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URBAN POPULATION PRESSURE AND DOMESTIC WATER WASTAGE: A PILOT STUDY OF BIDYANAGAR LOCALITY IN GARIGAON, JALUKBARI, GUWAHATI

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Abstract- *Water is one of the most important needs for the sustenance of human life. It is required and used in many aspects like for drinking, industrial, sanitation purposes, etc. The city of Guwahati is one of the fastest developing and densely populated areas of Northeast India. The Bidyanagar locality of Garigaon, Jalukbari flourishes with towering commercial buildings, residential flats, fully concrete educational institutions, shops, numbers of girls and boys hostels, etc. The Bidyanagar locality has been facing water stress and despite such stress, the wastage of water is vis-a-vis common in the area. Sustainable water management is part of principles 3 and 5 of Stockholm Declaration 1972[2]. The impact of the wastage of water can be a long-term one and thereby Indian laws and judicial precedents have been the guiding compass for conservation. In this paper, firstly, an attempt has been made to understand the effects of population pressure. Secondly, an attempt has been made to understand the level of wastage of domestic water use in the Bidyanagar locality, which is now facing a water shortage. Thirdly, an attempt has been made to see the issue through the lens of international concern and Indian case laws. And finally, an attempt to suggest some recommendations to reduce it.*

Keywords- *Urban population pressure, wastage of domestic water use, international concern, and case laws.*

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1.Retrieved from report of The Stockholm Declaration extracted from http://publicinternationallaw.in as last accessed on 8/1/2023 at about 11.10 am.

2.Retrieved from The structure of Human Populations by G.A Harrison and A J Boyce.1972, , Volume 5, Issue 4, Oxford University Press.

Introduction

Population refers to the number of species living in an area. The human population is the number of human beings living in any village, town, city, region, or any part of a country. According to G.A Harrison and A.J Boyce- Populations are not merely conglomerations of individuals but rather, although to different degrees, ordered coherent systems, which have an entity greater than that of the sum of the individuals of which they are composed.[3]The study of population is called the demography. The term demography has been derived from the Latin word 'demos' which means the people and 'graphy' means writing about or recording something. The human population is a kind of resource for a society. A resource from nature is called a natural resource similarly the human population is called a human resource. A population generally is composed of different ages, gender, growth, race, sustainability, etc.

According to United Nations reports the world is going through tremendous population pressure which is going to continue while some regions have already been experiencing population momentum. According to UN estimates, South Asian countries comprising India, Bangladesh, Myanmar, Pakistan, and Sri Lanka contribute about 24.89% of the total world populationout of which India contributes a huge portion.

Due to such a situation, India, with 2.4% of the land mass and 1.4 billion people has been facing a huge demand for water with less supply. The 2018 report on the Composite Water Management Index by the prestigious Niti Aayog informed that only 4% of the world's freshwater resources are present in India and the water demand will increase by 22% in 2025 and 32% by 2050.[4]

The northeastern states have been facing an increase in population growth not only due to natural births and deaths but also due to immigration from border countries like Bangladesh. About 4% of population growth has been recorded in the northeastern states since the country's

independence[5]. This anthropogenic pressure has significantly impacted the water table in the northeastern states.

Bidyanagar, is a locality in Garigaon, Jalukbari. The Bidyanagar locality is located near the National Highway No. Both Hindus and Muslims live peacefully. There is an estimated population of 1000 residents including children mainly due to the building of new houses and new settlements by migration. It comprises commercial buildings, an educational institution, a health care center, food stalls, hostels, etc. It is closer to Gauhati University, Jalukbari Police Outpost Satmile Chowk Deepor Beel (a Ramsar-tagged wetland), and the Brahmaputra River. Since the population burden is rising in the locality and although it is located near such river bodies, it is facing water shortages, the wastage of water is rampant among households.

Population of North East India from 1971 to 2011 (in thousands)[6]

State	1971	Percent	1981	percent	1991	Percent	2001	percent	2011	percent	
Arunachal Pradesh	468	2.36	632	2.66	865	2.71	1098	2.82	1383	3.03	
Assam	14625	73.89	18041	75.84	22414	70.14	26656	68.37	31169	68.37	
Manipur	1073	5.42	1421	5.97	1837	5.75	2294	5.88	2722	5.97	
Meghalaya	1012	5.11	1336	5.62	1775	5.55	2319	5.95	2964	6.5	
Mizoram	332	1.68	494	2.08	690	2.16	889	2.28	1091	2.39	
Nagaland	516	2.61	775	3.26	1210	3.7	1990	5.1	1981	4.35	
Sikkim	210	1.6	316	1.33	406	1.27	541	1.39	608	1.33	
Tripura	1556	7.86	2053	8.63	2757	8.63	3199	8.21	3671	8.05	
NE Total	19792	3.61	23788	3.48	31954	3.78	38986	3.79	45588	3.77	

**Source: Census 2011*

This trend of population growth as one of the major factors, has resulted in climate change, water exploitation, deforestation, etc. The residents of urban Shillong have been facing an already existing water[7] crisis due to deforestation and decreasing rainfall. The recent report on the

7,Retrieved from article titled *"Extraction of Groundwater at semi critical stage in Guwahati"* by Kangan Kalita as accessed on 22/1/23 at about 9 am.

Ground Water Resource Estimation 2022has reported that the most populous city of Northeast i.e Guwahati has a water extraction level of 74.33% which is serious.[8] The capital of Manipur, Imphal is also reeling under water stress due to the increase of population as one of the factors[9]. A recent study on the groundwater quality in the sub-urban area of Tripura has found out that the quality of groundwater in Agartala has deteriorated due to various factors including the growth of population in Agartala[10].

This population increase has led to various effects on the present and future generations to an unimaginable level. The change has created an upside-down situation in the political, social, economic, etc. aspects of life. These overall general effects can be briefly summarized as under-

1. ***Stress on agricultural lands***- With the increase in the population the numberof mouthsis also increasing putting pressure upon the agricultural lands. Lands are shrinking but the cropping intensity has increased throughout the years for example 2012-2013,2013-2014, 2014-2015, 2015-16, 2016-2017, and 2017-2018, the cropping intensity varied from 138.8, 142.1, 141.6, 141.3, 143.6,143.6, 143.7 respectively.[11]Due to the rising gap between agricultural and non-agricultural uses, the farmers are bound to use a single agricultural land for various crops utilizing different chemical fertilizers, and poor irrigation management which has severely downgraded the quality and productivity of soil. It is recently reported that states like Uttar Pradesh, Punjab, etc are facing stress on soil quality.[12]

8.Retrieved from article titled *" A case study of 24*7 water supply facility of Haraorau village, Imphal East, Manipur"* published in Journal Of Rural Development Vol37 No(1) pp115-128, Hyderabad by Shukhdeba Sharma Hanjabam as accessed from http://www.nirdprojms.com on 22/9/23 at about 7.08 am.
9.Retrieved from article titled " *Forest cover in north astern states reduced by1020 sq km in last years says ISFR report"* as extracted as accessed http://www.theprint.in, on 28/1/2023 at about 4 pm.

[10] Retrieved from article titled " *Quality assessment of groundwater for drinking and irrigation use in Semi-urban area of Tripura, India."* By A.K Singh and S.R Kumar, published on International Journal on Ecology, Environment and Conservation as accessed http://www.krishi.icar.gov.in on 28/11/23 at about 10.30 am.
11.Retrieved from blog titled *'Once a rain forest treasure, deforestation spikes in Northeast India"* by Aatrayee Dhar ass published in September 7, 2021 in http;//www.theclimatetracker.org as accessed on 28/1/2023 at about 4.05 pm.

2. ***Increasing vehicles on the road***-As the population grows, more and more vehicles are running in society. As reported by Nitin Gadkari, Ministry of Transport, about 21 crore two-wheelers and over 7 crore four-wheelers were registered with the government records[13]. As a result, the world is witnessing global warming at a rising pace. The greenhouse effect causing global warming is the process where the heat released from the sun into the land and sea, cannot go out of the earth as it's trapped by the greenhouse gases like carbon monoxide emitted from various sources which warms up the earth's temperature.
3. ***Water pollution***- Water pollution is also another effect of the population increase in the construction of factories, throwing of non-biodegradable waste in open spaces, etc. Another scene of water pollution is the poisoning of water bodies by draining out of the overused inorganic fertilizers into natural sources. About 70% of water is contaminated and unfit for consumption and water bodies in India meet around 40 million liters of wastewater daily[14].
4. ***A global warming*** issue that has troubled environmentalists and scientists all around the globe is global warming. This phenomenon has taken place on earth after the Industrial Revolution, where the industrialization in the urban cities made the provenance for the polluted air. Apart from the factories, the vehicles on the road have contributed to the increase inair pollution. The gases emitted by the vehicles trap the heat within the atmosphere and heat the earth causing the phenomenon of global warming.As we can observe according to a recent Lancet study, about 2.3 million people died out of air pollution in India.[15]

12.Retrieved from article titled '*Global temperature to rise by more than 2 degree Celsius by 2100"* extracted from http:www.indianexpress.com as accessed on 28/1/2023 at about 4.55 pm.
13.Retrieved from article titled "*India to surpass China's population in 2023: Here's why it matters"* by James Foxx extracted from http://www.india-briefing.com as accessed on 28/1/2023 at about 9.35 pm.
14.Retrieved from http://www.britannica.com as accessed on 28/1/2023 at about 9.30 pm.

15.Retrieved from blog titled *"Past, Present and Future Water resources in a megacity: Delhi"* http://blogs.darden.virginia.edu by Mach Reidenbach and Hana Thurman in 16 November 2018 as accessed on 16/10/2022.

5. ***Deforestation***-One of the vital natural resources, is the forest, which has an active role in influencing the climatic factors and acting as the natural dam in controlling floods. It contributes to the maintenance of the biological balance in the life support system like conservation of water, rejuvenating the water cycles, increasing the soil fertility, etc. India at present has a forest cover of about 80.9 million hectares, whereas it is the northeastern states that have faced the worst deforestation i.e about 1020 square km of forest cover and 70% of tree cover in the northeastern states is lost between 2001 to 2018[16], for various needs including urbanization and industrialization. Nationally, Uttar Pradesh, Madhya Pradesh, etc. have shown a significant decline in the share of forests. Deforestation has brought mankind to the brink of ecological and socio-economic crisis.

6. ***Depletion of the ozone layer***

   One of the natural resources hurt by the rigorous human intervention is the Ozone layer. It is a blanket of ozone gas lying in the stratosphere about 15 to 30 km above the earth's surface. It protects the harmful ultraviolet rays from penetrating the earth which can cause severe damage to mankind like skin cancer, contamination of water bodies, etc. The most deadly and frequent gas weakening the ozone layer the carbon emissions. Countries like China, the USA, and India are the three, whose rank came highest in the list of carbon footprint emitters at present. With the increase in the world population and the need to fulfill the growing demands for consumption, the pace of the Industrial Revolution has added clarified butter to the fire. Another victim of the emission of carbon dioxide is the glaciers which are melting at a very high speed leading to floods and damage to lives in various places of the world.

7. ***Climate change***- Today, the threat that the whole creation kind is facing is climate change. Global climate scientists have agreed upon a perspective with a common consensus that the average global temperature has already reached 1.2 degrees Celsius

16.Retrieved from article titled *"Mughal system still supplies water at Zero cost"* by Ganesh Panagare published on October, 15, 1992 as extracted from http://indiaenvironmentportal.org.in published in e-magazine Down to Earth as accessed on16/10/2022.
17.Retrieved from report titled *'Niti Aayog Report on Water Crisis"* published by Press Information Bureau, Government of India, Minstry of Jal Shakti as extraxted from http://www.pib.gov.in as accessed on 20/10/2022 at about 7.15 am.
18.Retrieved from article titled *'India's water and Sanitation crisis"* extracted from http://www.water.org in as accessed on 20/10/2022 at about 7.16 am.

since the late 19th century[17]. It came to light that the hottest of centuries is the 20th century and the last 5 years are recorded to be the hottest of the recent past. It is a shocking climate fact that the spring season which used to arrive on time usually 30 years ago, now arrives approximately 15 days earlier than it did then. The change in the climate has been so gradual that the difference cannot be seen in one human lifetime but the effects upon the generations prevail devastatingly. Looking to times long past, scientists recognized that massive ice sheets had once covered a good part of the Northern Hemisphere. The Ice Age was tens of thousands of years in the past, however, and it had been an aberration. The IPCC projects the global temperature to increase to 2 degrees Celsius by 2100[18].

India accounts with 1.25 billion people at present which will surpass China with 140 billion in 2023. [19]India, a land of diverse people and resources, has its history lying in the Indus civilization. Like other civilizations Indus civilization too was born, brought up, and nourished near water sources like Indus and Saraswati rivers. The people worshipped water as most of their life events were connected around water sources. It came to light further that they were ahead of their time as built advanced drainage systems for the water flow, and dug in wells and ponds for e.g The Great Bath. During the Medieval Period, the Sultans constructed wells and dams to manage the water supply to the capital and used huge tanks namely *baoli and hauz*[20]to store water for the citizens. The Mughals too built canals and brilliantly engineered the water supply system like the one still existing in Burhapur of Khandwa district in Madhya Pradesh.[21] Similarly, the Ahoms in Assam established their kingdoms near water sources. Water was very important for them as it helped to serve the needs of its subjects in agriculture and other life activities.

18.Retrieved from article titled *'India's water and Sanitation crisis"* extracted from http://www.water.org in as accessed on 20/10/2022 at about 7.16 am.

19.Retrieved from report titled '*India Groundwater: A valuable but diminishing resource"* extracted from http://www.world bank.org as accessed on 20/10/2022 at about 7.20 am.

However, due to the growing population, there has been a serious scarcity of water all over the world.According to a report by UNESCO, all over the world, each month about four billion people have to suffer severe water scarcity.It is distressing to know that many countries are unable to provide sufficient water to about two billion people worldwide. India is toofacing a water crisis at a serious level according to the recent NITI Aayog report on Composite Water Management Index 2018[22], which says about 60 crores of people are facing water scarcity at present. It says that cities facing exhaustion of water are Bangalore, Chennai,Delhi, and Hyderabad.As per a report by water.org, 6% of the total population of India has no access to water sources[23]. The World Bank in a 2012 report has found out that India is mostly dependent on groundwater for agricultural, personal, and industrial purposes pumped out through underground tube wells[24].India at present uses 4% of freshwater out of available worldwide[25]. These data show that it is not an overnight change. There are various factors like high population growth, poor infrastructure management, lack of proper timely planning and implementation, etc. which have led to this situation.

Data on Total Water Availability in India

Total average precipitation in India –4000 billion cubic meter[26]

Total Water availability (in rivers)—1869 billion cubic meter

24.Retrieved from report titled '*Guwahati Biodiversity"* by Government of Assam, India as extracted from http://www.gscl.assam.gov.in as accessed at about 9.30 pm on 10/11/22.

25.Retrieved from http://www.geoiq.io as accessed on 28/1/2023 at about 10.20 pm.
26.Retrieved from http://www.guwahatiplus.com as accessed on 28/1/2023 at about 11.20 pm.
27.Retrieved from article titled '*Rainwater harvesting must in city feels experts*" by Abdul Gani as extracted from http://www.m.timesofindia.com as accessed on 28/1/23 at about 11.47 pm.
28.Retrieved from article titled '*Every Indian wastes up to 45 litres of water per day''* by Indian Education Diary Admin published on October 12, 2018 as extracted from http;//www.indianeducationdiary.in as accessed on 28/1/23 at about 11.50 pm.

Total Utilizable Water Resources—1123 billion cubic meter

Surface water- 690 billion cubic meter

Ground Water- 433 billion cubic meter

Current Utilization of surface water- 450 billion cubic meter[27]

Current Ground Water- 250 billion cubic meters.

A Chart to highlight the share of water availability amid an increase in population.[28]

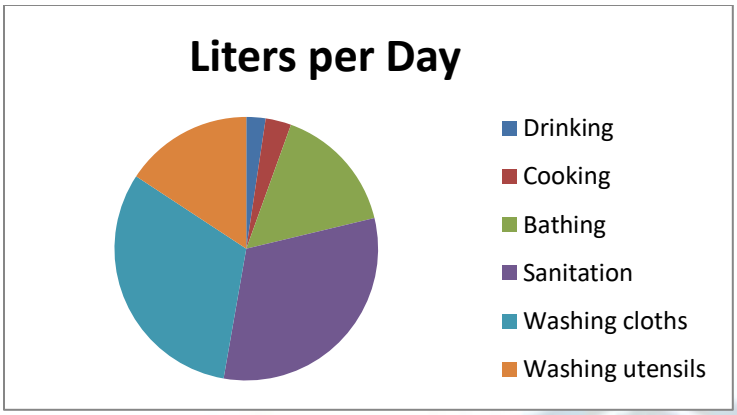
Year	Population **(in millions)**	Per capita water availability (**Surface water**)	Per capita water availability (**Ground Water**)
1951	361	5177	3110
1955	395	4732	2843
1991	846	2209	1327
2001	1027	1820	1093
2025	Estimated 1400+	1341	802
2050	Estimated 1600+	1140	702

Average use of water by urban Indian households.[29]

29.Retrieved from http:www.thefactfactor.com as accessed on 28/1/2023 at about 7.15 pm.

30.Retrieved from http://www.goodmenproject.com as accessed on 28/1/23 at about 6 pm.

31.Retrieved from article titled '*About water and sanitation"* http://www.ohchr.org.com as accessed on 28/1/2023 t about 6.10 pm.



Assam, a state in north-eastern India, with 78,348 sq.km, is located on the basin of the Brahmaputra river. The landscape is basically among the biodiversity hotspots in the Northeast with a tropical climate with moderate rainfall. However due to anthropogenic activities like urbanization, increasing transportation, and construction-led activities, the face of the state has been frequently changing and one of the concerning impacts can be felt upon natural resources like water.

The gateway of northeast, Guwahati, the capital city of Assam, is located on the bank of the river Brahmaputra, in the Kamrup Metropolitan District. It is the most developing and fastest-growing city in the entire northeast. It is also called the pass-through for the Act East Policy. The city is surrounded by the Shillong plateau in its South, to its west it has the Lokpriya Gopinath Bordoloi Airport and to its east, it has the town of Narengi and to its north, it has a vast rural area named Amingaon, where the famous National Law University and Judicial Academy is located.Guwahati City experiences generally a sub-tropical climate and the average rainfall is 1600 mm[30] and about 90 percent of it occurs between May and September.

Status of water supply in Vidyanagar, Gurgaon area of Jalukbari.

32.Retrieved from data “Guwahati” as accessed http://www.wikipedia.com on 28/12/23 at 6.15 pm.
33.Retrieved from http://www.wikipedia.com as accessed on 28/1/2023 at about 6.35 pm.
34.Retrieved from http://www.un.org as accessed on 28/1/23 at about 6.40 pm.

Since the urban area of Kamrup (metro) is already facing a huge water shortage[31]the demand of the population residing in the Bidyanagar area, is fulfilled by the 20 liters of packaged water bottles and water tanks filled up deep dug boring pipes. A tough situation is faced during the winter season when the groundwater dries up. The government has come up with an initiative to supply uninterrupted water from the river Brahmaputra to the city under three new water supply schemes which will be undertaken and managed by JICA (Japan International Cooperative Agency), ADB (Asian Development Bank), and JnNURM (Jawaharlal Nehru National Urban Renewal Mission in Kamrup metro.

Situation of Groundwater in Vidyanagar area

In the last 10 to 12 years, a perceptible reduction of water has been seen which is directly affecting the households. A report has shown that the absorption of groundwater is not possible due to the concrete building up and the practice of water harvesting is not still in practice in Guwahati which causes depletion of groundwater for the residents.[32]Households depending on present tube well depth will face the brunt of itshortly. In Guwahati, the average depth of dug wells or deep tube wells ranges from 120 ft to 150 ft. In fact, within the Bidyanagar locality of Garigaon, itself, in some places, the average depth of a deep tube well is found to be 100 ft to 130 ft.

Findings on how water is wasted domestically in the Vidyanagar area

Water is a precious resource on earth that has no alternative. However an average Indian wastes liters of water in a day[33]. The researcher in the study area observed theprevalent wastage of water domestically and found that one of the prime reasons is majority of the water wastage is due to water tank overflow as once the switch is turned on, it takes 15 to 20 minutes for a 6000 liter tank to fill up, it takes 10 to 15 minutes for a 3000 liter capacity tank and thereafter an idea can

35.Retrieved from www.lawliterature.gov.in as accessed on 28/1/2023 at about 9.08 pm.

be drawn further from it. This is subject to the voltage of the electricity flow. The researcher observes that most of the time it is keeping the turned-on switch idle or an attitude that when the water overflows then it has to be switched off, are among the reasons for such wastage of water by households. The rest of the sources and average estimated wastage of water can be represented below-

The chart on average estimated wastage of water for domestic use in households of Vidyanagar

Activity	**Average liters per day**
Sanitation	7 to 9lbs
Water Tank overload	15 to 20lbs
Leakage of pipes	10 to 12lbs
Utensils	4 to 6 lbs
Washing Clothes	10 to 12lbs
Taking a Bath and brushing	6 to 7lbs
Washing of vehicles	7 to 8lbs

Few effects of such waste of domestic water in the study area-

a. *Inadequacy to other needy areas*- When such water is misused then it creates a shortage for areas where the shortage is common.
b. *Creates water table burden*- It is well said that small drops make an ocean, thus due to suchdomestic wastages of water, the groundwater table continuously goes below which affects the future availability of water.

International Context on the importance of water.

1. ***Stockholm Declaration***-The declaration which was called upon between June 3 and 16, 1972 in Stockholm urged the state parties to execute such measures which can help in conserving, protecting, and developing renewable resources and nonrenewable

resources which are vital and whose benefits can be utilized in future by protecting it from future expansion.[34]

2. ***Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)*** This convention was drafted for the protection of women against any form of discrimination at any stage of life. It shares the idea that all the resources in the society should be equally distributed and women and girl children should be able to cherish the right to access to water. ***Article 14(2)(h)*** of the Convention provides: "States parties shall take all appropriate measures to eliminate discrimination against women in rural areas to ensure, on a basis of equality of men and women, that they participate in and benefit from rural development where clause (h) says about To enjoy adequate living conditions, particularly about housing, sanitation, electricity and ***water supply***, transport, and communication"[35]
3. ***Convention on the Rights of the Child*- Article 24(2)** of the convention promotes that it is the responsibility of every state parties where it should take concrete steps to protect children from diseases and malnutrition by developing access to proper health care by using upgraded technology and making affordability, accessibility, availability of nutritious food with clean drinking water in a safe environment.[36].
4. ***International Conference on Water and Sustainable Development (Dublin Conference)***

   The Dublin conference through its **principle 4** has stated that affordability and accessibility of water at a reasonable price is a very important step to keep alive the right to have access to clean water.[37]

36.Retrieved from http:/www.nhrc.nic.in as accessed on 28/1/2023 at about 12.20 am.

37. Retrieved from blog titled "Everything you need to know about the Stockholm declaration as accessed http://www.blog.ipleaders.in on 29/12/2023 at about 7 am.
38. Retrieved from article titled "Articles on CEDAW" as accessed http://nhrc.nic.in on 29/12/2023 at about 7.10 am.
39.Retrieved from "International Conference on Water and sustainable conference" as accessed from http://enb.iisd.org on 29/12/2023 at about 7.15 am.

5. ***United Nations Conference on Environment and Development***,

The Rio Summit endorsed the commonly agreed promise in its resolution of the Mar del Plata Water conference where it enunciated the right to access clean drinking water.

6. ***World Summit on Sustainable Development***

The Political Declaration of Human Dignity is resolved through decisions on targets, timetables, and partnerships to speedily increase access to basic requirements such as ***clean water***, sanitation, energy, health care, food security, and the protection of biodiversity.[38]

Indian context onthe importance of water

The constitution, being a living document, has been vocal since its inception about the round development of all its citizens which is possible only on the achievement of fundamental provisions e.g- ***article 21*** which in stills the right to life which includes the constitutional right to access the clean drinking water, right to food, clean environment and right to health. It is affirmed that without article 21 is the soul of the Indian constitution. It is further stated under Article 39(b) that the state shall take care of equal control and ownership of resources and their distribution to all sections of the society so that everyone gets a leveled share of resources. Moreover, article 47 the shared idea of the state's duty bound towards raising the level of nutrition, and standard of living and improving overall public health. Further, the Part IV-A of the constitution highlights the duty of every citizen to protect the natural environment including the forests, **rivers**, and wildlife. It is important to note that **Article 51 (A) (g)** imposes a fundamental duty, "to protect and improve the natural environment" only on the "citizens" of India.[39]

Few relevant landmark Judicial viewpoints

40. Retrieved from paper titled "*Agenda 21"* as accessed http://sustainabledevelopment.un.org on 29/12/2023 at about 7.25 am.
41. Retrieved from the paper titled "*Constitutional provisions for the protection of Environment with relevant case laws"* as accessed http://www.indianbarassociation.org o 28/12/23 at about 8 am.

In Narmada Bachao Andolan vs Union Of India (AIR 2000)[40], the apex court held that "Water is the basic need for the survival of human beings and is part of the right to life and human rights as enshrined in Article 21 of the Constitution of India....and the right to a healthy environment and sustainable development are fundamental human rights implicit in the right to "life"

In *Goa Foundation vs Union of India and others (AIR 2014)*[41], the Supreme Court recognized the intergenerational equity principle in the context of the conservation of scarce resources

In *Subhash Kumar vs State of Bihar*[42], the supreme court held that the right to life includes the right to an environment of pollution-free water and air for full enjoyment of life, and anything endangering Article 21 then one has the right to get relief under Article 32 of the Indian Constitution.

In *Vellore's Citizen's Welfare Forum vs Union Of India*[43], the topmost court of India commented that the right to fresh air, clean water, and a pollution-free environment of every human being flushes out from the constitutional framework which is directly derived from the right to clean environment.

Conclusion.

Water is the lifeblood for human sustenance. It is an inalienable asset to any human being. The planet possesses 1% freshwater with 99% saline water not consumable. The utility of clean and available water is significant to sustainable development. It is the resource that can be the contention of war in the future. According United Nations, two billion people live in countries that are facing high water scarcity. Even India is not spared from such a concerning situation. Today, India's 1.4 billion population including the northeastern population clubbed with the speed of urbanization has penetrated the groundwater level affecting the right to accessibility and availability of the citizens. Interestingly, despitethis fact, the domestic wastage of water remains

[40]AIR 1991 SC 420
[41]AIR 1996 SC 2715

[42]AIR 2000 SC 251

[43]Retrieved from article titled "Case Analysis; Vellore Citizens Welfare Forum vs Union Of India" as accessed http://www.lawsisto.com on 28/12/23 at about 9 am.

one of the challenges to the sustainability of the future. The international and domestic legal protection and guidelines have been trying to highlight and preserve the important inter-link survival of generations, society, and the environment.

Recommendations: Thus to conserve the limited naturalresources,a few recommendations are forwarded as under-

a. To close the tap when not in use.
b. To frequently check the openings and leaks in the water distribution pipes of homes and turn off the
c. To have a proper count of the number of buckets or vessels of water to keep a check on such unnecessary wastage.
d. To depend more on manual washing of clothes and cleaning of utensils instead of regular use of washing machines and dish cleaners.
e. Saving of water while bathing.
f. Rainwater harvesting is one of the best sustainable methods for conserving water and keeping it for future use for various purposes.
g. One should use collected rainwater for gardening or washing purposes.
h. One should use a bucket to wash the vehicles and keep on counting to keep in mind and reduce in the future instead of using piped water now and then.
i. Development of an eco-friendly sanitation system.
j. Incentive through award for water conservation & efficient use of water.

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