and public institutions. They generally have limited capacity to relocate, access healthcare independently or protect themselves from extreme environmental conditions. Climate-related health protection therefore requires effective public health preparedness, resilient infrastructure, emergency response systems, and climate-sensitive health policies.

3.6 Cumulative and Interconnected Environmental Exposures

Environmental hazards rarely occur in isolation. Children may simultaneously be exposed to air pollution, contaminated water, chemicals, heavy metals, unsafe housing, and climate-related hazards. Such cumulative exposure may produce complex health effects that cannot be adequately understood by examining individual pollutants in isolation.

The concept of the exposome provides a useful framework for understanding the totality of environmental exposures experienced across the life course^{xxxii}. Applying this approach to paediatric populations can help identify combined environmental risks and develop more effective preventive strategies.

From a rights-based perspective, cumulative exposure strengthens the case for a preventive and precautionary approach. Where environmental hazards are capable of producing serious or irreversible harm to children, the absence of complete scientific certainty should not justify delaying protective measures. Environmental governance must therefore move beyond isolated pollution-control measures towards integrated systems that consider children's cumulative exposure and long-term

health.

Overall, environmental hazards pose multidimensional risks to paediatric physical health, affecting respiratory, neurological, developmental, immune and nutritional outcomes. The evidence reinforces the need to integrate environmental protection with public-health policy and children's rights. Protecting children from environmental hazards requires not only treatment after illness occurs but also prevention of exposure at its source.

4. INTERNATIONAL LEGAL FRAMEWORK FOR PROTECTING CHILDREN FROM ENVIRONMENTAL HARM

The protection of children from environmental hazards has progressively developed within international human rights and environmental law. Although early international environmental instruments did not specifically focus on children's health, subsequent developments have increasingly recognised that environmental degradation directly affects children's rights to life, health, development and an adequate standard of living. The international framework has consequently evolved from general environmental protection towards a more rights-based and child-sensitive approach. Some of the international instruments in this regard are as follows:

4.1 Convention on the Rights of the Child (CRC)

The Convention on the Rights of the Child (CRC), 1989, is the principal international human-rights instrument protecting children's rights. The Convention recognises every child's inherent right to life and requires States Parties to ensure, to the maximum extent possible, the survival and development of the child^{xxxiii}. It further recognises the child's right to the highest attainable standard of health and requires States to pursue measures aimed at reducing infant and child mortality, combating disease and malnutrition, providing clean drinking water and ensuring appropriate healthcare^{xxxiv}.

Article 24 is particularly significant because it expressly connects children's health with environmental conditions. States are required to take appropriate measures to address the dangers and risks of environmental pollution and to ensure access to adequate and nutritious food and clean drinking water^{xxxv}. Environmental protection therefore forms part of the State's obligation to secure children's health rather than remaining solely a matter of environmental policy.

The CRC also recognises the importance of the child's development, dignity and participation. It requires that the best interests of the child be a primary consideration and that children capable of forming views be given an opportunity to express those views in matters affecting them^{xxxvi}. These principles are relevant to environmental decision-making because environmental policies and projects may have long-term consequences for children's health and living conditions.

4.2 General Comment No. 15 and the Right to Health

The Committee on the Rights of the Child further clarified the relationship between environmental conditions and children's health in General Comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health. The Committee recognised that children's health is affected by a range of environmental determinants, including safe drinking water, sanitation, adequate housing, food security and exposure to environmental pollution^{xxxvii}.

The Committee emphasised that States should address environmental determinants of children's health and take measures to prevent exposure to hazardous substances and environmental pollution.^{xxxviii} This approach is important because it shifts the emphasis from treating environmentally induced diseases towards preventing harmful exposure at its source.

4.3 General Comment No. 26: Children's Rights and the Environment

A major recent development is General Comment No. 26 (2023) on Children's Rights and the Environment, with a Special Focus on Climate Change. The Committee on the Rights of the Child recognised that environmental degradation, climate change, pollution and biodiversity loss constitute serious threats to children's rights^{xxxix}.

The General Comment also emphasises that environmental harm may disproportionately affect children because of their developing bodies, dependence on adults and longer exposure over their lifetime. It therefore calls upon States to adopt preventive measures, strengthen environmental regulation, provide access to environmental information and justice, and ensure children's participation in environmental decision-making^{xl}.

This development is particularly relevant to paediatric health because it establishes a direct connection between environmental conditions and the enjoyment of children's rights. It also supports a preventive approach in which States are expected to address environmental risks before they result in irreversible health consequences.

4.4 Recognition of the Right to a Clean, Healthy and Sustainable Environment

Another significant development occurred in 2022 when the United Nations General Assembly adopted Resolution 76/300, recognising the human right to a clean, healthy and sustainable environment^{xli}. The resolution affirms that environmental degradation and climate change can interfere with the enjoyment of human rights and calls upon States and international organisations to adopt policies and strengthen cooperation to protect the environment.

The recognition of this right has particular significance for children. A clean and healthy environment provides the conditions necessary for the effective enjoyment of children's rights to life, health, development, food, water and an adequate standard of living. It also reinforces the principle that environmental protection should be approached through a human-rights framework rather than solely through environmental regulation.

4.5 Stockholm Declaration and the Development of Environmental Rights

The Stockholm Declaration of 1972 represents one of the foundational instruments in the development of international environmental law. Principle 1 recognises the fundamental right to freedom, equality and adequate conditions of life in an environment of a quality that permits a life of dignity and well-being^{xlii}.

Although the Stockholm Declaration does not specifically address children's environmental health, its recognition of the relationship between environmental quality, human dignity and well-being laid an important foundation for the subsequent development of environmental human rights.

The Declaration also emphasised the responsibility to protect and improve the environment for present and future generations^{xliii}. This concept is particularly relevant to children because environmental degradation today may have health consequences that extend throughout their lives.

4.6 Rio Declaration and the Principle of Sustainable Development

The Rio Declaration on Environment and Development, 1992, further developed international environmental principles relevant to children's health. Principle 1 places human beings at the centre of concerns for sustainable development, while Principle 3 recognises the right to development in a manner that equitably meets developmental and environmental needs of present and future generations^{xliv}.

The precautionary principle, contained in Principle 15, is particularly relevant to environmental risks affecting children. It provides that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent environmental degradation^{xlv}.

This principle is important in the context of paediatric environmental health because scientific evidence concerning long-term exposure to certain chemicals, pollutants and climate-related risks may evolve over time. A precautionary approach supports preventive intervention where credible risks of serious harm exist.

4.7 Sustainable Development Goals and Children's Health

The United Nations SDGs provide an important policy framework connecting environmental protection with children's health. SDG 3 seeks to ensure healthy lives and promote well-being for all at all ages, while SDG 6 focuses on clean water and sanitation. SDG 13 calls for urgent action to combat climate change and its impacts^{xlvi}.

Several other SDGs are also relevant, including SDG 2 on food security and nutrition, SDG 11 on sustainable cities and communities, and SDG 12 on responsible consumption and production. Collectively, these goals demonstrate that children's health cannot be separated from environmental determinants such as clean air, safe water, adequate nutrition, sustainable communities and climate stability.

Although the SDGs are not legally binding in the same manner as treaties, they provide an important international policy framework for integrating environmental protection, public health and sustainable development. For children's environmental health, they support a multidimensional approach that addresses both environmental exposures and their underlying social determinants.

4.8 Climate Change and Children's Rights

Climate change has emerged as one of the most significant environmental threats to children's health. Rising temperatures, extreme weather events, changing infectious disease patterns, food insecurity, water scarcity and displacement can affect children's physical and psychological well-being. The Paris Agreement, 2015, while primarily an international climate instrument, is increasingly relevant to children's rights because climate mitigation and adaptation measures have direct implications for children's present and future health^{xlvii}.

The Committee on the Rights of the Child, in General Comment No. 26, emphasises that States must address climate change as a children's rights issue. This approach recognises that children who have contributed least to historical greenhouse-gas emissions may nevertheless experience some of the most significant consequences of climate change.

The principle of intergenerational equity is therefore central to climate governance. Decisions concerning emissions, energy, natural resources, and environmental protection made today will directly influence the environmental conditions that children and future generations inherit.

4.9 International Environmental Justice and State Responsibility

The international framework increasingly supports the proposition that States have both negative and positive obligations concerning children's environmental health. States must refrain from permitting activities that cause serious environmental harm and must also establish effective regulatory, monitoring and enforcement mechanisms to prevent foreseeable environmental risks.

A child-centred approach requires States to assess the potential health consequences of environmental policies, regulate hazardous substances, provide access to environmental information, ensure effective remedies and enable children and their representatives to participate in decisions affecting their environmental conditions.

The international framework therefore demonstrates a gradual shift from general environmental protection to the recognition of environmental quality as a component of children's human rights. The CRC, the General Comments of the Committee on the Rights of the Child, the Stockholm and Rio principles, the SDGs, and the recognition of the right to a clean, healthy and sustainable environment collectively provide a normative foundation for protecting paediatric populations from environmental hazards.

For India, these international developments provide an important interpretative framework for understanding constitutional environmental rights and State obligations. The next section therefore examines how these international principles have been incorporated and developed within India's constitutional and statutory framework.

5. CONSTITUTIONAL AND LEGAL FRAMEWORK IN INDIA

India does not recognise a separate, expressly worded fundamental right to a healthy environment in the text of the Constitution. Nevertheless, constitutional jurisprudence has progressively established environmental protection as an essential component of the right to life, health and dignity. This development is particularly significant for children because environmental degradation can directly affect their physical development, neurological functioning, respiratory health and overall well-being.

5.1 Article 21 and the Right to a Healthy Environment

Article 21 of the Constitution guarantees the right to life and personal liberty. The Supreme Court has interpreted this provision expansively to include the conditions necessary for a meaningful and dignified life. Environmental protection has consequently become an integral component of Article 21 jurisprudence.

In *Subhash Kumar v. State of Bihar*, the Supreme Court recognised that the right to life includes the right to enjoy pollution-free water and air^{xlvi}. This principle transformed environmental quality from merely a matter of governmental policy into a constitutionally protected interest. In *Virender Gaur v. State of Haryana*, the Court further emphasised that a hygienic environment is an essential component of a dignified life under Article 21^{xli}.

For paediatric populations, the significance of Article 21 extends beyond protection from immediate physical injury. Children have a longer period of exposure to environmental conditions and may experience health consequences that continue throughout their lives. Therefore, State obligations under Article 21 should include preventive measures against environmental hazards capable of causing serious or irreversible harm to children's health.

5.2 Directive Principles and Children's Environmental Health

The Directive Principles of State Policy provide an additional constitutional foundation for protecting children's health. Article 39(e) requires the State to ensure that the health and strength of workers and children are not abused. Article 39(f) specifically directs the State to provide children with opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity.

Article 47 places an obligation on the State to regard the improvement of public health as one of its primary duties. Article 48A requires the State to protect and improve the environment and safeguard forests and wildlife. Article 51A(g), although framed as a fundamental duty of citizens, requires every citizen to protect and improve the natural environment.

Read together, these provisions establish a constitutional framework in which children's health and environmental protection are interconnected. The Directive Principles are particularly relevant to environmental health because many environmental risks require preventive governmental action rather than merely individual remedies after harm has occurred.

5.3 Environmental Legislation and Protection from Pollution

The statutory framework governing environmental protection in India consists of several sector-specific and general environmental laws. The Environment (Protection) Act, 1986 constitutes an important part of this framework. Enacted to provide for the protection and improvement of the environment, the Act empowers the Central Government to take measures for preventing, controlling and abating environmental pollutionⁱ. Section 3 provides broad powers to take measures for environmental protection, while Section 5 enables the Central Government to issue directions considered necessary for protecting the environmentⁱⁱ.

The Act is particularly relevant to children's environmental health because environmental pollutants may originate from multiple sources, including industrial emissions, hazardous substances, waste and chemical contamination. The statutory framework therefore provides the regulatory foundation for controlling environmental exposures before they produce adverse health consequences. However, its effectiveness depends substantially upon standards, monitoring, enforcement and institutional coordination.

India's environmental regulatory framework also includes specific mechanisms dealing with air and water pollution. The Air (Prevention and Control of Pollution) Act, 1981 seeks to prevent, control and abate air pollution, while the Water (Prevention and Control of Pollution) Act, 1974 provides for the prevention and control of water pollution and the maintenance of the wholesomeness of waterⁱⁱⁱ. These laws are directly relevant to paediatric health because polluted air and contaminated water are among the major environmental determinants of childhood morbidity.

5.4 Environmental Principles and Children's Rights

Indian environmental jurisprudence has developed several principles that can strengthen the protection of children's environmental health. The precautionary principle emphasises prevention of environmental harm before it occurs. The polluter pays principle places responsibility for environmental damage on the person or entity that caused the pollution. The principle of sustainable development seeks to reconcile economic development with environmental protection, while intergenerational equity requires environmental resources to be protected for future generations.

In *Vellore Citizens' Welfare Forum v. Union of India*, the Supreme Court recognised sustainable development, the precautionary principle and the polluter pays principle as essential features of Indian environmental lawⁱⁱⁱⁱ. The Court's approach is significant for children because it shifts environmental protection towards prevention, accountability and long-term sustainability.

The principle of intergenerational equity is particularly important in the context of children's rights. Children will live with the environmental consequences of decisions made in the present. Environmental degradation that produces long-term contamination, climate-related risks or depletion of natural resources can therefore affect both their current rights and their future opportunities. Environmental governance must consequently account for the interests of children and future generations.

6. GAPS IN THE EXISTING LEGAL FRAMEWORK

Although India possesses a substantial constitutional, statutory and institutional framework for environmental protection, it does not yet provide a sufficiently integrated child-centred environmental health framework. Most environmental laws regulate pollutants, activities or ecological resources rather than expressly assessing their differential effects on children.

This creates a gap between general environmental protection and the specific health needs of paediatric populations. Environmental standards and impact assessments may not always sufficiently incorporate children's developmental vulnerability, cumulative exposure or long-term health consequences. Similarly, environmental decision-making may focus primarily on ecological or economic considerations without systematically incorporating paediatric health indicators.

A stronger legal framework should therefore integrate child-health considerations into environmental impact assessment, pollution-control standards, chemical regulation, climate adaptation strategies and public-health surveillance. Such an approach would move Indian environmental law from a largely generalised model of environmental protection towards a more rights-based, preventive and child-sensitive framework.

The constitutional and statutory framework thus provides a significant foundation for protecting children from environmental hazards, but its effectiveness ultimately depends upon implementation. The next important question is whether Indian courts have translated these constitutional principles into effective judicial protection of children's environmental rights.

7. JUDICIAL RECOGNITION OF CHILDREN'S ENVIRONMENTAL RIGHTS

Indian courts have played a significant role in developing the constitutional relationship between environmental protection, public health and the right to life. Although the Constitution does not expressly provide a separate fundamental right of children to a healthy environment, judicial interpretation of Article 21, read with the Directive Principles of State Policy and fundamental duties, has progressively strengthened environmental rights. This jurisprudence is particularly relevant to

children because environmental degradation can have irreversible consequences for their physical development, health and future well-being.

7.1 Right to a Pollution-Free Environment

The Supreme Court's environmental jurisprudence has consistently recognised that a healthy environment is an essential component of the right to life under Article 21. In *Subhash Kumar v. State of Bihar*, the Court held that the right to life includes the right to enjoyment of pollution-free water and air^{liv}. This principle established an important constitutional foundation for addressing environmental pollution as a violation of fundamental rights rather than merely a regulatory issue.

The significance of this principle is particularly pronounced in relation to children. Air pollution, contaminated water and exposure to toxic substances can adversely affect children's respiratory, neurological and developmental health. Consequently, the constitutional right to a pollution-free environment provides an important basis for preventive protection of paediatric populations.

7.2 Environmental Protection and Human Dignity

In *Virender Gaur v. State of Haryana*, the Supreme Court emphasised the relationship between environmental conditions, sanitation and the right to live with human dignity^{lv}. The Court recognised that a hygienic environment is necessary for the enjoyment of a dignified life.

For children, environmental conditions are closely connected with their development and quality of life. Unsafe sanitation, contaminated water, inadequate waste management and polluted living environments can increase children's exposure to disease and environmental contaminants. Judicial recognition of environmental quality as part of dignified life therefore reinforces the State's responsibility to provide conditions conducive to healthy childhood development.

7.3 Precautionary Principle and Preventive Protection

The precautionary principle has become a significant component of Indian environmental jurisprudence. In *Vellore Citizens' Welfare Forum v. Union of India*, the Apex Court acknowledged the precautionary principle and the polluter pays principle as fundamental aspects of sustainable development and integrated them into the country's legal framework.^{lvi}

The precautionary principle is particularly relevant to children's environmental health because certain environmental exposures may cause irreversible developmental damage, while scientific knowledge regarding long-term effects may remain incomplete. A legal system that waits for conclusive evidence of harm before taking preventive action may fail to protect children during critical periods of development.

Accordingly, environmental decision-making should incorporate preventive measures where credible risks to children's health exist, particularly regarding toxic chemicals, heavy metals, air pollution, and other hazardous exposures.

7.4 Sustainable Development and Intergenerational Equity

The Supreme Court has repeatedly recognised sustainable development as a central principle of environmental governance. Sustainable development requires that economic and development activities be balanced with the need to preserve environmental resources for present and future generations.

The principle of intergenerational equity is particularly significant for children's environmental rights. Children are not merely beneficiaries of future environmental protection; they are present rights-holders whose health and development may already be affected by environmental degradation. At the same time, they will inherit the environmental consequences of contemporary decisions concerning industrial development, natural resources, pollution and climate change.

In *State of Himachal Pradesh v. Ganesh Wood Products*, the Supreme Court emphasised the need to protect ecological resources and recognised the importance of balancing development with environmental protection^{lvii}. Such jurisprudence provides a foundation for considering children's long-term health interests when evaluating environmentally harmful activities.

7.5 Environmental Pollution and Public Health

Indian environmental jurisprudence has also recognised the close relationship between environmental degradation and public health. In *M.C. Mehta v. Union of India*, commonly known as the Oleum Gas Leak case, the Supreme Court developed the principle of absolute liability for enterprises engaged in hazardous or inherently dangerous activities^{lviii}.

The principle is particularly significant where hazardous industrial activities create risks for communities, including children living near industrial facilities. Children may have greater susceptibility to toxic exposure, and the consequences of environmental accidents may extend beyond immediate physical injury to long-term developmental and health effects.

The judicial approach, therefore, supports stronger accountability for activities that can pose serious environmental and public health risks.

7.6 Climate Change and Fundamental Rights

More recently, Indian constitutional jurisprudence has begun to recognise the relationship between climate change and fundamental rights. In *M.K. Ranjitsinh v. Union of India*, the Supreme Court recognised that individuals have a right against the adverse effects of climate change, linking climate-related harm with the constitutional guarantees of equality and life^{lix}.

This development has particular implications for children. Climate change can increase exposure to extreme heat, floods, food and water insecurity, infectious diseases and other health risks. Children may experience these effects over a substantially longer period than adults. Recognition of climate-related rights therefore provides an important constitutional basis for considering children's long-term health interests in climate and environmental policy.

7.7 Towards a Child-Centred Environmental Jurisprudence

Despite the extensive development of environmental jurisprudence, Indian courts have generally addressed environmental rights through broader constitutional principles rather than developing a comprehensive doctrine specifically focused on children's environmental health. This remains an important area for further legal development.

A child-centred environmental jurisprudence could require courts and public authorities to consider children's heightened vulnerability, cumulative exposure, developmental needs and long-term health consequences when assessing environmental harm. The best interests of the child, the precautionary principle and intergenerational equity can collectively provide a strong framework for such an approach.

Judicial recognition of environmental rights therefore provides an important bridge between environmental law and paediatric health. The constitutional principles developed by Indian courts, particularly the right to a pollution-free environment, the precautionary principle, sustainable development, the polluter pays principle, absolute liability, and intergenerational equity, can be applied to strengthen protection against environmental hazards affecting children.

However, judicial recognition alone cannot ensure effective protection. The real challenge lies in translating these principles into environmental standards, health surveillance, regulatory enforcement and preventive policies that specifically account for children's vulnerability. A meaningful child-centred environmental rights framework must therefore combine judicial protection with effective legislative and administrative implementation.

8. CONCLUSION

Environmental hazards represent a significant and increasing risk to children's physical health, especially during crucial growth and development phases. Contact with heavy metals, air pollution, chemicals, unsafe water and food, and climate-related threats can lead to both immediate and lasting health issues affecting respiratory, neurological, developmental, and overall well-being. Children's heightened vulnerability emphasizes that protecting the environment is vital for child health, not just an ecological issue.

The analysis shows that the right to a healthy environment is deeply linked to children's rights to life, health, dignity, development, and equality. International agreements, especially the Convention on the Rights of the Child and General Comment No. 26, increasingly acknowledge environmental quality as vital for fulfilling children's rights. Additionally, the United Nations' recognition of the human right to a clean, healthy, and sustainable environment reinforces this rights-based perspective.

In India, Article 21, along with Articles 39(e), 39(f), 47, 48A, and 51A(g), forms a crucial constitutional basis for safeguarding children from environmental hazards. Judicial rulings on the right to a pollution-free environment, the precautionary principle, sustainable development, the polluter pays principle, absolute liability, and intergenerational equity further bolster environmental protection efforts. Nonetheless, the current legal framework remains largely general and does not adequately account for children's unique physiological vulnerabilities and cumulative environmental exposures.

Environmental inequality highlights the importance of adopting a child-centred approach. Children in disadvantaged, polluted, or climate-vulnerable settings often experience higher exposure and have fewer resources to mitigate health impacts. Consequently, environmental governance should shift from generic protection to targeted, proactive measures that specifically safeguard vulnerable children.

Protecting children's right to a healthy future ultimately depends on integrating environmental law, public health, and human rights. It is crucial to implement stricter pollution regulations, conduct child-sensitive environmental impact assessments, establish systematic health monitoring, enforce regulations effectively, develop climate-resilient public health policies, and genuinely consider children's interests in environmental decision-making. Emphasizing a preventive and precautionary approach is especially vital when environmental exposures could cause irreversible developmental damage.

Protecting children's environmental health is more than a duty to the current generation; it is an investment in the well-being and dignity of future generations. Guaranteeing that every child can grow, develop, and live in a clean, healthy, and

sustainable environment is essential for realizing both environmental justice and the right to a healthy future..

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