SOCIAL ENTREPRENEURSHIP – KEY TO A SUSTAINABLE FUTURE

Asha Bhatia & Tarundeep Singh Anand

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Mr.Tarun Anand is the Chairman & Founder of Universal Business School, India's 1st Green B-School in Mumbai. Prior to this he was Managing Director, Thomson Reuters, South Asia. He served as Global Head of Treasury leading a $2 billion business across 136 countries and served on the Innovation & Venture Board at Reuters. He is a TEDx speaker and was awarded Education Evangelist of India by Great Place to Study and selected as Global Goodwill Ambassador. Tarun pursued his MBA from SPJIMR and Exec. education at Michigan B-School, Tuck B-school and IE B-school.

Edited by
Asha Deepak Bhatia &
Tarundeep Singh Anand

When something can be read without effort, great effort has gone into its writing
- Enrique Jardiel Poncela

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ABOUT UNIVERSAL BUSINESS SCHOOL

Universal Business School was established as part of Strive India Education Foundation in February 2009 with a vision of establishing a Business School which provides Indian and International organizations with talent, which is sensitive to Corporate Governance, CSR, Environmental concerns. Universal Business School (UBS) takes a leap forward by creating India's first Green Business School, ensuring eco-smart integrated thinking and a sustainable campus. They firmly believe in three 3E's: Environment, Ethics, and Experiential Learning. UBS provides full-time and part-time Graduate and Post Graduate programs in Management along with Executive Management Development courses.

Its mission is to provide students with faculty having industry expertise & academicians towards enhancing their competencies while imbibing corporate governance values and sensitize students towards environmental sustainability & CSR. To develop talent that attracts Indian & International organizations to campus. It is endorsed by 60 CEOs giving it the highest corporate recognition. Learning by doing is the Mantra of UBS by following the model of experiential learning. It uses several techniques and employs the latest available pedagogic technologies: Case Study Method, Shadow Techniques, Simulations, Experimentations, Industry Consultation and Experiential Learning Projects like Thomson Reuters Trading room where students can indulge in real-time trading with a notional capital of 1 crore, etc.

These processes will ensure that the students have a rich learning experience. UBS is the 1st B-school in India Approved by AICTE to give a PGDM with Foreign Collaboration. Become a GLOBAL STRIVER with Global Education from UK, France, Italy, USA, Canada & Bulgaria. UBS offers the real-time experience of the corporate world to the students. Eighteen clubs are designed in such a way to give students a wholesome experience of different fields in a corporate world. Experiential Learning Corporation (ELC) was formed with the vision to create a professional organization built and led by students to learn the art and science of Management and practice it.

To develop social entrepreneurship in students UBS has tied up with ENACTUS world and formed ENACTUS UBS to work on various project driven towards sustainable development goals. UBS leaves no stones unturned and helps in developing the personality of students by organizing various events. UBS provides multiple leadership positions to teach leadership skills to students, improve their presentation skills, develop analytical skills, and, most importantly, teach how various organizations worldwide are developing different strategies to maintain their positioning in the market. It truly transforms student's life.

ABOUT ENACTUS UBS

"When sustainability is viewed as being a matter of survival for your business, I believe you can create a massive change" - Cameron Sinclair

This is the change they tend to create at Enactus UBS, which is an international non-profit organization dedicated to inspiring students to improve the world through entrepreneurial action. Enactus UBS has given a platform called Revolutionary Realm for teams of outstanding university students to create community development projects that put people's own ingenuity and talents at the centre of improving the trajectory of their lives.

For Enactus UBS, it means to provide society a better livelihood so that their standard of living can be improved. Along with this they organize competitions which provides a forum for teams to showcase the impact of their outreach efforts and campaigns to spread awareness.

Enactus UBS has initiated three projects:

- Project Panah: aims to produce quality masks and sell them at a reasonable cost, with a suitable remuneration to the rural women in collaboration with the Light of Life Trust. With the welfare of the society they also have generated a revenue of 7000Rs - 8000Rs for 20 Rural Women Associated with LOLT and donated masks to orphans.

- Project Kiah: aims to provide bio-degradable sanitary napkins which are economical, reusable and hygienic to rural women. The team has donated 800 reusable pads to women in collaboration with Give Her 5, while spreading awareness about menstrual hygiene.

- Project Roop: aims to restore, protect and enhance the environment through plastic waste recycling. The team has cleared around 30 kgs of plastic from households and spread awareness related to reusing plastic waste among students.

PREFACE

The pandemic has taught Industry how a virus can result in the closure of many businesses, how several industries are damaged forever and how livelihoods have been devastated for many millions. I believe that the pandemic is just the trailer and a warning by Mother Nature as to what is in store for humankind, if we do not take affirmative action immediately to arrest the devasting effects of climate change that is visible around us. From forest fires which have resulted in a million species becoming extinct, increasing regularity of cyclones, the devastation caused by flooding and tsunamis due to rising sea levels and the damage to our sea ways and food chain with the relentless advent of plastic disposal in our oceans and landfills.

Businesses are not insulated from these events and have faced the brunt of some of these climatic disasters. So, businesses have to introspect and be front runners along with governments to arrest the tide through innovative products, business processes and solutions.

For business to transform themselves and become ecologically sustainable, students who will be future business leaders need to be taught to be a windmill by seeking out opportunities in this climate change crisis, so that they can harness the storm rather than seeking the bunker and create powerful positive ideas which can transform businesses by making them sustainable. This will call for disrupting many business models and seeking out opportunities of not what has been, but what are the possibilities that can be.

Management educational institutions must take leadership of tackling this most critical challenge of our times and infuse sustainability thinking across their curriculum to develop leaders of tomorrow who are looking to solve these acute climate change challenges.

These ideas and many more are clear reflection that Green is definitely the New Black and sustainable practices by companies can have a profitable and sustainable future. It is imperative that management education needs to harness this opportunity and create an environment where students have a chance to appreciate the innovative green business models. Innovation comes when you look at each and every business practice through a Green lens. We believe that climate change solutions must be found to allow the aspirations of India and other emerging economies for faster economic growth and rising

prosperity. Business schools will create responsible business leaders who recognize their duty towards the environment, and the major role they can play in making a more sustainable planet.

We are confident, there will be a revolution, whereby new profitable industries, new business models, new companies and new financial models will be created in this decade focused on the green agenda. India is likely to see about 1 million green jobs created in next 2 years growing at a rate twice that of all jobs overall.

Companies which do not follow this will certainly perish. On the other hand, Smart companies and visionary innovators are promising a new clean and green technology revolution, which is still in its infancy. Leading companies are setting hard business targets to stimulate sustainable innovation and launch products systematically.

And there is a growing body of evidence that a focus on sustainability can pay off in a variety of ways: increased efficiency and lower costs; new products, services and markets for a low-carbon world; stronger brands and greater public trust; and most importantly a more future-proof business model.

Enactus SBSEC: PROJECT NEER

SUMMARY:

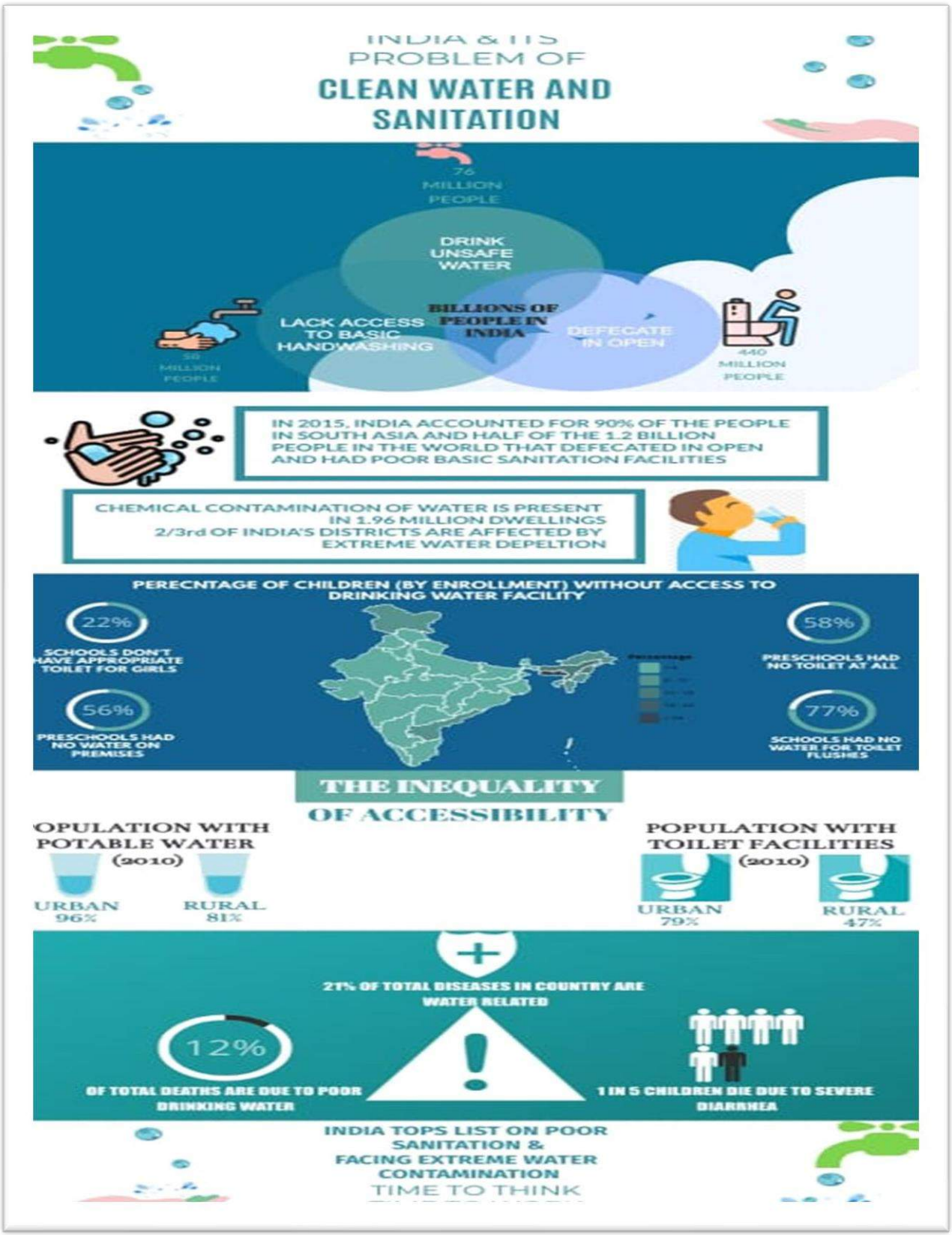
India, the country with a population of 135 crores and about 70% of its population lives in rural areas. The people in rural areas suffer for basic amenities like clean water. As per Niti Aayog, overall, 70 percent of the freshwater sources in the country were found to be contaminated and India ranks 120 out of 122 countries in terms of water quality. Without regard to whether someone is wealthy or poor, everybody should have the chance at clean water. Access to clean water at affordable price should be our concern at first place, so that we can reduce the whopping 21% mortality rate caused by it.

How can this problem be solved? For this regard, we the team of Enactus SBSEC introduce, "PROJECT NEER", aiming to provide clean and filtered water to rural households at affordable price and through a very accessible device i.e., CERAMIC POT FILTERS made with clay and combustible materials such as husks, sawdust and layered with colloidal silver. They can filter up to 8 litres of water at a time and kill disease causing pathogens. Studies have shown adequate removal of bacterial pathogens in water filtered through high quality locally- produced or imported ceramic filters in developing countries. A 60-70% reduction in diarrheal disease incidence has been documented in users of these filters.

Keeping in mind the environmental safety, the filters are plastic free and easy to use but highly effective.

Under "NEER" we also plan to arrange awareness campaigns so as to inform people about the need of clean water and sanitation. Alongside this, we would work on educating them on how to maintain proper sanitation and avoid related diseases.

As we whole heartedly believe "Clean water and sanitation knowledge is a right of all".



Infographics by Team Project Neer

Team of Enactus SBSEC - Avni Garg, Aryan Sarraf, Kanchan Sherawat

Shaheed Bhagat Singh College (morning): Project Vidyut

SUMMARY:

While the world progresses onto a cleaner future, Indian cities stand at the cusp of the old and the new. Unlike natural gas, biogas is carbon-neutral and does not add to greenhouse gas emissions. Further, any consumption of fossil fuels replaced by biogas will lower CO2 emissions.

With this in mind, we plan to set up Project Vidyut, with the aim of providing an alternative source of energy in certain areas that is both cheap and environmentally friendly at the grass root level. This targets the environmental aspect of Sustainable Cities & Communities.

Our preliminary research suggested that over two-thirds of the population still relies on traditional sources of fuel for their needs. Majority of the households lacked access to LPG facilities and depended on cow dung and firewood as a cooking fuel. The women remain unemployed despite their willingness to work due to unavailability of work opportunities close to their houses.

We came up with a solution that involves setting up Biogas Plants in order to mitigate dependence on fossil fuels and firewood and offset it by providing Biogas at cheap and affordable rates. Additionally, the production of biogas yields nutrient rich slurry which upon drying can be sold in the market as organic manure.

Looking at cheap organic manure as a potential disruptor in the fertilizer market we realized that with proper training we could help unemployed women become entrepreneurs.

Each plant will involve an initial investment of Rs. 21,775. Every plant produces 0.7 kg equivalent of LPG and yields 30kg of manure every day. This biogas will then be sold to the households at 23.80 Rs/kg, allowing each house to save over Rs. 9,300 per year. The manure would be sold in the market at Rs. 15 per kg, garnering total revenue of Rs. 6,48,000 per year.

To inculcate increased efficiency in plant management and operations, we plan to develop a mechanism working on the principle of labor specialization. Different tasks ranging fromplant feeding and maintenance to manure production and sales have been systematically divided amongst the stakeholders.

A strategic reinvestment plan is designed for scalability of the project. Each phase consists of a six-month period at the beginning of which we will set up one additional plant in the area, adding to our revenue cycle and enabling us to reinvest further in the project. We have created a revenue cycle wherein Rs.4000 is set aside each month for the purpose of reinvestment. Thus, we have taken a step towards a greener India and a sustainable future.

Infographics by Team Project Vidyut

ENACTUS HINDU: PROJECT JEEVIKA

SUMMARY:

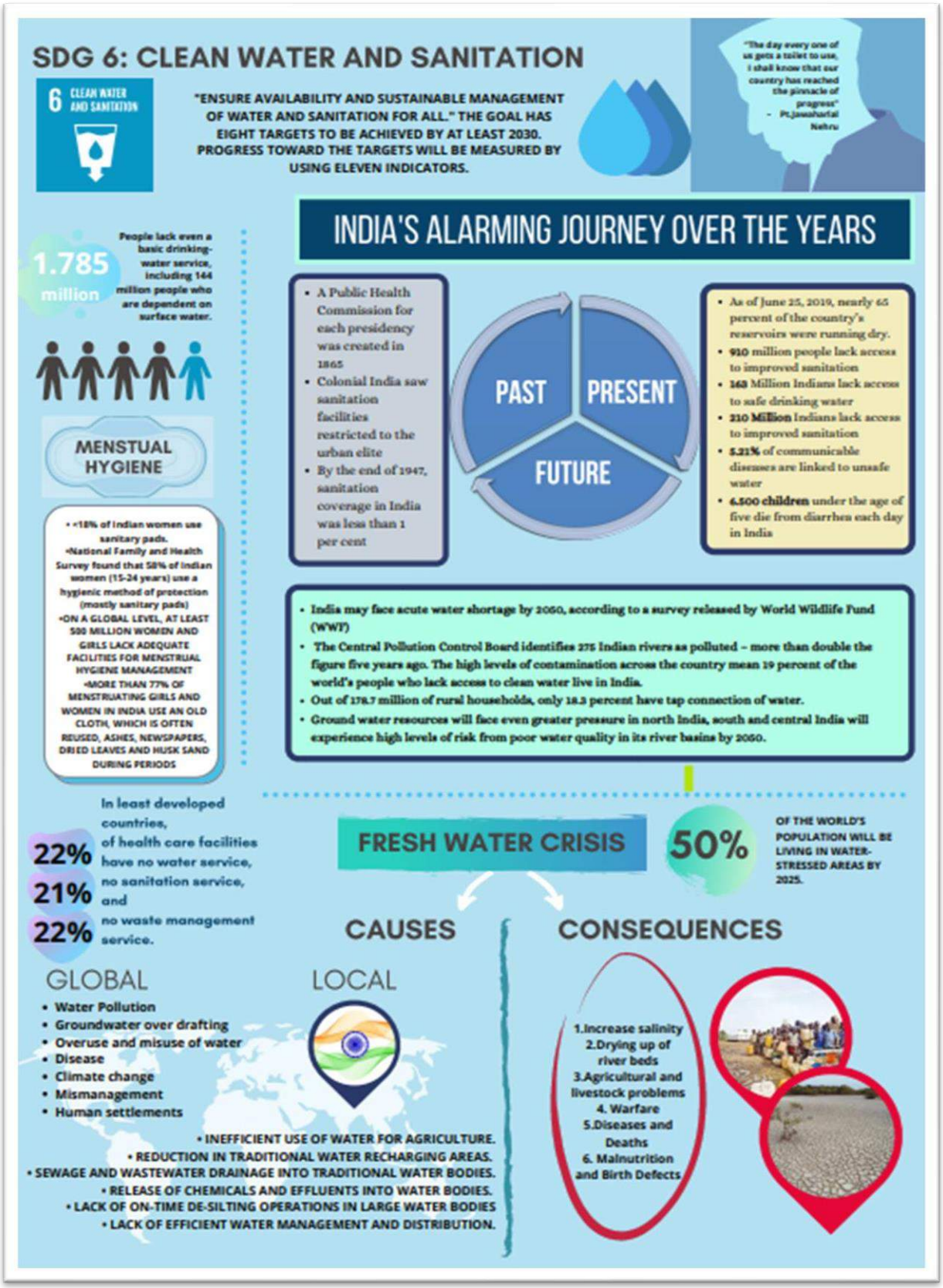
Enactus Hindu has incorporated Project Jeevika. Jeevika means life or livelihood. Our idea, Jeevika aims to address the 6th Sustainable Development Goal of the UN, Clean Water and Sanitation. It is estimated that around 37.7 million Indians are affected by water borne diseases annually leading to a burden of $600 dollars every year. From our perspective the above-mentioned problem provides us with an opportunity to innovate creative sustainable solutions. But before we could think of a solution, we had to conduct a needs assessment survey for better understanding of the problem on a micro level. For this purpose, we chose a village Abheypur, our research showcased that most people rely on government supply or other sources such as borewells or tube wells.

The following needs assessment survey provided us with a magnitude and defined characteristics of the problem which helped us in picking the most suitable solution in the form of our Product – Jalkalp Water Filter developed with the assistance of our partner Sehgal Foundation. The product helps us in threefold ways, as it is easy to install, inexpensive and with zero maintenance cost.

The flow of operations of the project include identification of community and implementing work on the ground, keeping a track of the beneficiaries and partnership with organisations such as vision of India for smooth functioning of operations and maintenance. Our project impacts our beneficiaries economically and socially along with environmental impact.

Our project works on a subscription revenue model where our direct beneficiaries are the people in the homes of whom we have installed the filter, and our indirect beneficiaries are the people of the community who are paying a monthly subscription fee to use the filter with an initial cost of 3500 rupees and along with it we assume that each direct beneficiary has around 6-7 families subscribed therefore we charge Rs. 160/month for a family so that our beneficiaries can make about Rs. 1000 per month which acts as a good supplemental income.

Our marketing strategy includes social media campaigning mainly through WhatsApp groups that could also be used to obtain assistance of local youth groups, display of our model on government forums and public demonstrations to gain local trust.



Infographics by Team Project Jeevika

Team of Enactus Hindu - Nandini Dadhich, Muskaan Abaasi, Tanmeet Singh

IIT Roorkee: PROJECT TAMAK

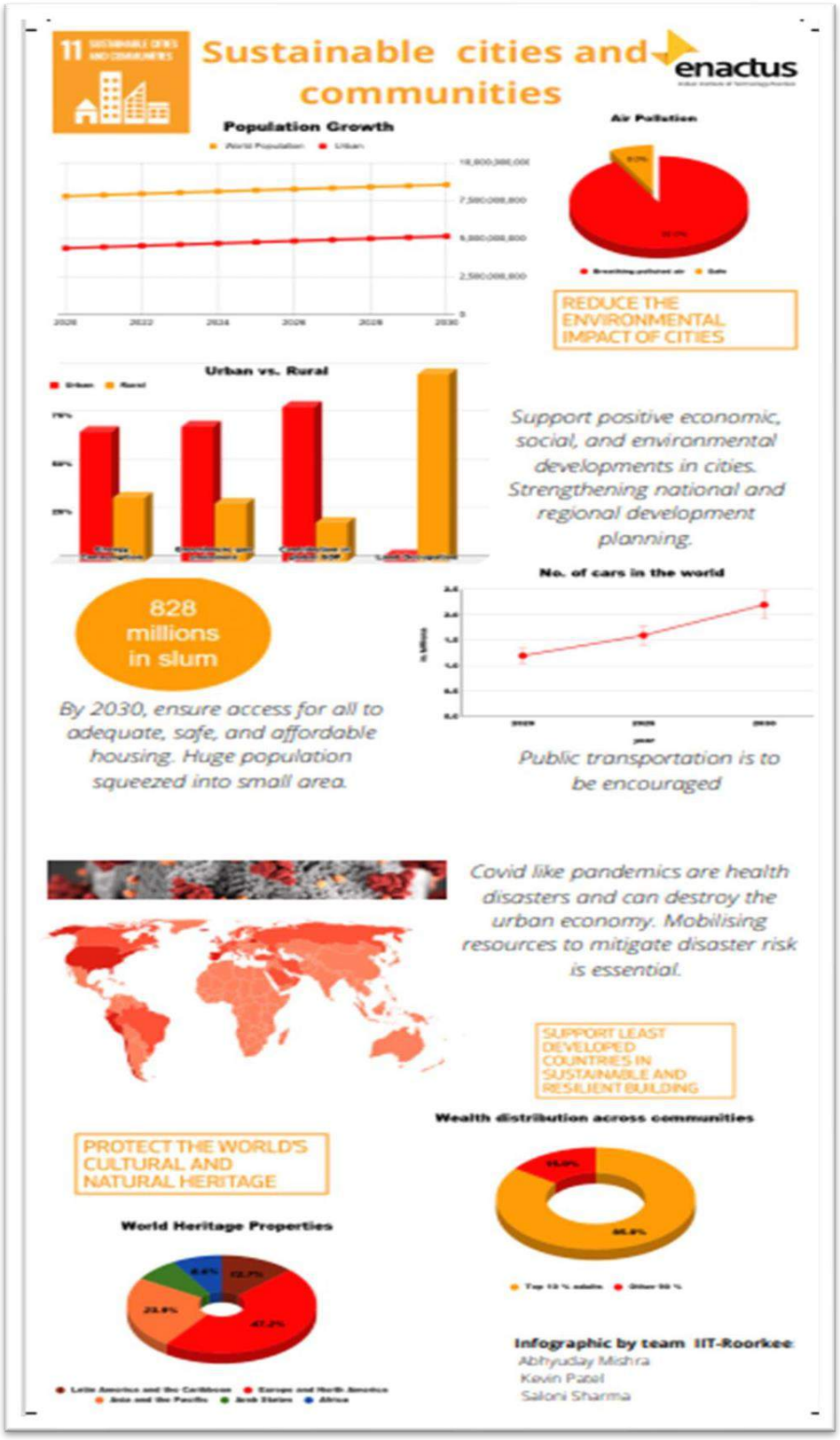
SUMMARY:

TAMAK aims to provide subscription for EV batteries. Use of Electric vehicles is on rise. But recharging of batteries is heavily dependent on grid usage, which uses energy from thermal power stations. Also, batteries are to be recharged when out of power and that too takes a lot of time. With our model a person can swap batteries from the charging station in just a few minutes and can carry extra batteries as backup when travelling to remote destinations. Problem being addressed EV recharging's heavy dependence on thermal power does not decrease carbon footprint. Power generation from solar power is unreliable

i.e. it does not supply power 24 x 7, while demand of power for recharging of electric vehicles is uncertain and independent of availability of sunlight. Along with heavy investment on electric batteries, recharging is time consuming and recharging stations are not present in remote areas. Solution Proposed With swapping of battery models one can recharge batteries completely on solar power as batteries are available to recharge at peak hours of solar power output. Also, customers need not invest money to buy EV batteries thus reducing the cost of electric vehicles drastically. It takes not more than a couple minutes to swap batteries and can keep an extra battery when travelling to remote locations. Business Model and Cost analysis Collaboration and partnering with car Electric car manufacturers is key to the success of the business. Providing batteries on subscription will cut down the per unit cost of EV. Recharging of batteries using solar energy (Rs. 2.5 per unit) is more profitable than using grid (Rs. 6-7 per unit). Profit expected is 32,382 INR per car per year. Keys to successful implementation of Business Model

- Effective use of government policies
- Initial investment on Infrastructure
- Proactive maintenance and repair Sustainable cities and Communities

For all of us to survive and prosper, we need new, intelligent urban planning that creates safe, affordable and resilient cities with green and culturally inspiring living conditions. To make cities and communities sustainable, our business model aims to achieve following targets: TARGET 11.2 - Affordable and Sustainable Transport systems It provides access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably reducing traffic congestion. TARGET 11.6 - Reduce The Environmental Impact Of Cities It reduces the adverse per capita environmental impact of cities, here air quality of the city will increase which results in healthy communities.



Infographics by Team Project Tamak

Team of IIT Roorkee – Kevin, Abhyuday,Saloni

Enactus Hansraj: PROJECT LICHT

SUMMARY:

Project Licht is the future of lighting up the streets of India. At Project Licht, we are developing a proprietary technology for making street lights out of bamboo. As we all know, bamboo is one of the most abundant resources of the north eastern region, and after treatment with borax and boric acid, it becomes stronger than steel while retaining its flexibility. We at Project Licht use these treated bamboo to make streetlights. We add to these bamboos a comprehensive sustainable energy generation kit consisting of a wind and solar energy generator that would effectively generate electricity to power the streetlights. Moreover, in places with higher solar intensity or wind speeds, we could effectively use this energy generated to power other streetlights in the channel.

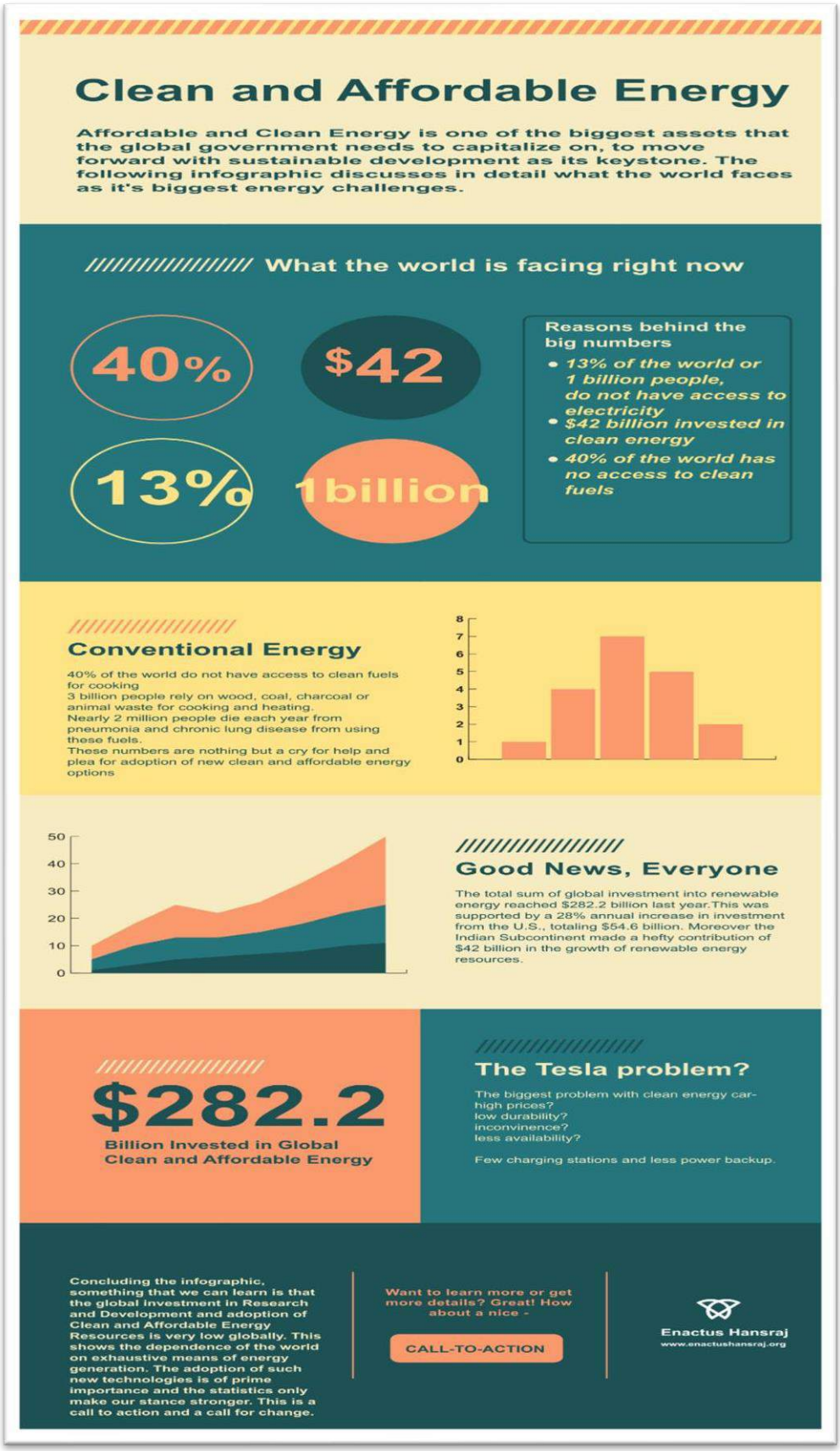
Moving ahead our USP would be that these bamboo poles would not only be eco-friendly, but also smart. There would be 3 sensors in the poles:

- One would be used to measure the moisture/rain that the surroundings are experiencing
- One to measure the light intensity
- One to measure if any object has passed the streetlight

We plan on monitoring the data and use AI and IoT technologies to effectively make the streetlights smarter and produce better algorithms to make decision making more precise.

The primary need that we are addressing through Project Licht are from two different verticals:

- We would be addressing the governments need to make a self-sustaining, cheaper, and stronger streetlight, reducing financial and manual strain on behalf of the Municipalities.
- We would effectively be serving the needs of the end consumers as we would be imparting smart, green, and safe light through our Project Licht mission.



Infographics by Team Project Licht

Team of Enactus Hansraj - Shrest Gupta, Komal Chamyal, Vaasu Bhartia

JMC: PROJECT DARIYA

SUMMARY:

In India, 16.4 crore people lack access to clean water and basic sanitary requirements. This lack of accessibility is prominent all across the country. Thus, to propose an affordable and sustainable solution to the problem of clean water and sanitation, Dariya Ltd. aims to produce a super capsule made out of sand, coated with a layer of graphene oxide. Graphene, having a single atom layer of carbon portrays the properties of a cleanser. It has the capacity to purify adulterants including harmful chemicals like mercury, cadmium and lead.

The degree of purification is close to the ones achieved by reverse osmosis purification systems. One capsule has the capacity of purifying 5 litres of water in 15 minutes. Since sand has been a traditional and prevalent method for filtration of water, the people from rural areas will not be sceptical about the technical know-how of the capsule and will be willing to opt for it. Furthermore, due to the economies of scale, the overall cost of production of one capsule is only Rs. 0.368, which allows the product to penetrate through several income groups especially the low-income ones. To ensure proper disposal of the waste generated, the company will deploy mobile sand collection banks in the localities we serve.

The customers can arrange the pick-up of the sand twice a month, so as to ensure that they do not dump it carelessly. We will incentivise the people to do so by giving them credit points in return, through which they can make further purchases during the year. These incentives can also attract more customers towards this product. The graphene which will be collected back can be reused, which makes the product very environment-friendly. We plan to sell our product through an indirect, two level channels, with wholesalers and retailers which will enable it to reach a larger audience without setting up numerous warehouses. The large-scale marketing strategies we aim to use will enhance our customer base and will increase the credibility of our business across the country. The investment requirement for our business will be partially met by personal funds and rest by taking a loan from Punjab National Bank @ 9% p.a. We will be able to get the loan at a cheaper interest rate due to our innovative idea and the effort taken to achieve the Sustainable Development goal of clean water and sanitation.

Infographics by Team Project Dariya

Team of Enactus JMC - Jahanvi Bhalla, Annapurna,Sana Chawla

SGTB Khalsa: PROJECT UDYUT

SUMMARY:

In India, 45% of rural households do not have access to electricity and over 1 million households have no access to any form of modern energy or lighting. A shift to renewable sources of energy is dissuaded due to land requirements and high initial installation costs.

Project Udyut, on the strength of social entrepreneurship and innovation, ushers a sustainable model of efficient and cost-effective solar power electrification for the indigent sections, deprived of standard energy dissemination. The object of the exercise is to substantiate a permanent mini solar grids establishment in Kirby place, Dalelpur, and Kanwani village to provide power for lighting solar systematized devices and then deliver it to their doorstep. The prime intent is to liberate the residents of the community from the economic burden of procuring energy from sources that pose concerns in terms of expense, regularity, and convenience by means of a subscription model expedited by Joint Liability Group of the community that will also ensure uniform supply. We plan on getting solar grids set up at our target locations with all the required installations including shed, stand, and Backup Energy Storage systems subsequently procuring batteries and solar efficient kit enveloping solar bulbs, fans, lamps, immersion rods, and solar domes provisioning the individual energy exigency.

We'll be offering lead-acid batteries. The said batteries will be charged with the help of a solar grid that will also be set up by us near the community to functionally extend the solar- operated products. Our entrepreneur will be in charge of ground-level execution of the project's core operation that also requires the collection of batteries in 2-time slots, charging and delivering it back to the households. An inventory of stock is maintained to ascertain the availability of units of each product. Matching the customer needs and availability, suitable combinations are made and delivered to the customer.

This will ensure regular proceeds through the subscription paradigm for mini-grids setup and revenue earned from the provision of kits. A third of yearly revenue will be shared by our 2 operators. The operation will be further optimized by the virtue of accurate training and skill development and bolstering through a secure supplier chain fixation that will serve the need for procurement and replacement of electrical gears. We will be broadening the horizons of our operation and services in nearby unelectrified areas of our existing zone of functioning as we look at delivering value to those who have long been devoid of luminosity.

Infographics by Team Project Udyut

Team of Enactus Khalsa - Dhruvi Tyagi, Akshat Sharma, Khushi Kathuria, Madhav Chopra

Enactus Somaiya Social Cell: PROJECT PRADUSHALAM

PROBLEM

Few of the major sources of energy like fossil fuels, petroleum, etc. do serve their purpose but they also leave back a lot of residue through automobile exhausts in the form of substances that cause air pollution. By-products from burning fossil fuels such as gasoline and coal are causing health problems and climate effects around the world, especially in India's growing cities. The primary pollutants released from the burning of fossil fuels are carbon monoxide (CO), carbon dioxide (CO2), sulphur dioxide (SO2), nitrogen oxides of the chemical form NOx (primarily nitrogen dioxide, or NO2), nitric oxide (N2O) and various hydrocarbons such as methane. This is not just a waste of energy resources but also a threat to life and environment.

SOLUTION

Because air pollution is a major issue as discussed in the problem, we have come up with a solution that helps clean the harmful energy. It not only prevents this from going into the atmosphere but also helps build a by-product of it which can be used for something good.

Product/Project

We present to you Project Pradushalam. This is a product which helps convert the air pollution released from cars, diesel, petrol engines and other resources into usable ink

Engineering

We will make a filter which will collect this pollutant and convert it into powder. We will them mix the powder with a polymer/solvent to form an ink that can be further used

Procurement

The device and machinery used can be set up in different locations around India. We will also need some other equipment to further process the carbon soot powder into ink.

1. These machines can be brought on lease

2. Instead of we purchasing these, we can directly collaborate with the factory to allow us to do the processing in exchange of some funds or commission.

Business Development

1. Once the product is made, we can give those products to various institutions which release gases (It can include factories, cars, engines and other machines)
2. We can ask them to attach these products and collect the pollution. We pay them some amount for that pollutant. (Similar to the newspaper raddi model)
3. Newspaper model will best work for this
4. Once we get these pollutants from these sources, we can mix it with a solvent and sell the ink.
5. This model will work in both models. We develop and set up our own machines or collaborate with the factories having those

Sales

1. The Ink that we will be making can be used in
   - Printer cartridges
   - Markers
   - Black Pen ink
   - Black Paints
   - Art and crafts
2. We can see these products at exhibitions, stalls, Companies and corporates, schools, stationary shops, etc

Collaborating vs Making our own set up

1. A lot of research work required to make our own
2. Huge expense to set up the machines
3. Higher profit margins but a lot of time and effort
4. Collaboration would solve the above challenges but again lower profit margins and hence lesser revenue

OUTCOME

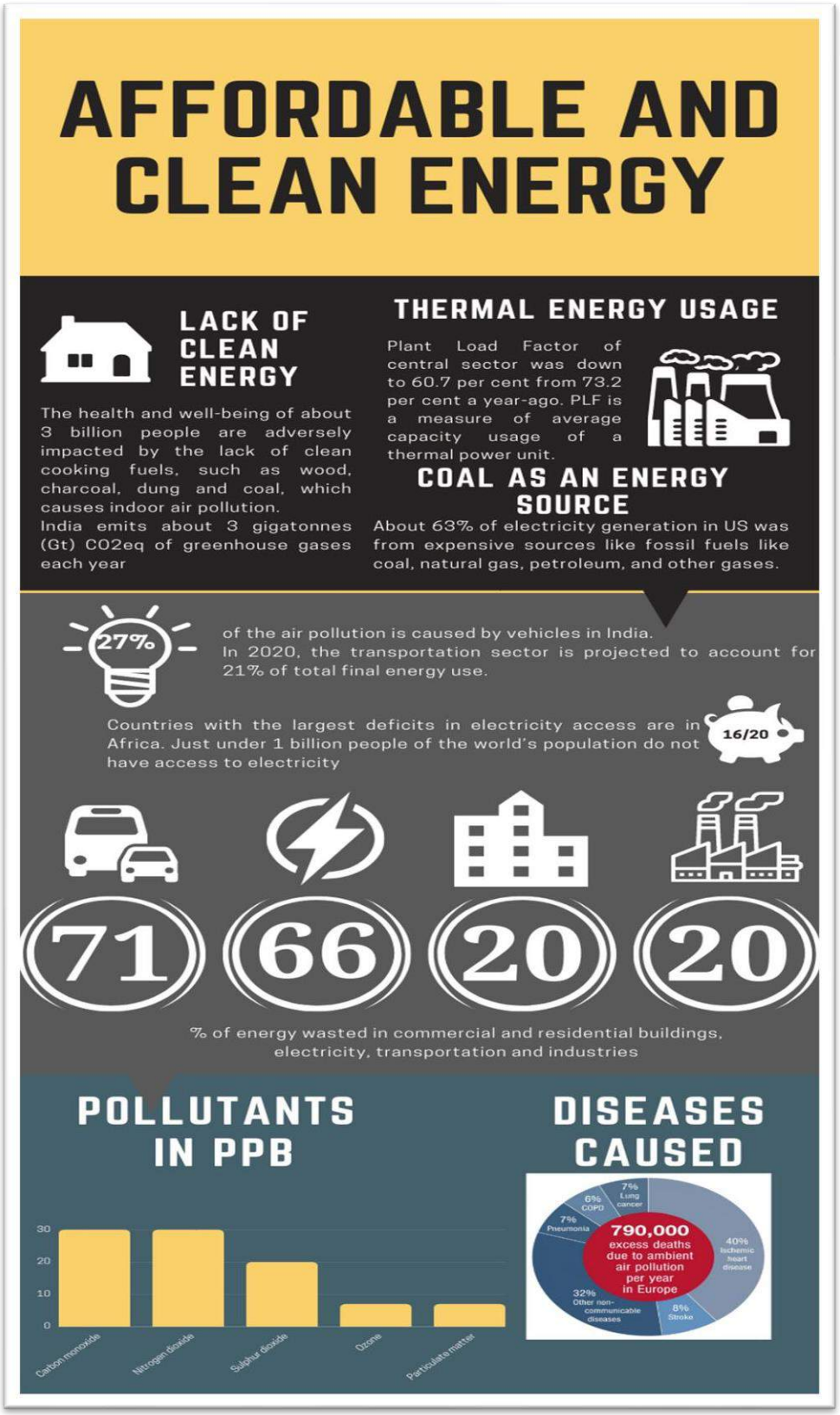
Impact (Environmental)

1. Converting these fuel residues into ink will thus make these energy resources fully usable and much more resourceful while tackling various other health and environmental issues when implemented on a larger scale gradually.
2. This can be in the form of affordable and clean energy because here we are preventing harmful and dirty energy from releasing into the atmosphere and making something useful out of it which is always in demand

Impact (Social)

We can have a community channel marketing where we can involve people from the lower sections of the society to install these filters at some pollution sources and give the carbon soot back to us every 2-3 weeks. We will pay them some amount or can even work on commission basis.

Their main role would be to educate other people from their community and help us which inturn would not only benefit them but also the environment.



Infographics by Team Project Pradushalam

Team of Enactus KJ Somaiya - Hazel Fernandes, Dhruva Biradar, Vani Kamani

Enactus IIT Ropar: अन-Exhaust

PROBLEM STATEMENT:

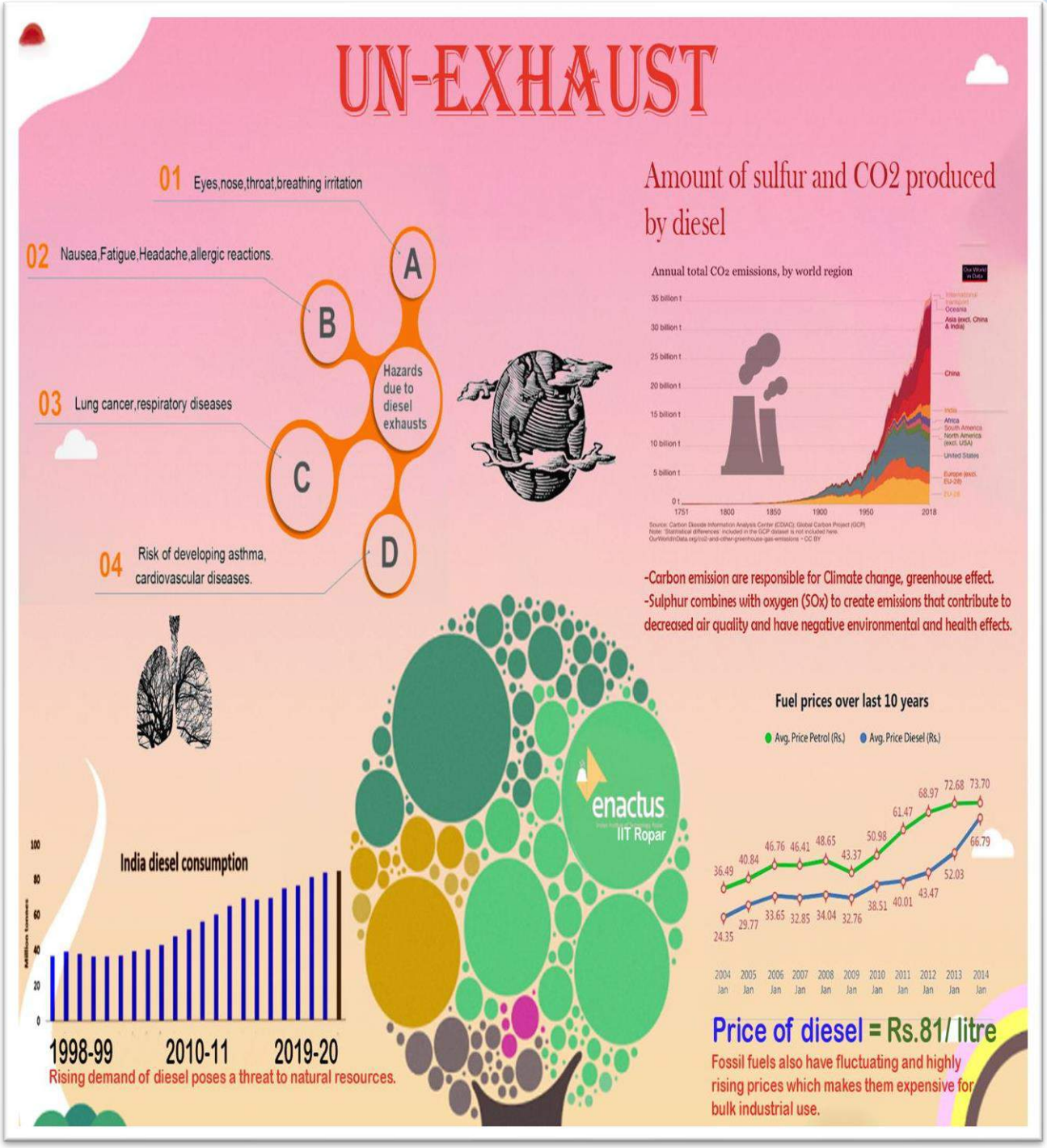
The use of fossil fuels in power and heat generation, cooking and transportation is taking a huge toll on the environment and human health. At the same time, depleting fossil fuel levels are a reality of our future, and pose a significant threat in terms of energy security, especially for developing nations such as India.

SOLUTION:

With the spectre of global warming and climate change hanging over the world, countries are coming together to put up a united front in the fight for a clean and green future. We have worked on algae to biomass and oil conversation using CO2. The potential of algae is not so unknown to scientists and industrialists. It has widely been studied that plants' biomass can be a good alternative, but the primary and most crucial issue is that we need land to grow the food that feeds peoples' stomachs. We can't produce the energy crop on these lands. This is an important political and social issue in front of the scientific community. These tiny organisms do not require big lands or farmhouses. They can be grown in open ponds, plastic bags, glass vessels or bioreactors. Not just oil, the use of algae varies from use in fertilizers to eatables, biofuel to animal fodder.

Our main product, the oil extracted by these microalgae, is proven to be utilized to ignite the engines of road vehicles and jets. There are thousands of species belonging to microalgae out of 300 reported to produce enough hydrocarbons contents for forming the fuel. Microalgae have been used as a renewable biomass source to produce a diesel fuel substitute (biodiesel) and for electricity generation. The burning of fossil fuels in power plants is a primary contributor to excess carbon dioxide in the atmosphere, linked to global climate change. Microalgae fuel farms' operation can significantly reduce carbon dioxide released into the atmosphere in tandem with fossil fuel plants to scrub CO2 from flue gases. If the microalgae are used to produce fuel, a mass culture facility reduces the CO2 emission from the power plant by approximately 50%. After adding additives, algae biofuel can beat petroleum products both economically and environmentally. We are concerned about biofuel because, with proper refining, biofuel can serve 48% of the energy demands, say US reports.

From all other biofuel production sources, algae can produce more oil per acre, approximately 10 to 300 times more. Some algae species like botryococcus braunii have 25 to 75% of oil content in the dry state, so biofuel made from such sources have a considerable edge over other non-renewable resources. Moreover, it is so much cost- efficient. The cost of petrol is about 100₹ per litre while biofuel just costs approximately 70-80₹ depending on the quality. Plus, it is entirely a natural environment-friendly source of energy. All in all, shifting to such an affordable, renewable, and environmentally friendly fuel doesn't look like a mistake.



Infographics by Team Project Un-Exhaust

Team of IIT Ropar - Harjot Kaur, Choubey Shivam Baburam, Ritik Garg

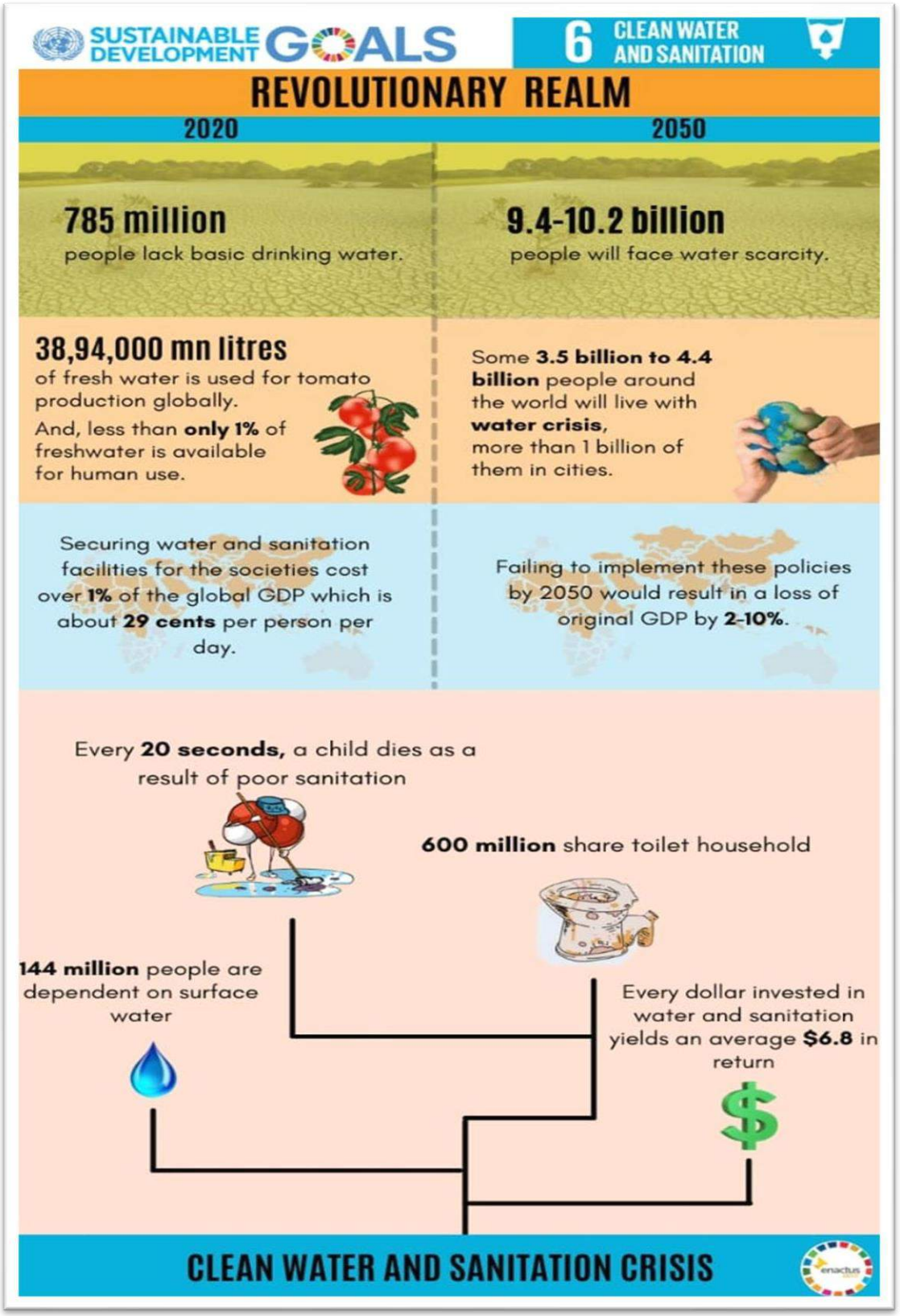
Enactus DDUC: Water Crop

SUMMARY:

"Water Crop" is the name of our business model. Water crop is basically a system of growing crops without soil, often known as soilless farming. In such a system, the plant roots grow in a liquid nutrient solution or inside the moist inert materials like Rockwool and Vermiculite. The liquid nutrient solution is a mixture of essential plant nutrients in the water. There are multiple approaches to designing hydroponic systems, but the core elements are essentially the same. The basic requirements are fresh water, oxygen, root support, nutrients and light. The setup procedure of such system is Assemble the Hydroponic System, Mix the Nutrients and Water in the Tank, Add Plants to the Growing Tubes, Tie the Plants to the Trellis , Turn on the Pump and Monitor the System Daily and Monitor Plant Growth. This system allows us to use about 95% less water than conventional field farming. On a traditional farm, it takes more than 15 times that amount of water to grow crops. Agricultural innovations like these, along with industry expansion, could also help ease the concerns that, due to population growth, the human race will become unable to adequately feed itself. Advancements in hydroponic technology, however, have led to the development of recirculating hydroponic systems, which minimize water use by recycling unused irrigation water.

As water just continues to become a more scarce resource around the world, we believe this form of agriculture is going to play a greater role in modern agricultural systems. The mission and vision of our product is to achieve maximum production, while using little to no fossil fuel land to produce the greatest amount of food with the least environmental impact without the use of genetically modified seeds, toxic synthetic pesticides, herbicides, or petroleum based fertilizers)A close observation of the hydroponics industry shows that the revenue generated in the industry has maintained positive growth due to the fact that more people are embracing this type of farming. In recent times, a growing number of households shifted to healthy eating and consuming organically produced food, resulting in high demand from hydroponics farmers.

We believe the product is going to be success in India because India is currently importing more than 85% of its exotic vegetables, creating a growth rate of 15-20% per year. Certainly, hydro ponicsor CEA can help fuel this growth given the farming expertise that exists in India. When the land is already owned, capital costs per acre every 5 years are Rs 30.5 lakhs.



Infographics by Team Project Water crop

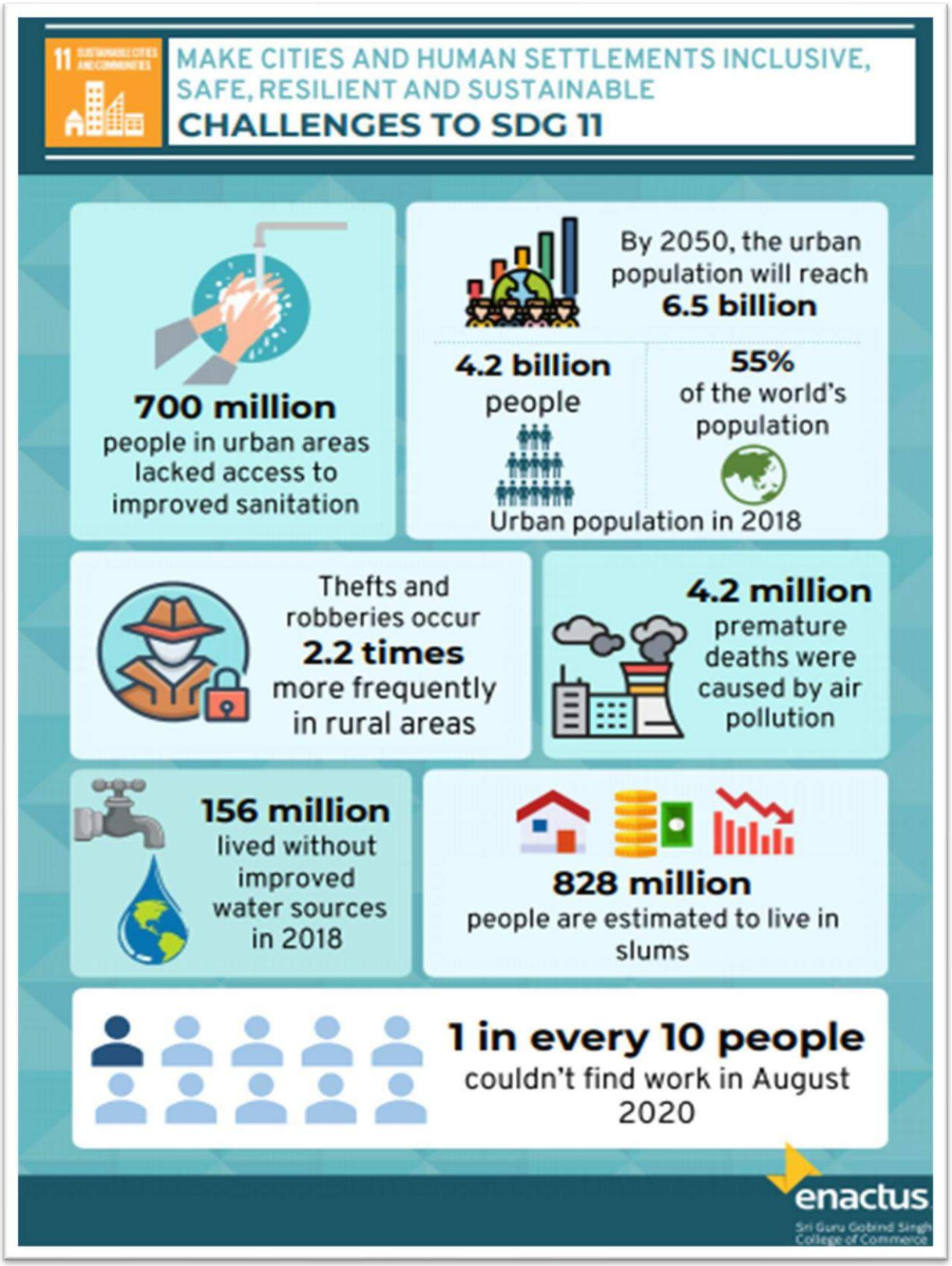
Team of Enactus DDUC- Ritika Kapoor, Bhavika Gupta, Sanya Gupta

Enactus SGGSCC: PROJECT KASHTI

SUMMARY:

In pursuit of the inlaid problems of the rural livelihood, Project Kashti is a gambit undertaken by Enactus SGGSCC, an endeavour to uplift the rural masses, targeting all the spheres and covering the basic yet crucial problems in the society. It aims at turning its territories into smart villages.

The lack of socio-economic development in the rural areas costs the country billions of dollars every year. In alignment with the larger objective of rural development, Project Kashti seeks to tap the prevalent issues in rural areas by its 6 segments approach, namely, Skill Development, Water Filtration, Waste Management, Sanitation, Smart Education, and Improved Agriculture Practices. It has generated 144 entrepreneurs, and has helped the communities in utilizing their latent potential, providing them equal opportunities, and encouraging them to be the pioneers of the growth of our country.



Infographics by Team Project Kashti

Team of Enactus SGGSCC- Anushree Gogia, Anahat Thukral, Asees Gulati

SUMMARY OF REVOLUTIONARY REALM

Revolutionary realm, one of the ENACTUS UBS'S Flagship business event, is built on the coherency of entrepreneurship and social responsibility. We held our first edition of the event in the year 2021 from February 18th to February 28th. With this, we aim to provide an international platform to the participants to showcase their conceptual and entrepreneurial skills, at the same time envisioning societal welfare in their business proposals. For this, Students were given a few challenges that the world is struggling with, based on the Sustainable developmental goals and were required to come up with an efficient business solution that is sustainable in every aspect, for the welfare of the society.

Challenges included:

- Affordable and Clean Energy
- Clean Water and Sanitization
- Sustainable cities and Communities

The event was divided into two phases, in the first phase, participants were required to analyse the problem and submit an info – graphic based on their research and understanding of the topic. Teams who qualified for the round two were then required to present a sustainable solution for the same.

The competition majorly aimed at bringing out participant's creativity and enhancing their analytical skills enabling them to see through the challenges with an innovative approach to problem solving.

Conducting an international event in the very first year of our ENACTUS journey was itself a challenging task for us, especially amidst the pandemic. It helped us explore and build our network in the community with esteemed colleges. Getting a chance to have useful insights on various challenges and different solutions to overcome that, was a great learning experience for each of us. From planning it virtually to organizing it virtually, we learnt something new with every step we took towards hosting the event.

Revolutionary Realm would always remain an integral part of ENACTUS UBS, and we'd continue to come up with something different every year, that would be beneficial for both, the student community and the society. We will keep flourishing the thought that,

"If you want to do something, you have to imagine it, if you don't imagine, it will never happen."

END OF THE BOOK