

Factsheet-2

Climate Change

We at Youth 4 Water take climate change seriously. Here's why:

Remember Cyclone Fani? That was the biggest in Odisha's recent history! And it caused so much damage.

Whenever there's flooding, some of us have lost water connections for days if not weeks. It affects the way we are able to live, study and work.

Climate change refers to long-term shifts in temperatures and weather patterns through natural or human act, the impacts of climate change are global in scope and unprecedented in scale.

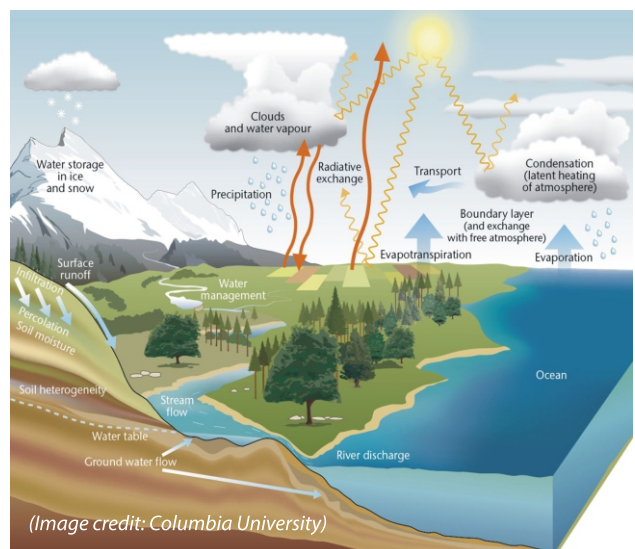
Climate change is the greatest threat facing the world's children and young people. 1 billion children are at 'extremely high risk' of the impacts of climate change¹

Climate change, water and children

Climate change and the expanding water crisis are the two most significant challenges the world faces now. In fact, the climate crisis is intrinsically related to water as most of its impacts are manifested through problems in the water cycle. Increased variability in the water cycle due to climate change is inducing extreme weather events. The latest scientific report on climate change by the Intergovernmental Panel on Climate Change (IPCC) rightly confirms, "some of the most noticeable impacts come from the way climate change is intensifying the water cycle, bringing more intense rainfall and associated flooding, as well as more intense drought in many regions". Unpredictability

of water availability would impact the governance of water management programmes and hence impact water security and sustainability. Water security and the climate resilience of water and sanitation systems are critical to the stability of global society and to sustainable development efforts.

The water cycle –



If you look at the image, you'll see- rain to oceans, to rivers, groundwater and glaciers: everything is part of the Earth's water cycle. The water cycle is the constant movement of all of the water on planet earth.

Only about 3 per cent of the world's water resources consist of fresh water, of which around two-thirds are trapped in ice and glaciers, leaving very little for human consumption.

Can you think about how climate change affects every step of the cycle you see? (Answer at the end!)

[1] UNICEF's Children's Climate Risk Index

Water crisis -

With increasing greenhouse gas (GHG) concentrations, the major cause of global warming, the freshwater-related risks increase significantly. Latest modelling studies have estimated that with each degree of global warming, approximately 7 percent of the global population comes under the risk of facing a decrease of renewable water resources by at least 20 percent². According to latest global reports³, about 3.6 billion people had inadequate access to water at least one month per year in 2018. By 2050, this is expected to rise to more than five billion. All forms of water resources have been impacted by climate change leading to many challenges world over. It is estimated that during the last 20 years terrestrial water storage has dropped at a rate of 1 cm per year. Water losses in many highly populated areas are impacting water supply having major implications for water security. The fact that only about 0.5 percent of water on Earth is usable and available freshwater, such crises are going to be unmanageable if climate change impacts continue at the current rate.

Water-related hazards have increased in frequency over the past 20 years⁴. Since 2000, flood-related disasters have risen by 134% compared with the two previous decades. The number and duration of droughts also increased by 29% over this same period.

- Climate crisis is a water crisis at its core
- At least four billion people faced water shortages in the world, that's going to be exacerbated by impacts of climate change.
- More intense and frequent floods lead to water pollution and other destructions including crops and homes.
- Extreme rainfall events combined with long drought periods are increasing the risk of flash floods and preventing groundwater recharge.
- Women have to walk more and more to fetch water if climate crisis grows. That would not only jeopardise their health and wellbeing but that of the children as well.

[2] https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-Chap3_FINAL.pdf

[3] https://library.wmo.int/index.php?vi=notice_display&id=21963#.Yf1c4pp8w2z

[4] Ibid.

[5] Assessment of climate change over the Indian region: A report of the Ministry of Earth Sciences (MoES), Government of India. 2020

India and Climate Change: impacts & projections –

Temperature rise - India's average temperature has risen by around 0.7°C during 1901–2018, largely due to GHG-induced warming. It is estimated that, by end of the twenty-first century, India's temperature will rise by approximately 4.4°C relative to the recent past (1976–2005 average).

Changes in Rainfall - The summer monsoon precipitation (June to September) over India has declined by around 6% from 1951 to 2015, with notable decreases over the Indo-Gangetic Plains and the Western Ghats. Over central India, the frequency of daily precipitation extremes with rainfall intensities exceeding 150 mm per day increased by about 75% during 1950–2015.

Droughts - The overall decrease of seasonal summer monsoon rainfall during the last 6–7 decades have led to an increased propensity for droughts over India. There is a high likelihood of increase in the frequency (>2 events per decade), intensity and area under drought conditions in India by the end of the twenty-first century.

Tropical Cyclones – The frequency of very severe cyclonic storms (VSCSs) during the post-monsoon season has increased significantly (+1 event per decade) during the last two decades (2000–2018). Climate models project a rise in the intensity of tropical cyclones in the NIO basin during the twenty-first century.



(Image credit: <https://www.abren.biz/impactfulcapitalism/>)

Climate change and Odisha: disaster's hot bed⁶

A cyclone prone region, Odisha is located on the Bay of Bengal. Additionally, some of its areas are perennially prone to drought. Some of the major impacts of climate change on vulnerable communities and geographies of the state are flooding, heat stress, and sea level rise.

In Odisha, rainfall patterns have been erratic since the 1960s, and most years have seen below-normal rainfall across all districts. In recent decades, the "normal" 120 days of monsoon rain have shrunk to 60-70 days, and unusually heavy downpours, with torrential rainfall of over 200-250 millimetres/day, are more frequent during the monsoon, causing floods more frequently. Droughts are caused by this as well.

Odisha's north-western, western, and southwestern regions have experienced the greatest rise in temperatures. The current rate of temperature rise is certainly unsustainable if global warming challenges are not mitigated. These factors will have an increasing impact on terrestrial and marine ecosystems.

[6] Odisha Climate Change Action Plan 2018- 23, Govt. of Odisha.

[7] <https://www.unicef.org/press-releases/fact-sheet-climate-crisis-child-rights-crisis>

Climate change and children⁷:

A global generation of children will grow up in a world made far more dangerous and uncertain as a result of a changing climate and degraded environment.

- Children are the least responsible for climate change, yet they bear the greatest burden of its impact. Climate change is a direct threat to a child's ability to survive, grow, and thrive.
- Close to 90 per cent of the burden of disease attributable to climate change is borne by children under the age of 5.
- Reduction in the availability of fresh water for drinking and hygiene places children at an increased exposure to diseases such as cholera, typhoid, acute respiratory infections and measles.
- At present, some 785 million people lack access to basic water services. And by 2040, almost 600 million children are projected to live in areas where the demand for water will exceed the amount available.



(Image credit: <https://blogs.unicef.org/blog/photo-of-the-week-climate-change-children/>)

Hello youths, let's act fast!

Youths all across the world are increasing participating in climate action. We at Youth4Water network have also been taking several actions to raise awareness on climate change impacts as well as facilitate climate actions. Youth4Water engages youth in interactive modules on WASH, climate change, innovation & entrepreneurship. Youths can share their creative side by sharing their photography and drawing skills with us.

Come, do join our campaign. Together we can take several actions to help vulnerable communities and persons, including children, adapt to climate change impacts and build better and equitable societies.

Answer to image:

Water, that's available in various states, is transported around the world via weather patterns and water currents. We humans and other species all rely on the water cycle for their lives, livelihoods and prosperity. Water is pre-condition to life and any disturbance in the availability and quality of the resource can impact us severely. The various processes of the water cycle's movements such as evaporation, condensation, precipitation, interception, infiltration, percolation, transpiration, runoff, and storage etc are now a days impacted by climate change causing serious changes in the ways we have lived with water and related resources. Such impacts would lead to droughts, floods, cyclones and many other such disasters. Also, when temperature gets hotter, there's a lot more evaporation of water from surfaces, which means that we get a lot more shifting rain cycles and rain can be more intense.



SCAN TO JOIN



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