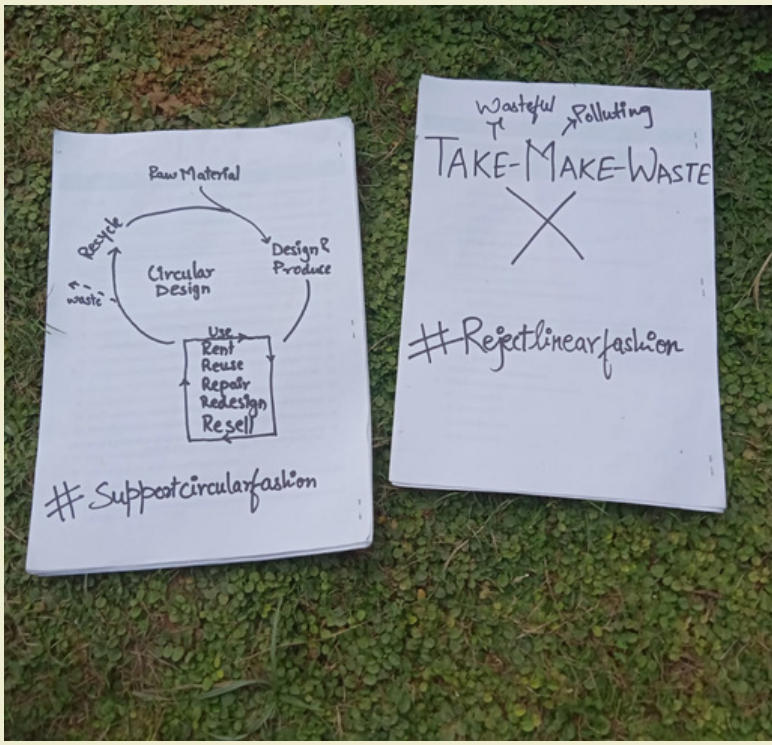
DAY 15 FASHION

TEAM NIFTY
THE UNIVERSITY OF DELHI

shivangi.k.chy@gmail.com

Two of my friends wearing their t-shirts inside out to join the force against fast fashion (also helped me with these posters, I SO admire their courage to stand with me in raising awareness)

Inside-out clothes and an awareness poster



Posters explaining circular fashion economy to encourage others to reject the conventional linear model.

Brand: GAP
Manufactured in India
100% Cotton

I started off the challenge by wearing the t-shirt inside-out and backwards, so people could actually notice the 'error' in my outfit. Most of my classmates noticed but didn't bombard me with questions (it's considered rude to point out negligence for something so 'trivial' as clothes, in our culture). So I had to level up, to get them talking. I ended up wearing the jeans inside-out too, and boy, did this stir words. Initially, my fashion-enthusiast friends were stunned to silence but then they came around as I explained the impact of fast fashion and discussed the appalling reality of it from terrible environmental impact to horrendous working conditions. Being forced to work 12 hours and sometimes 24 hours a day during peak times and are often still unable to afford life's necessities. The fact that women, who make up 80% of 300 million people employed in the textile industry, are paid less if pregnant and can even lose their jobs for being pregnant.

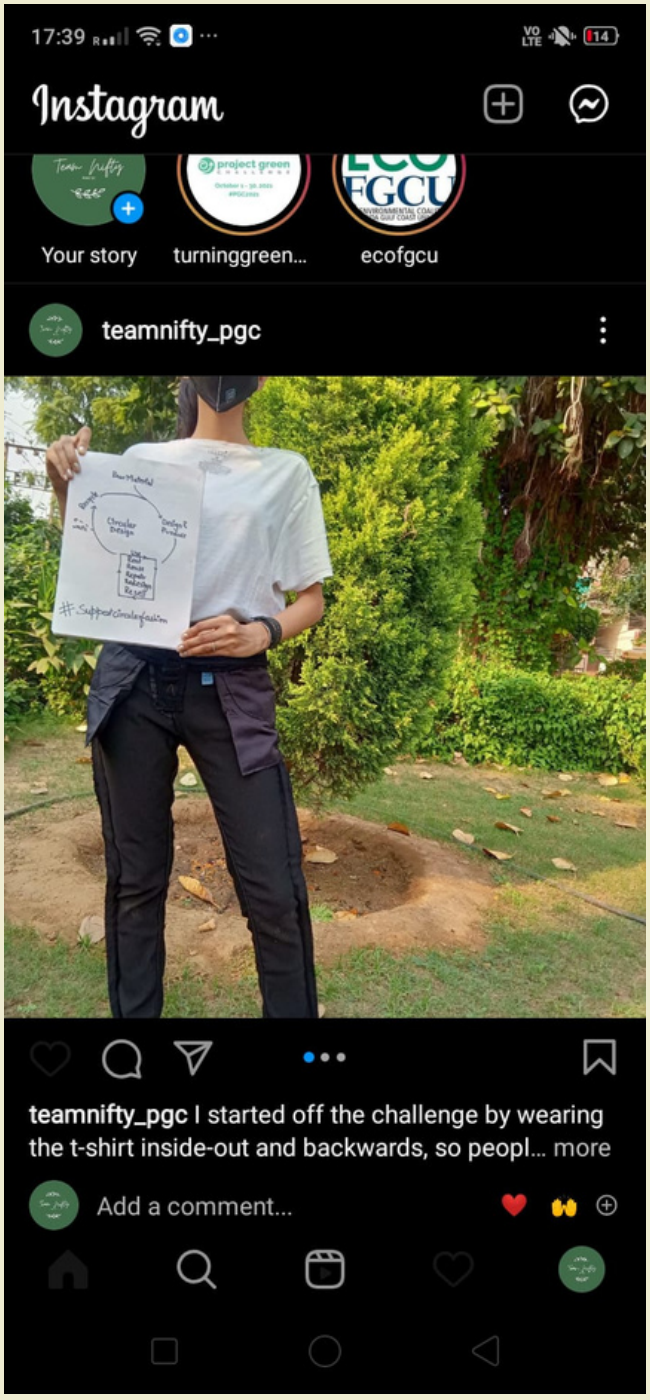
Two of my friends were, I guess, moved by this and wanted to hop in to raise awareness.

To quote Aadarsh (the boy in a baby pink t-shirt) - "I did see few documentaries on textile workers in Dhaka, the Rana Plaza incident, have we been living under a rock or something? India too?"

It's shocking how uninformed we can be of the crisis facing our country and its people (the labours and workers who form the backbone of our economy). I shared with them a more sustainable fashion model - Circular fashion.

Fast Fashion is harming the world more than we realise, contributing to the environmental challenges we face today. However, in this circular model of production, distribution and usage, every garment is made keeping its next use in mind. It's designed for longevity (opposed to fast fashion known for its race to the bottom of price and quality), biodegradability and recyclability. It's sourced and produced without using any techniques or materials that are toxic to the environment. This way, in its entire lifecycle, the article doesn't harm the environment at any stage. The circular fashion industry is one in which waste and pollution are designed out, products and materials are kept in use for as long as possible, including through reusing and recycling, and where natural systems are regenerated.

But the success rate of this model is dependent on consumers' actions. This is why my friends are now willing to amend their fashion choices for good.



BIOMIMICRY

Team nifty
the university of Delhi

For the greener challenge, I took a deeper look into one of the biological strategies available at asknature.org.

It established a link between the heat-insulating mechanism of camels and a passive cooling system based on that approach.
Camels have evolved a seemingly counterintuitive approach to keeping cool while conserving water in a scorching desert environment.
The typical way by which Homosapien maintain cool is by sweating but camels can't afford to lose that much amount water. Instead, They have a light coloured thick coat of insulating fur. This insulating power of the camel's fur reduces the amount of heat transferred to the camel's body from its hot ambient environment by three main mechanisms. The light colour of a camel's fur reflects light energy, reducing heat transfer to its skin by radiation. Finally, the individual hairs of the camel's fur impede the movement of air, reducing heat transfer to its skin by convection.

Between the outer surface of their fur and their skin, temperatures can vary by as much as 54 degrees Fahrenheit (30 degrees Celsius).

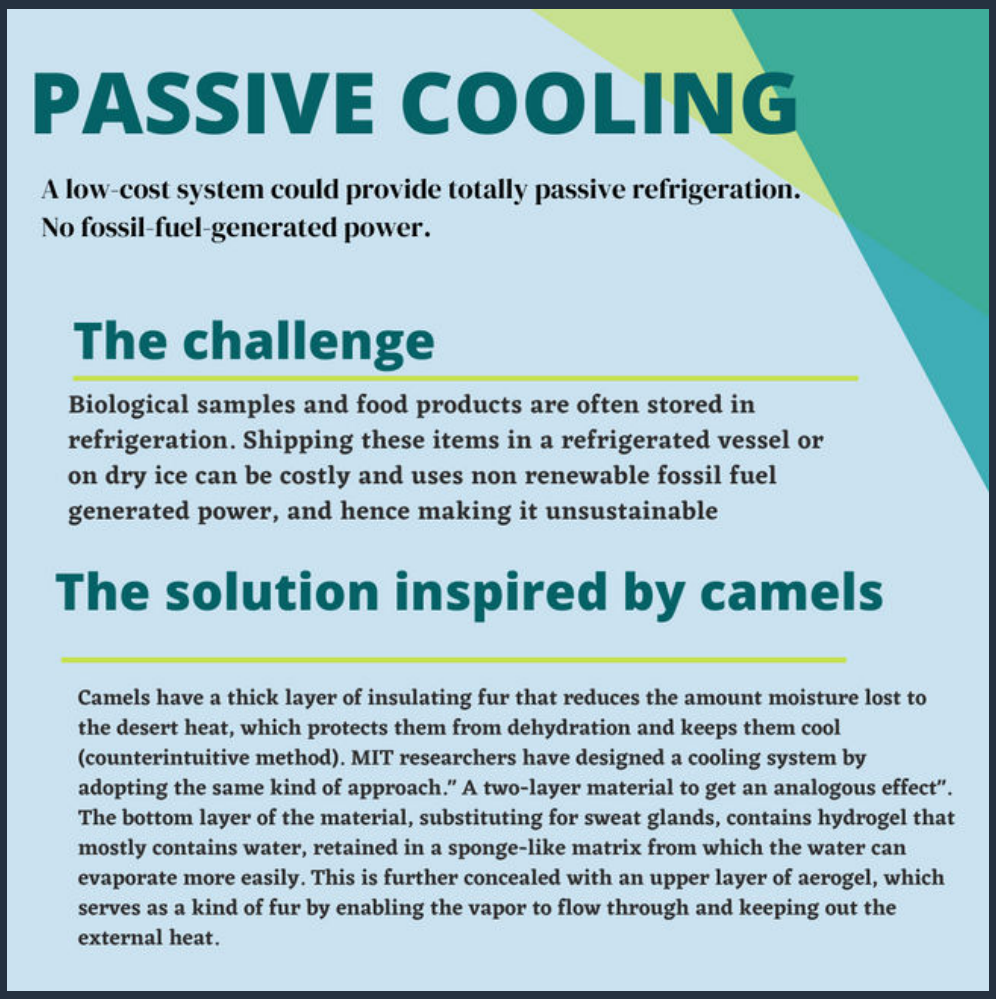
Adopting this in a system-

MIT researchers have now developed a system that could help keep things like pharmaceuticals/food and other items needing refrigeration cool in hot environments, without the need for a power supply, which is generated from fossil fuels.
 It turns out that a camel's coat, or a person's clothing, can help to reduce loss of moisture while at the same time allowing enough sweat evaporation to provide a cooling effect
The system uses a two-layer material to achieve a similar effect. The material's bottom layer, substituting for sweat glands, consists of hydrogel, a substance composed mostly of water, contained in a sponge-like matrix from which the water can easily evaporate. This substance has been employed in several mechanisms to keep material cool. However, this alone can not prevent heat from entering in. Hence the Hydrogel is then covered with an upper layer of aerogel, playing the part of fur by keeping out the external heat while allowing the vapour to pass through.

The best part of this whole mechanism is:

This passive cooling mechanism is much more sustainable than using Freons and comes with no downside, unlike CFC.
It's affordable
In contrast, existing systems that rely on refrigerated trucks or storage facilities may leave gaps where temperature spikes can occur during loading and unloading. This can be very detrimental to some perishable food. It makes them vulnerable to equipment malfunction and oftentimes leads to decomposition over time. In addition, shipping these items in a refrigerated vessel or on dry ice can be costly and use excessive material.
But this system resolves that by maintaining the temperature at a steady 23°c difference.

We have been conditioned to believe that our technological and scientific approaches have the potential to change the world for the better. But the time we waste conducting research and looking out for solutions elsewhere is ridiculous. We just need to observe what's right in front of us. Biomimicry Looks to living systems for clues on how to create sustainable, life-friendly designs



Benefits

- **Sustainable**

  Hydrogel and Aerogel are much more sustainable than using cooling gases like Freons and CFCs. It's entirely renewable and offers much effective cooling than systems powered by fossil fuels.

- **Reduced energy usage**

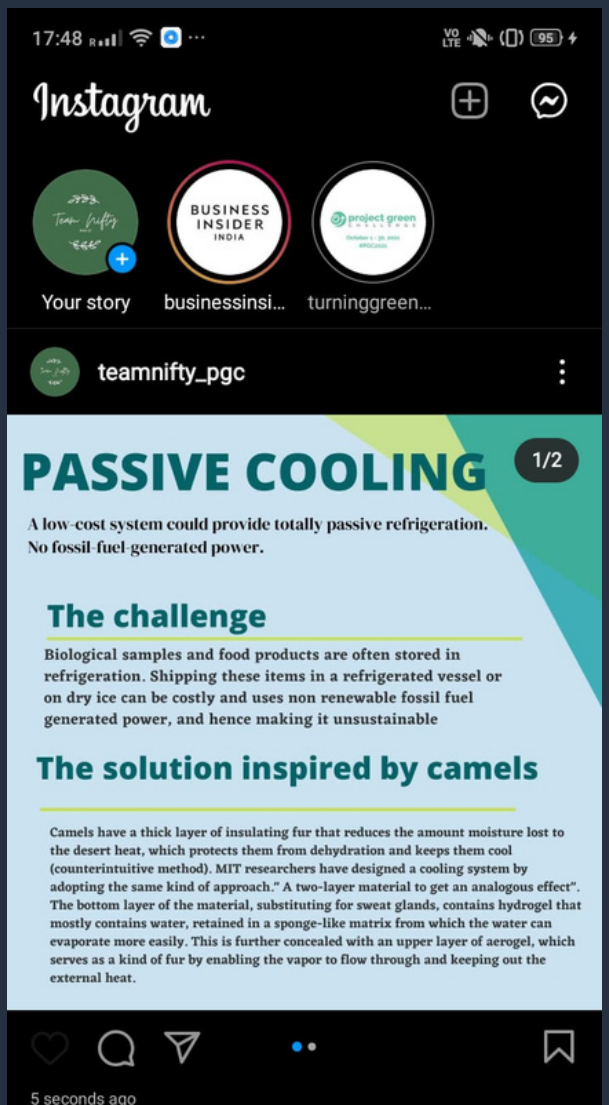
  No electricity is required to power this passive cooling system thus saving the energy cost

- **Reduced waste**

  Cooling Gases leakage leads to massive wastage. With this passive cooling, there's absolutely no waste created.

Applications

- Pharmaceuticals-It could also allow medicines such as vaccines to be kept safely as they are delivered to remote locations.
- Food storage-for food packaging, to preserve freshness and open up greater distribution options for farmers to sell their perishable crops.
- HVAC systems
- In addition to providing cooling, the passive system, powered purely by heat, can reduce the variations in temperature that goods experience, eliminating spikes that can accelerate spoilage.



This system could be used for food packaging, to preserve freshness and open up greater distribution options for farmers to sell their perishable crops. For pharmaceutical, It could also allow medicines such as vaccines to be kept safely as they are delivered to remote locations. In addition to providing cooling, the passive system, powered purely by heat, can reduce the variations in temperature that goods experience, eliminating spikes that can accelerate spoilage.

ECONOMICS

Team nifty

the university of Delhi

Leath

A breakthrough in material science and biotechnology
Presenting to you leath. Leath is a biomaterial company. Our technology is based upon root fibers of the mushroom called mycelium. I'm sure louis Vuitton needs no introduction. Synonymous with high end fashion. It's crazy just how popular it is despite its unsustainable and unethical business model. not to mention, it's expensive. But leath makes it super affordable, organic, cruelty-free, durable, and versatile with its biotechnology. We use agricultural waste and mycelium to grow leather. Yeah GROW. Think about all the energy, water, and time that goes into manufacturing and yet only 30% of an untreated hide gets turned into leather. And don't get me started on just how polluting this industry is.
Pollution from the tanneries is destroying the ecology of the neighbourhoods and scaring residents in the form of life-threatening illnesses like cancer. It also poisons the farm and the produce when the water seeps into soil.
With leath, there's no downside. In fact with the closed-loop process, there is low water and energy requirement. And it's a carbon negative process since we can use the same agricultural waste to grow multiple sheets and at the end of product life the leather is biodegradable and mycelium is a blessing to the soil.

The cut-outs will be reused to grow another sheet of leather.

The plant and machinery for manufacturing the final leather bag need the energy to function and we plan to employ renewable energy generated by solar panels.

The packaging box inlays (100% biodegradable) is designed to be reused as your herb garden pots. How?
The inlays will have basil seeds in them. Thus encouraging you to grow your herbs and make your place a little green.

And since our leather will be much more affordable, thereby increasing the sales and revenue over time. We plan on funding research in biotechnology and biomaterials such as using ocean plastic in clothing.

Our company is committed to the principles of safe and ethical working conditions and hence we shall get the company registered and products certified by fair trade.

https://www.instagram.com/tv/CVSp-s8lPTC_nXYJnakK4yO4hUeq1WhgaDhHJI0/?utm_medium=copy_link

Day 4

Water

Team Nifty

Delhi University

shivangi.k.chy@gmail.com

Call To Action

26-A
Vasant Vihar
Delhi

5 October 2021

The Honourable Chairman
Delhi Jal Board
New Delhi

Subject: Calling attention to the inadequate supply of clean water to marginalised communities in our area.

Respected Sir
I hope this letter finds you well. I would like to turn your attention to the ever-growing epidemic of the lack of clean water in our city – especially to how it affects the vulnerable more than the rest of us, and is bound to lead to civic and social challenges that we don't seem equipped to handle.

There has been a rapid surge in water pollution due to industrial effluents, sewage, agricultural runoff and other kinds of discharge we make into our primary sources of water. As you're aware, this leads to the amount of chemicals and microbes like bacteria, protozoa, viruses – many of which are chronic disease carrying pathogens. As these detrimental elements degrade water quality – rendering it excessively toxic to humans and the environment at large, we will have a lot of civic strife across the urban centers in the country in the near future. There will be more disease, more shortages, a vastly increased cost of living and diminished quality of life. But I write to you today about sections of our society for whom this future has already become their pleasant reality.

As you well know, around 80% of our river water is severely polluted because raw, untreated sewage, silt, garbage is all dumped in there. This renders our water not merely undrinkable but largely unfit for any kind of use. Still, the privileged among us somehow get by – we have relatively clean water municipally supplied to us, on tap. To make up for the gaps in supply, we install motors, water purifiers and what not, and we comfortably get by.

It's a different picture in the backward areas of Delhi's urban sprawl. Tap water is still a concept which seems like a luxury for them – there is only a communal tap for all residents to draw from. It runs only for an hour or so each day. Government tankers dispatched from time to time to certain neighbourhoods to fill the shortage are hardly enough to meet the quantum of need. Some among the marginalised communities – who inhabit the underbelly of our city like slums, illegal or semi-legal colonies, and other backward housing complexes by the government or otherwise – have no choice but to rely on tanker mafias. Estimates suggest that by 2030, these shady vendors who illegally draw water from lakes, wells and the groundwater table itself, would become prominent. New Delhi is supposed to be one of the posher and upscale parts of our city-state, which houses all arms of our national government. Yet, in parts of Southern New Delhi, the groundwater recedes by about 9 feet annually, on average. The culprit? Illegal drawing by the tanker mafia.

The number of tankers plying on city roads runs into the thousands.

Although these tankers help meet their daily needs in the short term, they are no substitute to clean water reliably supplied. The frequency of waterborne diseases has largely remained unchanged in Delhi over the past decade. Again, the vulnerable are the worst hit.

This is a serious urban crisis. Our city life, our social fabric cannot be sustained like this.
This letter is an SOS call from a distressed denizen of the city – an attempt to open the channels of communication. I will not presume to offer any suggestions of my own, as the constituents of your esteemed department are all professionals and domain experts the city relies upon.
If solicited, though, in the future I would be happy to humbly offer some offbeat but effective and sustainable solutions that your department can profit from. Because I hope this is only the first entry in a long line of fruitful and healthy exchange between your office and civic society, represented by folks like me.

Thanking You
Yours Faithfully
Jia Indrani Kapoor
(A concerned citizen)

Calling attention to the inadequate supply of clean water to marginalised communities in your area Add label

Jia Kapoor 6:23 PM
to djb, niti, secy-cwc, ngo, pal...

From	Jia Kapoor • ohgodjik@gmail.com
To	djb@delhi.gov.in
Cc	niti@gov.in secy-cwc@nic.in ngo@india.gov.in palkrishangurjar14@gmail.com cmharyana@nic.in letters@thehindu.co.in advertise@timesgroup.com
Date	Oct 5, 2021, 6:23 PM
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26-A
Vasant Vihar
Delhi

5 October 2021

The Honourable Chairman
Delhi Jal Board
New Delhi

Subject: Calling attention to the inadequate supply of clean water to marginalised communities in your area

INDIA'S INSATIABLE THIRST

Looming Water crisis

As many as 256 of 700 districts in India have reported 'critical' or 'over-exploited' groundwater levels according to the Central Ground Water Board data (from 2017). Ever wondered what makes India's water footprint both unique and challenging?

India has a serious water problem

India is water-stressed due to changing weather patterns and repeated droughts. India withdraws two times the amount of groundwater compared to China, despite having a similar population size, that's 25% of of the world's groundwater

- **CONTAMINATED WATER SUPPLY ONLY MAKES MATTER WORSE**

Around 80% of India's water is severely polluted. Each year, more than 1.5 million Indian children die from diarrhea. Out of the entire Indian population, experts predict that 40% of people may not have a connection to a clean water source by 2030.

WATER CRISIS-A FEMINIST ISSUE

The water crisis is a women's issue and feminists need to talk about it. A rural woman in Rajasthan walks over 2.5 kilometres to reach a water source, according to a report by the National Commission for Women.
Also, according to a non-profit named 'Water', women around the world spend a collective 200 million hours collecting water. In addition to the time spent collecting water, millions may also spend significant amounts of time finding a place to go to relieve themselves. This makes up an additional 266 million hours lost each day.

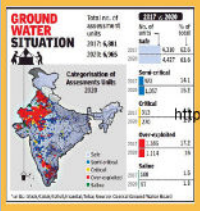
RURAL INDIA IS HEADED FOR CRISIS

Less than 50 per cent of the population in India has access to safely managed drinking water. Chemical contamination of water, mainly through fluoride and arsenic, is present in 1.96 million dwellings. Excess fluoride in India may be affecting tens of millions of people across 19 states, while equally worryingly, excess arsenic may affect up to 15 million people in West Bengal, according to the WHO.

FEASIBLE SOLUTIONS

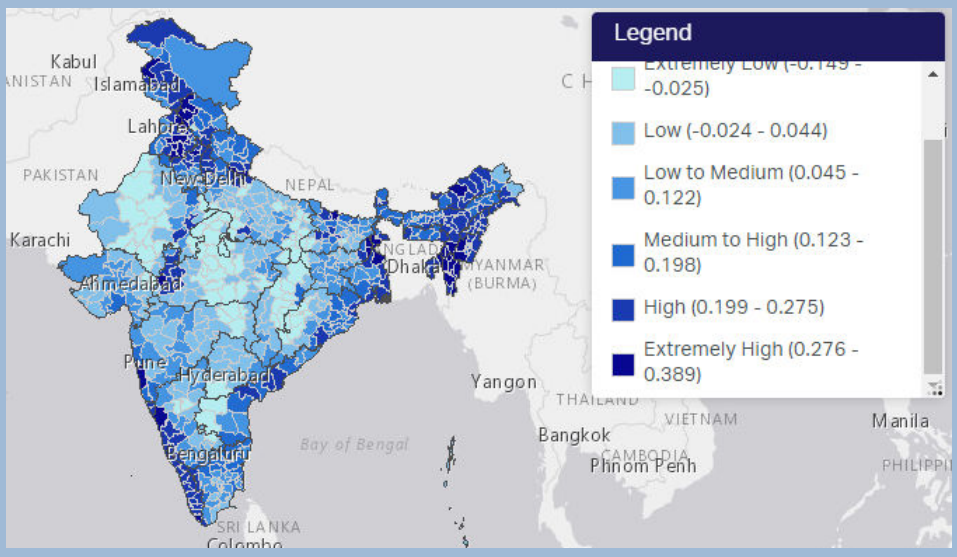
1. Increased awareness by citizens is crucial.

At the district and state levels, it is important to encourage farmers to choose crops wisely, help to harvest water by using watersheds. At the district and state levels, it is important to encourage farmers to choose crops wisely, help to harvest water by using watersheds,



SOURCES:

https://www.indiawaterportal.org/
https://www.downtoearth.org.in/blog/water/india-s-water-crisis-it-is-most-acute-for-women-78472


Legend
Extremely Low (-0.149 - -0.025)
Low (-0.024 - 0.044)
Low to Medium (0.045 - 0.122)
Medium to High (0.123 - 0.198)
High (0.199 - 0.275)
Extremely High (0.276 - 0.389)
Kabul
Islamabad
Lahore
PAKISTAN
New Delhi
NEPAL
Karachi
Dhaka
MYANMAR (BURMA)
Ahmedabad
Pune
Hyderabad
Yangon
THAILAND
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