

Climate Change and Sustainable Development



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Impact of Climate Change on Child Well Being

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Introduction

Climate change means the negative effects occurred in our ecosystem due to the change in the level of temperature in the atmosphere. Global warming and climate change are closely associated. Human activities are the main causes for global warming as well as climate change. Scientists have claimed that unlawful activities of human beings have increased the quantity of emission more carbon containing gases in the upper atmosphere and to an increased the quantity of tiny particles in the lower atmosphere which absorb heat like a black blanket. Another major issue was green house effect. Carbon dioxide, Methane, Nitrous oxide, fluorinated gases, Sulphur hexafluoride are main gases which cause green house effect. These gases are released primarily by the burning of fossil fuels and the tiny particles called black carbon (Smoke) produced trap the sun's energy in the atmosphere. The rise in global warming is due to the increased use of fossil fuels such as gasoline, diesel, kerosene, natural gas, and petrochemicals (plastics, pharmaceuticals, fertilizers). Urbanization, construction bridges and building over the rivers and farms, radiation from mobile towers and atomic reactors and deforestation are some of the other factors responsible for climate change.

This climate change has a strong impact on our ecosystems by rising sea levels, melting of glaciers, flooding, wildfires and droughts. It also has a strong impact on agriculture vegetation, underground water level, atmospheric pressure and oxygen and carbon dioxide imbalance. All of these impacts on our ecosystem affect adversely human health. Unfortunately, taking the lead from the centre, most state government departments are handling climate change as a fringe issue and do not seem to recognize its urgency.

Richer countries need to get down to zero emissions much faster and then help poorer countries do the same says Greta Thunberg.

The children are the innocent victims of the climate change, which affect their physical, cognitive, emotional, and social health. As the global temperature increase the quality of the air decreases. Breathing problems, wheezing, cough, chest pain bronchitis asthma, Malnutrition, neonatal deaths, acute respiratory tract infections, allergic problems, skin diseases, heart related issues, diarrhea and malaria are the major health issues faced by the children due to the climate change. The primary causes of child morbidity and mortality, including vector-borne diseases, water-borne diseases and air-borne diseases are the impact of climate change. *"Exposure to media ensures that children cannot escape hearing that their future and that of other species is at stake, and that the window of opportunity to avoid dramatic climate impacts is closing. The psychological health of our children is a priority, but denial of the truth exposes our children to even greater risk"* says James Hansen a leading climate scientist.

Surviving after a heavy storm, flood, drought and extreme heat children experience mental health problem such as stress, depression and anxiety. Cognitive development of the children also gets distorted. Climate change has a significant negative impact on children as their physiological, safety, and growth needs are higher than that of adults. Children's behavior and social interaction are affected by climate change. Evans, W. Gary found that temperature elevation, extreme weather events, and rising air pollution negatively affected interpersonal and intergroup conflict, and psychological distress. He also stated that droughts, floods, and severe storms diminished quality of life, elevated stress, delayed cognitive development among children and their outdoor recreational activities were also affected by high pollutants.

Stage wise impact of climate change on children

Neonatal stage

During the neonatal stage, infants are affected by certain maternal infectious diseases neurological disabilities, mental

retardation, and physical deformities when pregnant mothers are exposed to high radiation, emission of lead poisoning from the factories, acid rain, and polluted environment due to climate change.

Infancy stage

Low birth weights, premature birth, and deficiency diseases are common among infants when mothers experience extreme heat, air pollution, drought, flood and water and food contamination. Van Lange et al.(2017) noted that hotter countries and hotter states had earlier maternal first births and lower levels of self-control.

Toddler stage

During toddler stage children spent more time at outside of the home than inside. When they play on the ground the sand and dust particle would stick on their body parts. Climate changes increases the level of dust, mold spores and pollens in the atmosphere. Bronchitis asthma, wheezing, diarrhea and allergic sneezing are the major diseases affected to them due to the pollutants and allergens in the air and contaminated water. Climate change and increased temperatures will lead to more reproduction of insects and exist for longer period. Mosquito bites and moth bites can cause diseases like malaria, dengue, and La Crosse encephalitis or Lyme disease. Climate change especially extreme heat limits the recreational activities of the children.

Childhood stage (school age)

Temperature is closely associated with quality of life. School going Children often may not be recognized for the symptom of dehydration. Children have a higher risk of becoming ill or dying due to extreme heat. More over they experience serious stomach ache and diarrhea due to the contaminated drinking water as they consume more than normal adults. The frequency, severity and duration of some extreme weather events, affect the mental health problems among children because they may have difficulty in controlling their emotions, poor academic achievement,

depression, anxiety and post-traumatic stress. Kjellstrom et al. found that extreme heat had significantly negative impact on cognitive performance of students. Goodman et al. (2018) proved that elevated temperature level lowered the problem solving ability of the high school students. Lin (2009) noted that elevated temperature diminished the outdoor activities. Murray et al. (2011) concluded that flood and storm affected adversely mental health outcomes, including residential displacement, economic strain, marital tension, and frustrations among the children.

Strategies to manage climate change for improving the well being among children

i. Minimize greenhouse gas

The emission of carbon containing gases in the atmosphere can be minimized. The following techniques could be adopted to minimize the green house effect.

- a. Adopt the principle of Reduce, Reuse, Recycle
- b. Use Less Heat and Air Conditioning
- c. Replace incandescent light bulb with a CFL bulb.
- d. Drive Less and walk and cycling more
- e. Buy Energy-Efficient Products
- f. Use Less Hot Water
- g. Save electricity by switch off policy
- h. Save water
- i. More plantation
- j. Conserve energy

ii. Address the needs and children and remedial measures could be implemented to satisfying their needs and solving the problems

iii. Provide high protection to the children from the dangers of environmental hazards

iv. Reduce inequity among children and promote their future resilience to climate change. As climate change is quite common and creates lot of physical and psychological damage irrespective of rich and poor, it is seen that the recovery of the rich is faster

than the poor. Repeated efforts are needed to recover them we can reduce the inequalities by

- a. Provide easy access to safe water, adequate sanitation and good hygiene, good nutrition and food security, strong and accessible health systems and well-functioning child and social protection systems
 - b. Give suitable coping mechanisms to tackle the impact of climate change in future.
- v. Provide awareness and training programme about climate change could be given to students. Children should be supported in strengthening their awareness, knowledge, skills and engagement to promote environmental sustainability among their peers and in their community.
- vi. Curriculum could be reconstructed and climate change education could be incorporated in the curriculum of primary and secondary schools, and becomes part of higher, alternative and vocational education.
- vii. The knowledge on environmental sustainability, climate change adaptation and mitigation could be provided to the children.
- viii. Awareness programme on causes of climate and its prevention and disaster management could be conducted at levels of school education.
- ix. Medical camps and medication on malaria, dengue and cholera could be given.
- x. Vaccination camps could be organized for infants and school going kids against, malaria, tuberculosis and other infectious diseases.
- xi. Planning and policies on climate change preparedness, response, and recovery could be implemented to the full spectrum on the basis children's needs before, during, and after severe climate change events.
- xii. Schools could safeguard the physical and emotional health of the children. There could not be any interruptions on education.
- xiii. Counselling programmes for stress management, trauma and anxiety could be the part of the school curriculum.

xiv. Early identification and intervention programmes could be carried out for the children with physical and intellectual disabilities caused due to climate change.

Conclusion

Save our earth for the sake our young minds is the social responsibility of every individual. Government could take bold and ambitious decisions to reach an agreement which reduces greenhouse gas emissions and enables the protection of future generations from the impacts of climate change. It is also the bound duty and responsibility of the business and civil society to reduce the harmful activities on our ecosystem which leads to climate change. The action plans to reduce the global warming and child well being could be started at the grass root level. Government could implement national climate plans on mitigation and adaptation. Investments on sustainable energy and on climate change adaptation policies could be executed to reduce child mortality, early childhood care and development, to improve maternal health.

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