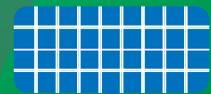
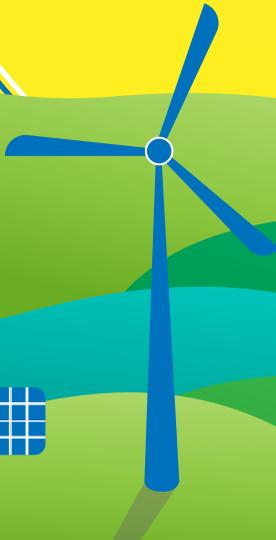
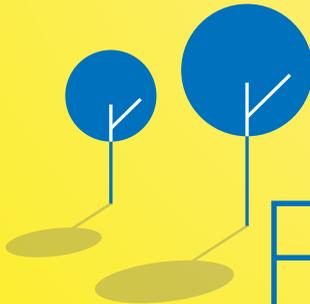


# ANANT CENTRE FOR SUSTAINABILITY

2021



ANANT  
NATIONAL  
UNIVERSITY  
(A) (S) (U) (N) (I) (V) (E) (R) (S) (I) (T) (Y)

CENTRE FOR  
SUSTAINABILITY

# Anant Centre for Sustainability

A think-do-teach tank that focuses on climate action, affordable housing, indigenous models of circular economy, and building sustainable education campuses in India. The centre publishes research reports, releases multimedia products and delivers relevant courses and projects related to sustainability.







# Contents

Solutions we focus on	7
<b>Affordable housing</b>	<b>8</b>
Affordable housing	9
Vacant housing	11
Report: The paradox of vacant houses in India: city series	12
<b>COVID response</b>	<b>13</b>
AnantU mobile covid-19 testing and oxygen auto-rickshaw	14
AnantU corrugated cardboard beds	16
AnantU COVID-19 recovery centres	17
COVID-19 Communication	22
<b>Competition</b>	<b>23</b>
COVID-19 frontline warriors overalls	23
Dream stations - boarding the street kids of India in vacant government schools	24
<b>News and articles</b>	<b>25</b>
PMAY-Urban: can housing for all be achieved?	30
Housing for construction workers	31
<b>Indigenous models of circular economy</b>	<b>32</b>
Indigenous models of circular economy in India	33
Report: Indigenous models of circular economy in India	34
<b>Centre programmes</b>	<b>36</b>
Anant Fellowship for Climate Action	37
Foundation course on sustainability	38



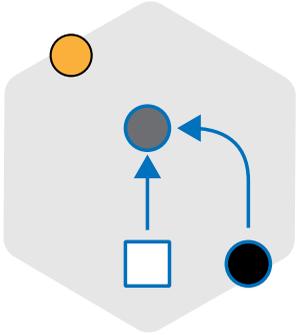
Executive education	39
Designing Affordable Living	39
Entrepreneur in Residence	40
<b>Sustainable campus</b>	<b>41</b>
Sustainable campus	42
DOT	42
AnantU sustainability assessment	44
Capstone projects	45
Capacity building for waste management	46
Waste management of army cantonment, Agra	48
Nutrition	49
Sustainability talks	49
BW India's most sustainable companies//ACFS x SLP	50
<b>Partners</b>	<b>52</b>
Terwilliger Centre for Innovation in Shelter, USA	53
Habitat for Humanity India	54
MIT solve	55
Saltech Design Labs	55
Terra.do	55
Brigade REAP accelerator	56
Other partners	56
<b>Grants</b>	<b>56</b>
<b>Collaborators</b>	<b>56</b>
<b>Clients</b>	<b>57</b>
<b>Team</b>	<b>58</b>



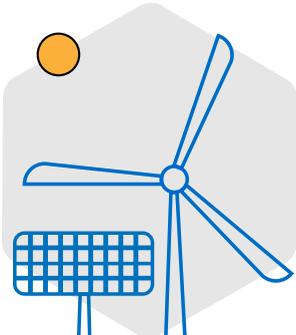
# Solutions we focus on



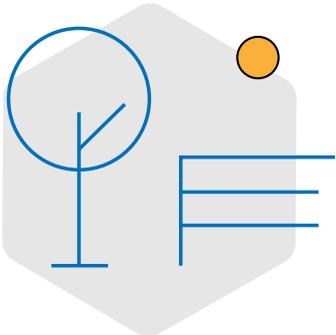
Affordable housing



Indigenous models of circular economy



Climate action



Sustainable campus



# Affordable housing

## Affordable housing



Affordable Housing at AnantU has a solutionary approach - we analyze the challenges, look at best practices, possible solutions and their impact. We partner with institutions, organizations and governments from across the world to better address the challenges of housing. Our work is multi-disciplinary and geography agnostic. Our academic programs take the same approach and are offered across undergraduate, graduate and executive levels.

The multi-disciplinary team brings together a diverse range of backgrounds across the industry, public policy, research, investments

and civil society. The Affordable Housing team is at the forefront for research in this space and has published extensively.

During COVID-19, the Affordable Housing team presented a [comprehensive plan](#) to convert underutilized buildings into COVID care centres. The proposal was implemented by us setting up more than 27 hospitals across 6 states. We also pioneered the use of recyclable corrugated furniture for healthcare and delivered a range of emergency and testing vehicles based on rickshaw platforms. These are some of the cheapest such vehicles in the world.



# Locations of COVID-19 relief activities



## Vacant housing

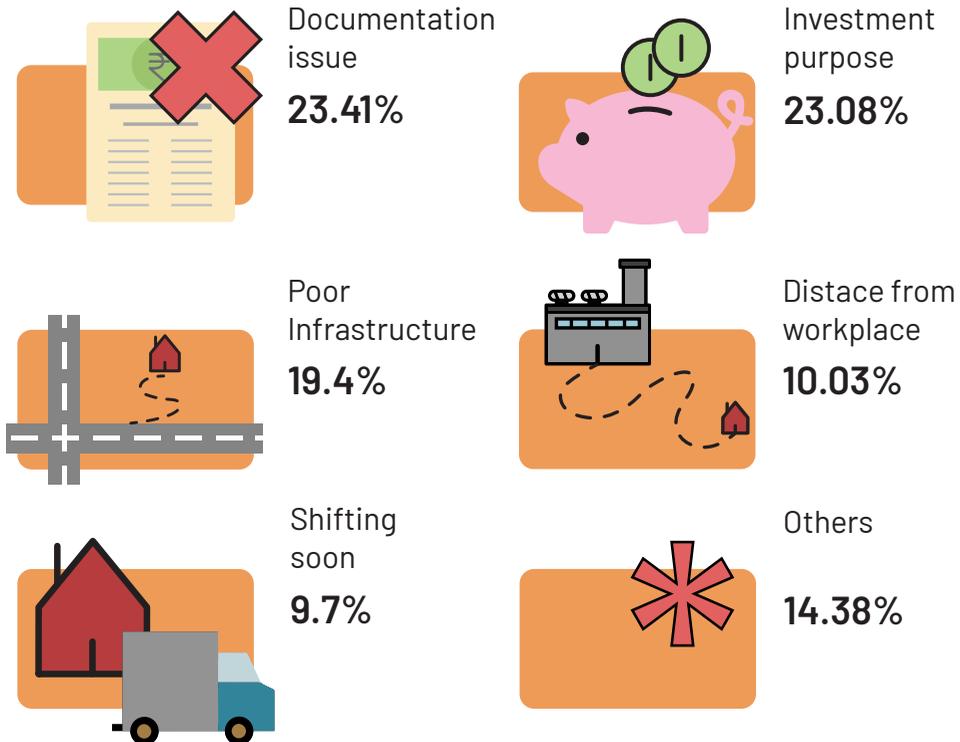


India faces a crippling shortage of urban housing while nearly 14% of houses in cities lie vacant. This is endemic to all urban areas in India. The Centre has planned to better understand this phenomenon through a series of city reports starting with Ahmedabad.

Ahmedabad has one of the largest stock of vacant housing in the country. The report was based on an exhaustive primary survey

covering 50 government and private housing colonies spread across the city. The survey looked to identify what could be the structural reasons and what could be city or location-specific.

The report culminated in a number of specific short and long term interventions that can be done by the government to incentivize the occupation of these homes.



*Major reasons for vacant houses in Ahmedabad (in percentage)*



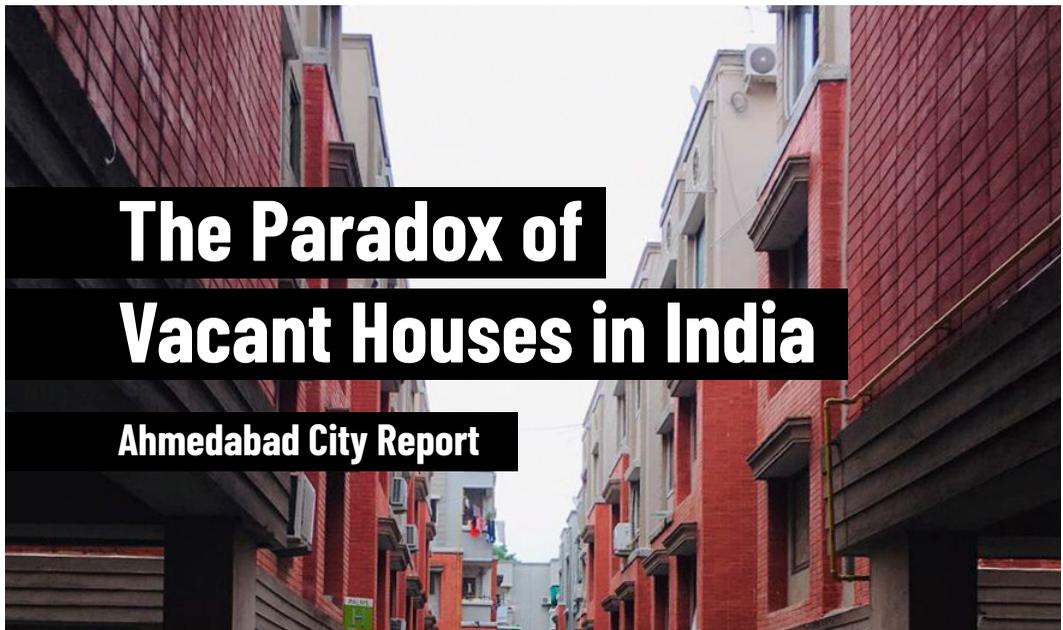
## Report:



# The paradox of vacant houses in India: city series

The report examines significant determining factors of vacant houses in Ahmedabad in the context of the mismatch between the shortage of housing and an abundance of vacant housing. The report identifies several reasons, some that are endemic to the whole country, some that are specific to the dynamics of the city and the state and some to a particular building type (government vs. private). The report enumerates the reasons that make decent housing and dignified living conditions difficult in the cities. The report

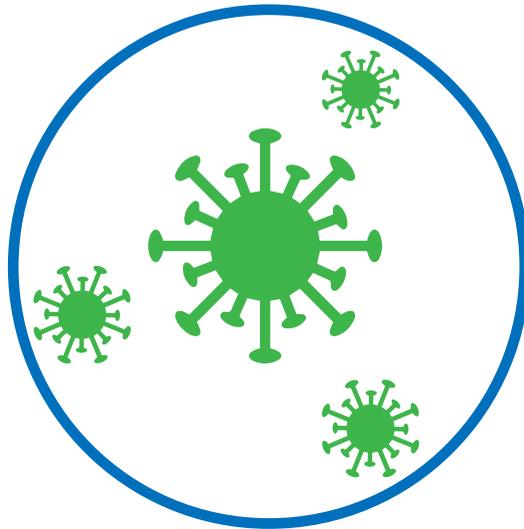
dives into statistical analysis of the housing situation such as the condition of the houses, ownership, government schemes among others in the context of urban and rural areas. Further, the report gives measures such as longer-term financing options, higher taxation of vacant houses among others to make housing available for all. The report highlights determinants of vacant houses such as lack of infrastructure, delayed documentation, exorbitant rents among others and offers solutions to solve these issues.



# The Paradox of Vacant Houses in India

## Ahmedabad City Report





# COVID response

## AnantU mobile covid-19 testing and oxygen auto-rickshaw



There were two great challenges faced by the government and healthcare providers during the pandemics

- fast and reliable testing
- transporting patients safely to hospitals

Testing was a huge bottleneck but there is evidence that the presence of congestion in lungs indicates a very high probability of COVID. This can be easily ascertained by an x-ray but it is difficult to get people living in slums, rural areas and inner cities to x-ray centres. The Center





**Advanced X-ray  
technology**



**Automatic  
disinfectant system**



**Oxygen supply for  
emergencies**



**Door to door  
access**

with its partners developed a low cost, mobile digital x-ray testing vehicle on a commercial auto-rickshaw chassis. These vehicles had automatic disinfection systems and the patient was isolated from the technician. There was also a provision to conduct swab tests. The results were sent directly to the base hospital from where further steps were decided. The vehicles were deployed with the BMC.

Ambulances were in very short

supply and further, they could not reach inside slums, inner cities and areas with narrow roads. The CS team studied the requirements and developed a basic emergency response vehicle with bottled oxygen support on a commercial rickshaw chassis. These vehicles were economical, quick to deploy and easy to maintain. Most importantly they could go where conventional ambulances could not and were very agile. They have been deployed in two states.



## AnantU corrugated cardboard beds



When the pandemic hit for the first time, the availability of beds was a major problem. Conventional supply could not keep up and prices skyrocketed making it extremely difficult for hospitals and organisations to set up COVID care centres and temporary hospitals.

The ACFS took a unique approach to develop ultra-low-cost beds that could be recycled after the need was over and would serve to deliver at the same parameters as conventional beds. There were other instances of cardboard beds

in the country but they failed as none of them could be sanitized and were very vulnerable to any liquid spills. The beds developed by the CS with its partners were coated with a thin film of plastic that easily separates during recycling but protects the underlying corrugated board from moisture. This made it possible for them to be easily sanitized and reused multiple times.

These beds were strengthened using a unique strut design and could take weights upto 300 kgs.



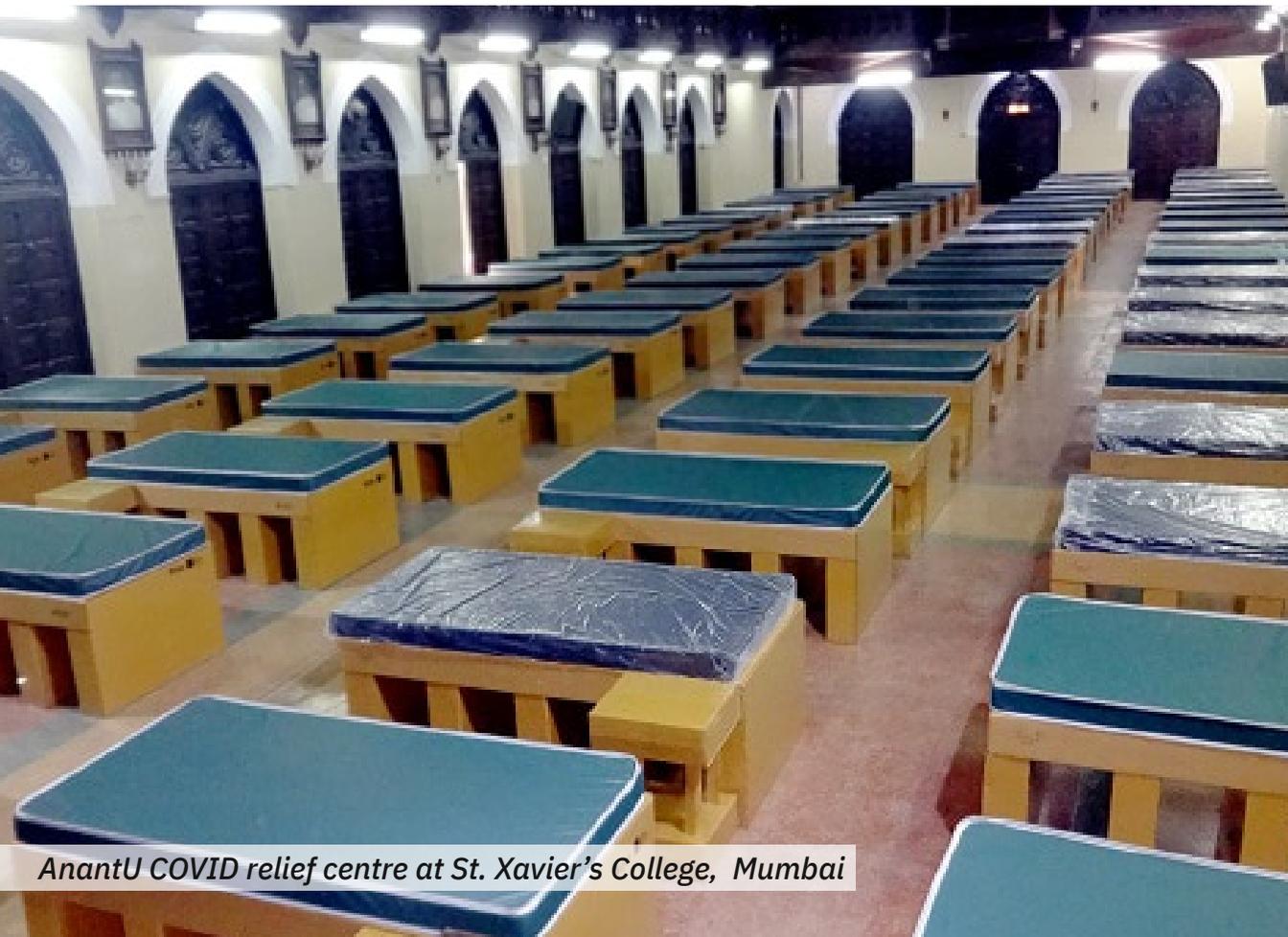
*AnantU COVID relief centre at Rajkot*

## AnantU COVID-19 recovery centres



The centre made recommendations to the Prime Ministers Office of using vacant hard infrastructure - empty community halls, affordable housing projects etc to create temporary COVID care centres. This proposal was accepted and subsequently, the centre set up over 15 such hospitals across 6 states in India - Gujarat, Maharashtra, Kerala, Karnataka, Delhi and Bihar. These places were first scoped out with the help of

our on-ground partners and they were then furnished with basic hospital infrastructure that was developed and manufactured in house. This included beds, side tables and partitioning systems. The costs were kept very low using recyclable corrugated cardboard. Over 2000 beds were set up in record time and help relieve the burden on an overstressed system.



*AnantU COVID relief centre at St. Xavier's College, Mumbai*

# Locations of COVID-19 relief activities





AnantU COVID relief centre at Bangalore



AnantU COVID relief centre at Bangalore



AnantU COVID relief centre at Thiruvananthapuram



AnantU COVID relief centre at Bihar

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*AnantU COVID relief centre at Jehan hall, Delhi*



*AnantU COVID relief centre at Najam baugh, Mumbai*

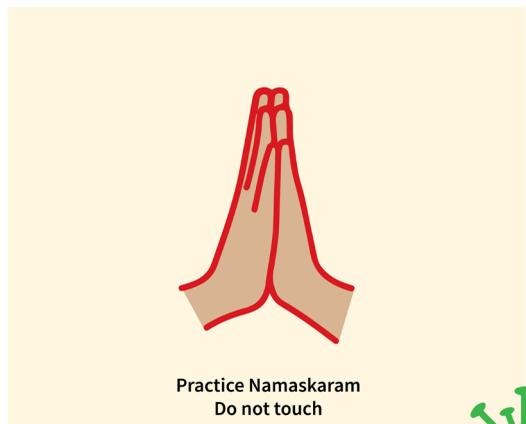
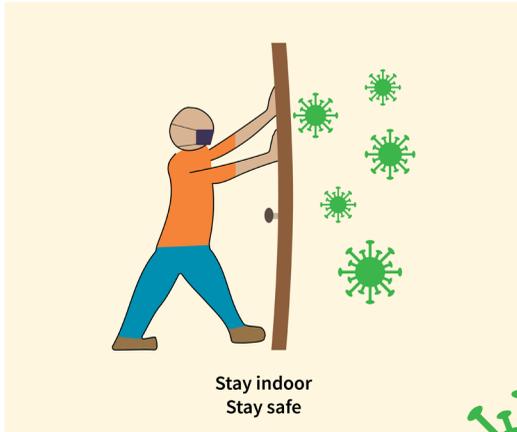
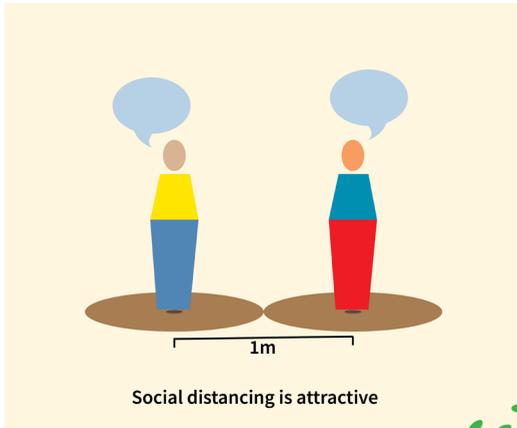


*AnantU COVID relief centre at Najam baugh, Mumbai*



*AnantU COVID relief centre at Thiruvananthapuram*

# COVID-19 communication



# Competition

## COVID-19 frontline warriors overalls

Foundation year student Aditi Bhalekar's design won the best entry for the design contest organised by the Anant Centre for Sustainability. The competition required participants to design scrubs for the Covid-19 frontline warriors such as doctors, nurses and volunteers, that they can wear along with their PPE kits.

Aditi designed a comfortable and hassle-free jumpsuit that can be worn easily along with the PPE kit. The added details such as the zipper in the front make the scrub accessible, and the multiple

pockets make it easy for the users to keep track of their possessions. The scrub uses good quality cotton-mix fabric which is cost-effective than the usual scrubs and affordable. At the back of the suit is written covid warrior thus instilling a sense of pride among the frontline warriors wearing it.

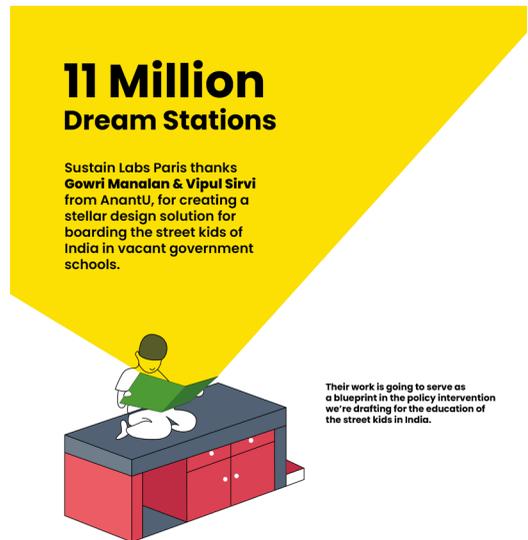
50 pieces of this winning design were worn by doctors and nurses at the Anant Covid-19 Recovery Facility in Nagambaug, Mumbai. This facility was set up and funded in May 2020 by Anant National University.



## Dream stations - boarding the street kids of India in vacant government schools

Sustain Labs Paris partnered with Anant Centre for Sustainability for an open call to the students and Faculty to give 11 million children living on the streets if India a home. The call was met with enthusiastic response from the AnantU community. Gowri Manalan and Vipul Sirvi came up with a stellar design solution for boarding the street kids of India in vacant government schools.

We have to specially mention Hasti Majithiya, Gazal Bhatia and Sagar Soni who came up with fantastic ideas and work.



We also thank **Hasti Majithiya, Gazal Bhatia and Sagar Soni** for their fantastic work and ideas shared!

# News and articles

## HT Hindustan Times

World Cities Entertainment Cricket Lifestyle Astrology

Home / Analysis / When Covid-19 enters India's slums

### ANALYSIS

## When Covid-19 enters India's slums

India is home to one-third of the global slum population. The State needs a plan



Mumbai, India - May 23, 2018: An aerial view slum of newly painted by 'Chal Rang De' at Khar Danda in Mumbai, India, on Wednesday, May 23, 2018. (Photo by Ragul Krishnan/ HT PHOTO)(HT PHOTO)

Updated on Mar 23, 2020 06:43 PM IST



By Miniya Chatterji and Mohammad Zeeshan

### SUNDAY SPECIAL

## Dongri gets first pop-up hospital

To combat shortage of space in hospitals, a team of urban planners in Mumbai into sustainable and scalable COVID-19 quarantine centres within record time

ANU BHASKAR



### The NEWS Minute

## How a public-private-university partnership is making COVID-19 treatment accessible

NGOs, private sector, MNCs, a university and state governments have come together to set up low cost COVID-19 treatment centres in 10 places in India.



## दिव्य मराठी विशेष • अन्त राष्ट्रीय विद्यापीठाचे प्रा. धवल मोनानी यांचे संशोधन, घोरेघरी चाचण्या शवयुग्म फिरत्या ऑटोत स्वॅब टेस्टिंग व ऑक्सिजन पुरवठा

प्रतिनिधी: पुणे

कोरोनाची वाढती रणसंख्या लक्षात घेता 'अन्त राष्ट्रीय विद्यापीठा'चे प्रा. धवल मोनानी यांनी काही शिक्षक स्वॅब टेस्टिंग मशीने व अत्यावश्यक ऑक्सिजन पुरवठा यंत्रणा बसवून फिरत्या ऑटोत स्वॅब टेस्टिंग मशीने संशोधन केले आहे. कमी जागील, प्रभावी अशा तंत्रणेतिले ते येता अन्त सुविधेच्या सुद्धेन विद्यार्थ्यांवर आहे. या संशोधन देणालेले विविध राज्येही कच्च्या बांधासंदर्भात संशोधन सध्या चालू आहे. अशी माहिती संशोधनच्या मार्गदर्शक व विद्यापीठाच्या शब्दवत विभागाच्या संचालक डॉ. प्रिंथिया चॅटर्जी यांनी



ही सुविधा टाउन प्रकाशमध्ये उपलब्ध आहे. एकत स्वॅब तपासणी होऊ शकते तर दुसऱ्यात एक्स-रे तपासणी. या फिरत्या शिक्षकूळे कोटोटी सहजरीय, कमी दगात व कमी वेळात तपासण्या करणे

### रिक्षामध्ये स्ट्रेचर, २५ तास उपलब्ध

या दोन्ही प्रकारच्या शिक्षकमध्ये स्ट्रेचर अन्तून ही २५ तास उपलब्ध राहणार आहे. प्राथमिक शिक्षक डिप्लोम जर्नेरर बसवले आहेत, असेही मोनानी यांनी सांगितले. या संशोधनसाठी चॅटर्जी यांच्या मार्गदर्शनाखाली मोनानी यांना विद्यापीठाचे विद्यार्थ्यांअल डिप्लोमन्टर व मॉलिट्रीयंग्रामा असासिनाट जोडले पावतो यांचे सहकार्य लाभले. या प्रकारच्या ऑटोमॅक्सामध्ये स्वॅब सुविधा उपलब्ध असल्याने याचा मरिचकत पाठोपाठ लागू शकते, असे या क्षेत्रातील जाणकारांना वाटते.

असल्यानेही स्वॅब सांगितले. या सुविधेमुळे मोठ्या नव्हतींखालीची परीची जाऊन ही शिक्षा कोटिड १९ च्या चाचण्या करू शकते. एस्से २ चाचणी येऊन एका दिवसात ५०० हून अधिक चाचण्या करू शकते. त्याचप्रमाणे या शिक्षक अधिकार

मिळिंडू बसवलेले असल्याने एका अवयव रणणा लाहरीने रणगाडीला उपलब्ध होऊ शकते सध्यास. या फिरत्या शिक्षकूळे चाचण्या विद्यार्थ्यांनी अधिकृत पुरवठा होऊ शकते, असेही सांगितले आहे.

અનંત યુનિવર્સિટીના પ્રોફેસર્સે કોવિડ-19 પરીક્ષણ માટે કાર્ગો ઓટોની ડિઝાઇન તૈયાર કરી

# સ્ટ્રેચર, ઓક્સિજન, એક્સ-રે સુવિધા વાળી કાર્ગો ઓટોની ખાસ ડિઝાઇન

હોસ્પિટલોને અપાશે જેમાંથી મેળવેલી આવક વિદ્યાર્થીઓને સ્કોલરશિપ માટે અપાશે

**AMBULANCE AUTO**  
સિટી રિપોર્ટર, અમદાવાદ

અનંત નેશનલ યુનિવર્સિટીએ કોવિડ-19 પરીક્ષણ માટેની ઓટો રીક્ષાની ડિઝાઇન તૈયાર કરી છે. આ ઓટો રીક્ષા ત્રણ વેરિએશનમાં બનાવવામાં આવી છે. જેમાં જુદા-જુદા પ્રકારની સુવિધા આપવામાં આવશે. જેનું ડિઝાઇનિંગ અનંતના પ્રોફેસર તેમજ અનંતની ટીમ દ્વારા કરવામાં આવ્યું છે. જેથી સાંકડી ગલીઓમાં પણ સહેલાઈથી પહોંચી શકાશે. આ ડિઝાઇન અનંત યુનિ.ના સેન્ટર ફોર સસ્ટેનેબિલિટીના ડિરેક્ટર મિનિયા વેટ્ચ અને અસોસિએટ પ્રો. ધવલ મોનાની દ્વારા તૈયાર કરાઈ છે. સાથે જ ગ્રાફિક ડિઝાઇનર તેમજ યુનિ.ના પ્રોવોસ્ટનું માગદર્શન લેવાયું છે. જેમાં કાર્ગો રીક્ષાને મોડીકાઈ કરીને યુનિવર્સિટી દ્વારા તૈયાર કરવામાં આવેલી ડિઝાઇન પ્રમાણે બનાવવામાં આવશે.

આ કાર્ગો ઓટોમાં શું અને કેવી રીતે હશે સુવિધા તેની ગ્રાફિકલ સમજ



ત્રણેવ પ્રકારની ઓટોમાં સેનિટાઇઝ કરતી નોગલ, ચેર, ટુલ્સ, પેશન્ટ વિન્ડો અને હેલ્થ ટીમ માટે અલગ અલગ પાર્ટીશન લગાવવામાં આવશે.

- **પહેલી રીક્ષાની ડિઝાઇન:** રીક્ષામાં સ્ટ્રેચર અને ઓક્સિજન હશે. સીરિયસ હોય તે લોકોને આસાનીથી સાંકડી ગલીમાંથી પણ ખસેડી હોસ્પિટલ સુધી લઈ જઈ શકાશે.
- **બીજી રીક્ષાની ડિઝાઇન:** મોબાઇલ એક્સ-રે યુનિટ મુકવામાં આવશે. કોવિડ ટેસ્ટ માટે જરૂરી વેસ્ટનો એક્સરે ક્રાઇને જોઈ શકાશે. એક્સરે માટે લોકોને હોસ્પિટલ સુધી લઈ જવા નહીં પડે.
- **ત્રીજી રીક્ષાની ડિઝાઇન:** કોરોના ટેસ્ટિંગ કરવાની સુવિધા, ઈમરજન્સી ઓક્સિજનની વ્યવસ્થા, ટેસ્ટ કીટ મુકવા માટે રેફ્રિજરેટર વગેરે રહેશે.

**પ્રો. ધવલ મોનાણીએ કહ્યું કે,**  
આ રીક્ષા શહેરની કોર્પોરેશન કે ગવર્નમેન્ટને આપીશું. અમે કોસ્ટ ટુ કોસ્ટ કિમતમાં આપીશું અને એમાં પણ એથી 5થી 7 ટકા રકમ બચશે તો તેનો ઉપયોગ વિદ્યાર્થીઓની સ્કોલરશિપ માટે કરીશું.

**સીનિયર ડોક્ટરની કમિટીની સલાહ લીધી**  
મેડિકલ ને લગતી સલાહ માટે અમે સીનિયર ડોક્ટરની કમિટીનું કન્સલ્ટેશન લીધું હતું. જેમાં ગવર્નમેન્ટ દ્વારા જે કોવિડ રિસ્પોન્ડ ડોક્ટરની ટીમ બનાવી છે તેમની પણ મદદ લીધી હતી.

વૃદ્ધ વ્યક્તિ કે પલૈટ પર કબ્જા કરને વાલા સીનિયર પીઆઈ ગિરફતાર

પુણે, 9 જૂન (આ.પ.)  
પુણે શહેર કે એક બૌદ્ધ પુલિસ નિરીક્ષક ને એક વૃદ્ધ વ્યક્તિ કે પલૈટ પર કબ્જા કર અને 70 લાખ ચલતુ ફિન્ડ. હવે માનવ ને એક મીનિયર ઓફિસર નિમ્ણે નામ હે. પુલિસ ઓફિસરોની ફીરિયાતો ને પૂરે પુલિસ મહત્તમ ને સહત્તલી મળે મળે હૈ. વચ અધિકારી પુલિસ કી ફિરિયા શાખા ને કારકતલ હૈ.  
હવે માનવ ને ગિરફતાર નિમ્ણે ગળે પીઆઈ કા નામ રાજ સેખ (39-55 વર્ષ) હૈ. હસકી પોલીસ ડાયરેક્ટર ડેવેશ ને 24 ફી મૈયે હૈ. પ્રાણ જાનકારી કે અસર હવે માનવ ને શિકાવત્કારી ને સન 2017 ને મેટ્રાપોલિટન પુલિસ સ્ટેશન ને પોષાપટ્ટી કા નેમ દેવે કિયા ગયા હૈ. નિમ્ણે હસકી ફિરિયાતી મૈયે મૂં મૂં મી. એકી જાંઝ ક્રાઇમ ડ્રામ કે માય તી સામર અને ઓફિસ આરોપ શાખા કર રહી થી. નિમ્ણે કાલે વીજ ઓફિસરોનો કે આરોપનુસાર હસકી જાંઝ રાજ સેખ કો દે રી મૈયે થી. હવે માનવ ને આરોપી અને ઓફી ને શિકાવત્કારી વૃદ્ધ કો ગિરફતાર નહીં કરને કે લિમ્ણે અસે 70 લાખ રૂપયે અને ડાયરેક્ટી પોસ્ટ નેમ કમીય ડેડ કન્ટ્રી રૂપયે કા પલૈટ અસે ઘા. રાજ સેખ ને અસે 70 લાખ રૂપયે લે

- 70 લાખ રૂપયે મી ચલતુ વૃદ્ધ વ્યક્તિ કો ધોષાપટ્ટી કરને કે બદલે માંગ ધા પલૈટ ઓર 70 લાખ નવદુર
- જમાનત મિલને કે બાદ વૃદ્ધ ને સીધે પુલિસ કમિસનર કો ચાર્જાઈ હકીકત

લિમ્ણે ઓર પલૈટ પર કબ્જા મી કર લિવા. હસકે બાદ મી રાજ સેખ ને અસે ગિરફતાર કર લેલ મેજ દિયા. તે મહીને કે બાદ અસકી જમાનત હો મૈયે. હસકે બાદ જહ અસે શિકાવત લેવર પુલિસ કમિસનર ડી. કે. સંકેટોળા કે પાલ પલૈટ ઓર તે પેઝ ને અગા આખેદ દેખર અસે પૂરે માનવે કી સહીજાન થારા. હસકે બાદ કમિસનર ને રાજ સેખ કી જાંઝ કે આરોપ દિલ. સામર ઓર ઓફિસ આરોપ શાખા કે ડાયુક સંમાતી કરને ને હસકી જાંઝ 4 મહીને પલૈટ શુરુ કી તિસમે 70 લાખ નબર ઓર એક પલૈટ લેના સાથિત હુઝા. હસકે બાદ પુલિસ ને રાજ સેખ પર કેસ દર્જ કર અસે ગિરફતાર કર લિવા.

## સ્વૈચ્છ દેસ્ટિંગ ઓર ઓક્સીજન કે સાથ કાર્ગો રિવશા વિકસિત

ગલી ને બુલાકર જાંઝ કરાના સંખવા : અનંત યુનિવર્સિટી-સસ્ટન લૈબ્ઝ કી સફલ પહલ

પુણે, 9 જૂન  
(આજ કા આનંદ યુઝ નેટવર્ક, પુણે)  
કોરોના કે બદલે માનવો કો દેવેન શુરુ અનંત યુનિવર્સિટી ને કોરોના અસર પહલ મોનાની ને કાર્ગો રિવશા ને સ્વૈચ્છ ટેસ્ટિંગ મશીન વ અવ્યવસ્થક ઓક્સીજન સિસ્ટમ લગાવર પહલી મોનાઇઝ સુવિધા કી રિસર્ચ કી હૈ. કમ જાહ ને પ્રમાવી સેવા વાલી અન્ય સુવિધાઓ કી તુલના ને વચ સક્તી હૈ ઓર ડિજિટલ રૂપ ને સ્વલભ્ય હૈ. દેશ કે વિશિષ્ટ રાજ્યો દ્વારા હસકે હસનમાલ કો લેબર સંપર્કે કિયા ગયા હૈ. રિસર્ચ કે માર્ગદર્શક વ યુનિવર્સિટી કે સાથલ વિભાગ કી સંમલિના ડી. મિનિયા પટ્ટાની ને વચ અનકારી થી.  
વઘ સુવિધા ડો પ્રકાર ને સ્વલભ્ય હોતી. એક, હસકે સ્વૈચ્છ ટેસ્ટ હો સક્તી હૈ ઓર દુસરા ઇસ-ને જાંઝ. હવે મોનાઇઝ રિસર્ચે ડે કહી મી સહજ રૂપ ને કમ કીમત વ કમ સમય ને જાંઝ કરના સંપર્ક હો સક્તી હૈ. હવે સુવિધા કા અયોગ આઈસીપીઆર માન્યતા પ્રાપ્ત કોઈ મી સક્તી યા પ્રાસેટ વ્યવસ્થા કર સક્તી હૈ. હવે સુવિધા કે ડેસ્ટોમાલ કે લિમ્ણે ફેવલ એક પ્રતિષ્ઠિત ચાલક વ પ્રતિષ્ઠિત

**પહલે લીન રિવશા મહારાષ્ટ્ર કો મિલે:** ડૉ. મિનિયા  
અમદાવાદ સે ડૉ. મિનિયા પટ્ટાની ને હૈ 'આજ કા આનંદ' કો બંધગા ફિ યહ કોઈ લાખ કે સિદ્ધાંત પર વિકસિત કી મૈયે રિવશા હૈ. હસકી પહલી લીન રિવશા મહારાષ્ટ્ર કો મિલેની. હસકે લિમ્ણે એક કમની કે સમ્ય કરાર હુઝા હૈ. કોરોના સંક્રમણ કો માત દેને કે લિમ્ણે હોસ્પિટલ ને સ્વલભ્ય એસે વાલન વિકસિત કરને કા શિખર યા ડો કહી મી પહલ સક્તી હો ઓર હમણી ટીમ ને હવે પ્રવચ્ચ રૂપ સે કર લિવાયો હૈ. અમદાવાદ સ્થિત સસ્ટન લૈબ્ઝ પેરિસ ઓર્ગનાઇઝેશન ને બદલાવ લાવા હૈ. યહ બદલાવ લાને વાલે કમની કે સંસ્થાપક હૈ. યુનિવર્સિટી ને હવે રિવશા કા પ્રોજેક્ટન હોય. સસ્ટન લૈબ્ઝ ખાસ સલિમ મિની, મોરોલો કો ડેસે ડેશો ને લખાવજ સલિમ દેતી હૈ.



ડૉ. મિનિયા પટ્ટાની

**પ્રો. ધવલ મોનાની ને કી રિસર્ચ**  
હવે રિસર્ચ કે લિમ્ણે ડૉ. પટ્ટાની કી માર્ગદર્શન ને ડો. ધવલ મોનાની ને યુનિવર્સિટી કે વિડુઅલ કિંગડમ વ મન્ટીનીડિયા ઇન્સ્ટિટ્યુટ ઓફ ડાયગ્નોસ્ટિક કા સહયોગ મિલા. સ્વૈચ્છ કલેક્ટરન સુવિધા રિવશા 5.1 લાખ રૂપયે તક અલબેકે ઇસ-ને જાંઝ રિવશા 11.5 લાખ રૂપયે તક ને સ્વલભ્ય હૈ. અન્ય મશીનો કી તુલના ને બેટુદ કમ કીમત પર યહ સુવિધા સ્વલભ્ય હો રહી હૈ. ડૉ. પટ્ટાની ને કહા ફિ દેશ કી જનસંખ્યા કો દેવેન શુરુ ઓર કોરોના કે બદલે માનવે કે મહેજબર ડેસી તરફ કી સુવિધાઓ કા નિમણે કરના આવશ્યક હૈ. હવે લિમ્ણે યહ રિસર્ચ કી મૈયે આર્થિક વૃદ્ધિ સે ડુલન ઓર પરેશાની ને ધિરે મરીતી તક જાંઝ કી સુવિધા પહલવાને કી જનકત થી.



પ્રો. ધવલ મોનાની

મેડિકલ સેવક કી આવશ્યકતા હોતી હૈ. હવે સુવિધા કે જારિયે મળી હો યા પર હર જગહ જાંઝ જાંઝ કા સક્તી હૈ. હવે સુવિધા ને જાંઝ મશીન એક દિન ને 500 સે અધિક જાંઝ કર સક્તી હૈ. હવે તરફ સે હવે રિસર્ચે ને ઓક્સીજન સિલેન્ડર વિદાયા મળા હૈ. જિન મરીતો કી હાલત સ્થાન હૈ. અસે લિમ્ણે તુલન ઇન્ફોર્મેશન કરાઈ જા સક્તી હૈ. હવે મોનાઇઝ રિવશા કી સ્થાનૈ મી કી જા સક્તી હૈ. હવે ડોનો પ્રકાર કે રિવશા ને સ્ટ્રેચર હૈ ઓર 24 ઘંટે સ્વલભ્ય હૈ. હવે રિવશા પર ડીઝલ જનરેટર ચિદાયા મળા હૈ.



Jugran - May 11, 2020, Sunday, 40 pages, ₹6, Mumbai | Phone: 022-49800000, fax: 36404802

# sunday mid-day



## MUMBAI FIGHTS COVID

### Maha sees 1,600 new cases, 884 in Mumbai

MUMBAI Grounds 1,000-bed medical facility ready by Monday, becoming second largest in city.

# The hellhole we are building and how to stop and fix it

The pandemic has put weight behind long-time argument to protect open spaces. An expert panel suggests smart tweaks for Mumbai's urban infra while we still have the time

**45** No. of commuters 500 feet long local rail was missed or 2000 plus outsiders are introduced for safety

Aditya started at open spaces, says the Urban Development Board's Aditya, as threatened by the Development Board for 2018 but had been taken up as open spaces, and had a lot in a good COVID world. [PHOTO: T. S. NARAYAN](#)



**Show me the money**  
The lockdown has meant a complete stop to some incomes, leading to stress-induced weight gain, BP and anxiety. [PHOTO: S. S. S.](#)

**Local brands ride PM wagon**  
Marketing campaigns look closer home for inspiration as indigenous firms feel iron is hot to strike. [PHOTO: S. S. S.](#)

**SoBo gets temp hospitals thanks to urban planners**  
Vacant public and community buildings are being turned into pop-up ICUs in five days flat with no immediate cost to government.

Temporary hospitals and ambulances, set up in the last 24 hours, are needed for handling patients. [PHOTO: S. S. S.](#)

[PHOTO: S. S. S.](#)

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Coronavirus warriors: Meet these sustainability experts who hew out viable COVID-19 isolation facilities

An innovative team led by Ananya Chaubey and Dr. Minshi Chatterji of Anant National University creates temporary hospitals and isolation facilities in less than 5 days within vacant properties. The first one will welcome people flying back from the Gulf to Kerala this weekend.

Deepali Nandvani @NandvaniDeepali

Study whenever you are idle

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When a bunch of Indians fly in from the Gulf into the southern state of Kerala this Sunday they will be whisked away to a fully kitted isolation centre that took under 5 days to be built. It is the handiwork of Dr. Minshi Chatterji and Ananya Chaubey, and their team of innovators.



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## COVID CRUSADERS: ANANT NATIONAL UNIVERSITY

The design university is using its strengths to combat the problem of medical shortages

BY [TINA THAKKAR](#) | JUL 8, 2020, 13:29 IST

#CovidCrusaders

We have always been vocal about the things that have bothered us - right now, there's enough to upset the whole world, quite literally! So we have decided to focus on the good that is going around. There are incredible stories about some wonderful things that the people of our industry are doing for the vulnerable. And we'd like to tip our hats and thank each one of them. Yes, they're our heroes. Our COVID Crusaders.

One of India's leading design institutes, Anant National University (AnantU) has been upfront and centre in the battle against the coronavirus. One of the most pressing challenges during this time has been the availability of medical equipment and facilities for the afflicted, and the university is doing its bit by using design innovation to combat these obstacles with two groundbreaking initiatives.

# કવો રન્ટાઈન લોકો માટે કાર્ડ બોર્ડમાંથી બન્યા ડીસઈનફેક્ટ બેડ

## રાજકોટ મહાનગરપાલિકામાં આજે ૭૫ બેડ અપારે: અનંત યુનિવર્સિટીના ડિઝાઈન પ્રોજેક્ટને રાજકોટની ઇપનીએ આકાર આપ્યો: પૂઠાંમાંથી બનેલા આ બેડનું રિસાયકલિંગ પણ થઈ શકે

આજકાલ પ્રતિભે

રાજકોટ

કોરોના ના હાથો ની વધતી સંખ્યાને લઈને સુરે હોસ્પિટલો ભરતક થઈ ગઈ છે તો બીજ તરફ કોરોના સંક્રમિત સાથે લેવામાં આવેલા તેમના પરિવારજનો કે અન્ય વ્યક્તિઓ ને ક્વોરોન્ટેન માટે ફોલીલી સેન્ટરમાં બેડ ની સંખ્યાને પહોંચી વળાય તે માટે અનંત નેશનલ યુનિવર્સિટીએ કાર્ડ બોર્ડ માંથી બેડની ડિઝાઈન તૈયાર કરીને અત્યાર સુધીમાં બે હજાર જેટલા આ પ્રકારના બેડ બનાવ્યા છે. જેમાંથી ૭૫ બેડ આજે રાજકોટ મહાનગર પાલિકાને આપવામાં આવશે. આ બેડની ડિઝાઈન લોકોમાં પણ ન શકે કે પૂઠાંમાંથી તૈયાર થયેલા છે.

છેલ્લા બેઠે અહીંથી રાજકોટ ખાતે કાર્ડ બોર્ડ માંથી બેડ બનાવવાની કામગીરી પાલી સી હતી. આ વિષે અનંત નેશનલ યુનિવર્સિટી ના એગ્રીગેશન હાઉસ ના હેડ ધવલ મોનાપાલી એ જણાવ્યું હતું કે, અનંત નેશનલ યુનિવર્સિટી નો આ પ્રોજેક્ટ છે જે છેલ્લા બેઠેમાં ચાલી રહ્યો છે હાલમાં કોરોના ના કેસ ના લીધે ફેસિલીટી સેન્ટરમાં લોકો માટે બેડ ની સંખ્યાને પહોંચી વળાય તે માટે યુનિવર્સિટીએ કાર્ડ બોર્ડ માંથી પહેલા બનાવવામાં ડિઝાઈન તૈયાર કરી છે જેમાં રાજકોટ ની એવન્ટના ડિઝાઈન સ્ટુડિયો એ આ ડિઝાઈન મુજબ મેન્યુફેક્ચરિંગ તૈયાર કર્યું છે. આ વિષે તેઓએ વધુમાં જણાવ્યું હતું કે, આ મુજબના બેડ ને રિસાયકલિંગ સાથે ડિઝાઈનફેક્ટ પણ કરી શકાય છે. અમે કાર્ડ માં લેમિનેશન પણ કર્યું છે જેના લીધે એક વખત વ્યક્તિ વાપરે ત્યારબાદ તરત પાણીથી વોઈ અને ડિસઈનફેક્ટ સરળતાથી કરી શકાય. હાલમાં સરકાર છેલ્લામાં કોરોના ના હાથોની સંખ્યામાં ડિઝાઈન પ્રતિભે વધારો થઈ રહ્યો છે ત્યારે હોસ્પિટલ માટે તૈયાર કરાતા બેડ બનાવવામાં પણ વધુ સમય લાગે છે અને જે ડિમાન્ડ બેડ તૈયાર થાય છે તેના કરતા પાંચ ગણી ઓછી કિંમત થીના પ્રકારના બેડ તૈયાર થાય છે.

આ યુનિવર્સિટી દ્વારા રાજકોટના તરફ, યુનિવર્સિટી દ્વારા ૨૦૦ જેટલા બેડ તૈયાર કરવા છે તેને બનાવવા માટે ૭ દિવસ જેટલા ૭ સમય લાગ્યો છે. એટલે ઉત્પાદનથી છે કે યુનિવર્સિટી દ્વારા ડેમોસ્ટ્રેટી સેન્ટર શરૂ કરવા હતા. વડા પ્રધાન નરેન્દ્ર મોદીના ત્રીજા માર્ગદર્શન હેઠળ આ યુનિવર્સિટી કામ કરે છે, યુનિવર્સિટી દ્વારા ૨૦૦ જેટલા બેડ તૈયાર કરવા છે તેને બનાવવા માટે ૭ દિવસ જેટલા ૭ સમય લાગ્યો છે.

આ યુનિવર્સિટી દ્વારા રાજકોટના તરફ, યુનિવર્સિટી દ્વારા ૨૦૦ જેટલા બેડ તૈયાર કરવા છે તેને બનાવવા માટે ૭ દિવસ જેટલા ૭ સમય લાગ્યો છે.



CULTURE & LIVING

## Vogue Warriors: Meet the sustainability expert who is leading the way to help build COVID-19 recovery facilities

BY SHAHNAZ SIGANPORIA  
29 APRIL 2020

Dr Miniya Chatterji is overseeing a team of urban planners, built environment professionals and designers, who are currently transforming vacant buildings into temporary hospitals, implemented free of cost, in three to five days

[f](#) [t](#) [p](#)

**Mumbai:** In probably the first-of-its kind move, the BMC has converted a vacant 22-storey Mhada residential building in MP Mills compound at Tardeo into a Covid recovery centre, with help from a private design university from Gujarat. Anant National University took three days to transform the 70 1BHK flats into a 350-bed facility, with help from local authorities and on-ground partners. The first floor will be reserved for doctors' cabins, and donning and doffing rooms. Each flat will have five beds, said Raosaheb Sangolkar, technical expert from Habitat for Humanity. **TNN**

## PMAY-Urban: can housing for all be achieved?



In 2012, the estimated housing shortage in India was 18.78 million. 56.18 percent of the shortage pertains to households with annual incomes of about INR 100,000, and 39.44 percent is for those with annual incomes of less than INR 200,000. By 2050, India will have added 416 million dwellers in the country's urban pockets, where the problem of inadequate housing is even more acute.

With a vision of 'Housing for All by 2022', Government of India launched the "Pradhan Mantri Awas Yojana – Housing for All' scheme on 25 June 2015. The successful implementation of the PMAY-U would significantly reduce the estimated housing shortage of close to 20 million households. With less than a year to the target, this study aims to identify the challenges and opportunities for accelerating the implementation of the PMAY-U, as

well as make recommendations, if required, for changes in guidelines, management etc. of the PMAY for its extension beyond 2022.

The research will cover secondary literature and data sources to document the measures taken by the Government over time to meet housing needs of the population, including the outcomes of previous schemes. It will document PMAY-U approaches and good practices that have enabled housing for the poor under its various options, as well as current status of implementation by State and by the largest cities. The aim is to identify reasons for good, medium and poor progress.

The primary research will focus on Ahmedabad, the city across India that has the maximum number of houses sanctioned (228,910) and completed (130,527) under PMAY-U.

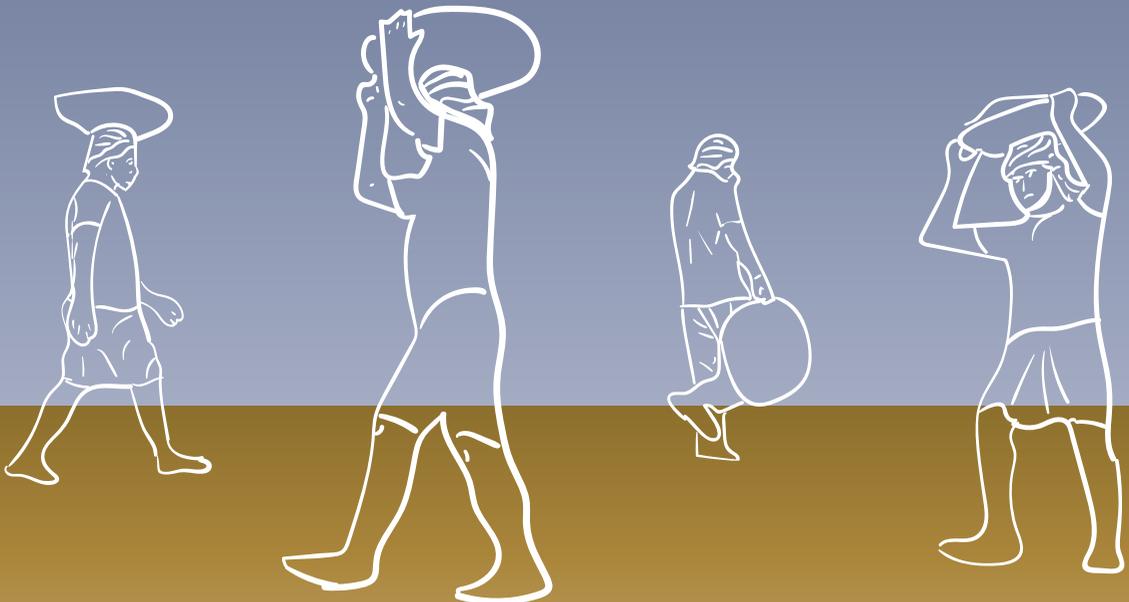


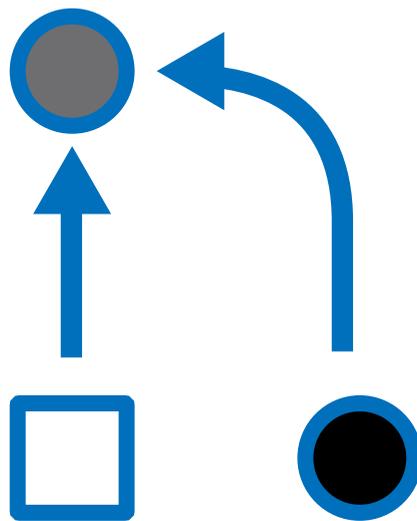
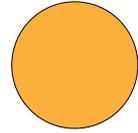
## Housing for construction workers

Safe and adequate housing remains one of the biggest challenges in India and in an irony of fate, the people building dream homes for us remain the most deprived. During the COVID-19 pandemic, we saw the largest human reverse migration in Indian history.

In collaboration with the Terwilliger Centre for Innovation in Shelter (TCIS), the Centre is looking to

understand the role played by the lack of adequate housing in influencing the decision of migrants to return home. The report, based on past and current living conditions, will propose needed policy changes and whether the Affordable Rental Housing Complexes policy has a role to play. The report will also look at alternate materials and technologies to propose possible design solutions.



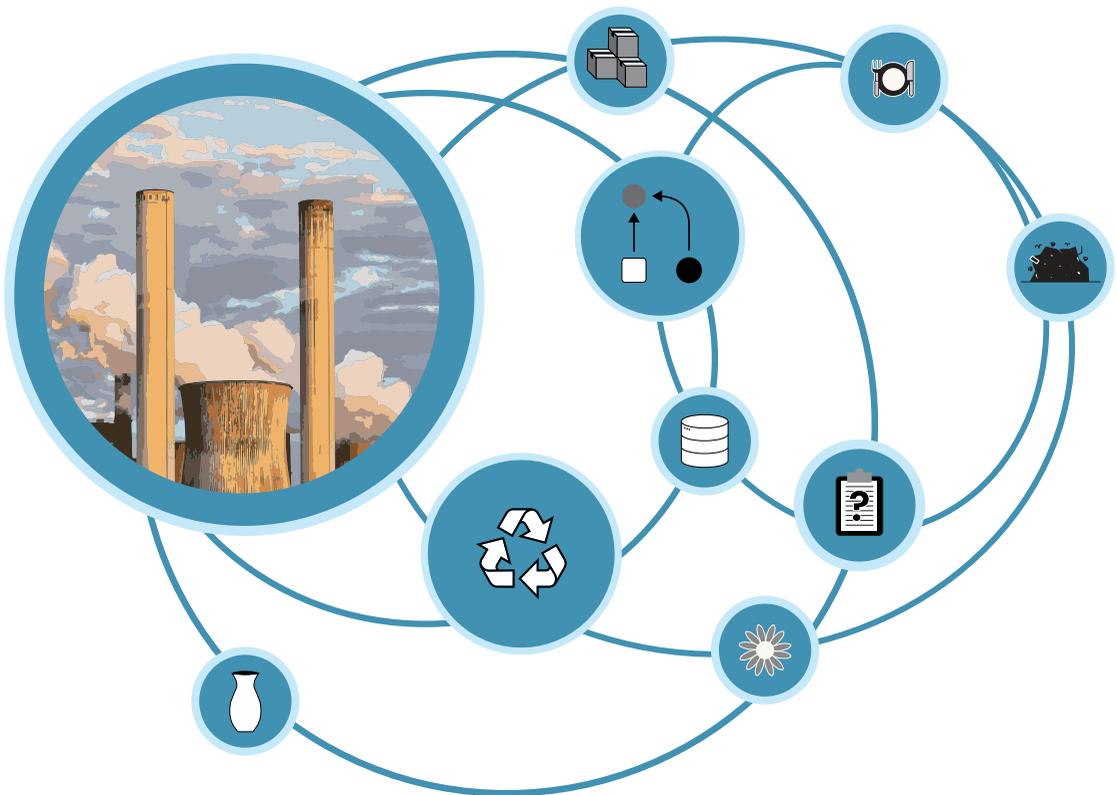


## Indigenous models of circular economy

## Indigenous models of circular economy in India

The circular economy is a resource-efficient approach that concentrates on maximising the economic benefit from resources by keeping them in circulation or eliminating the concept of waste. All materials involved in this approach are either consumed, recycled or reused. There are several authentic Indian enterprise models that are intrinsically circular, primarily driven by resource scarcity, and these

models are less documented and lesser-known by the world. Our interdisciplinary research team studies the Indian practices of the circular economy and analyse the design of products, processes and infrastructure. We collaborate with academia, consulting firms and industry to discover traditional Indian practices in the field of circular economy that could be scaled as business models.



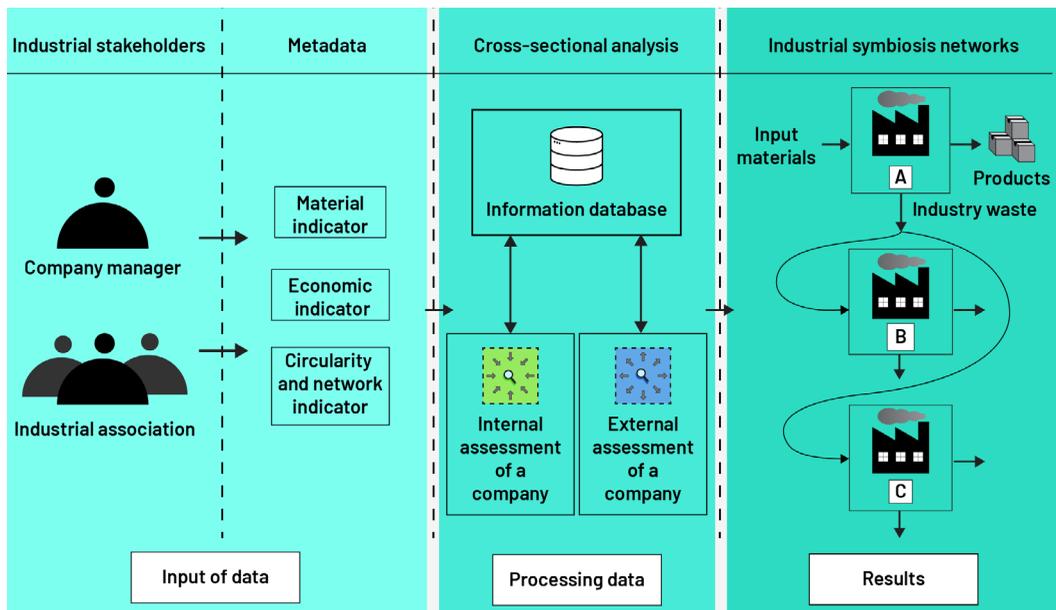
# Report:

## Indigenous models of circular economy in India



Industrial symbiosis is a collaborative approach oriented towards resource efficiency among diverse manufacturing companies in an industrial establishment. The researchers studied the industrial metabolism of manufacturing

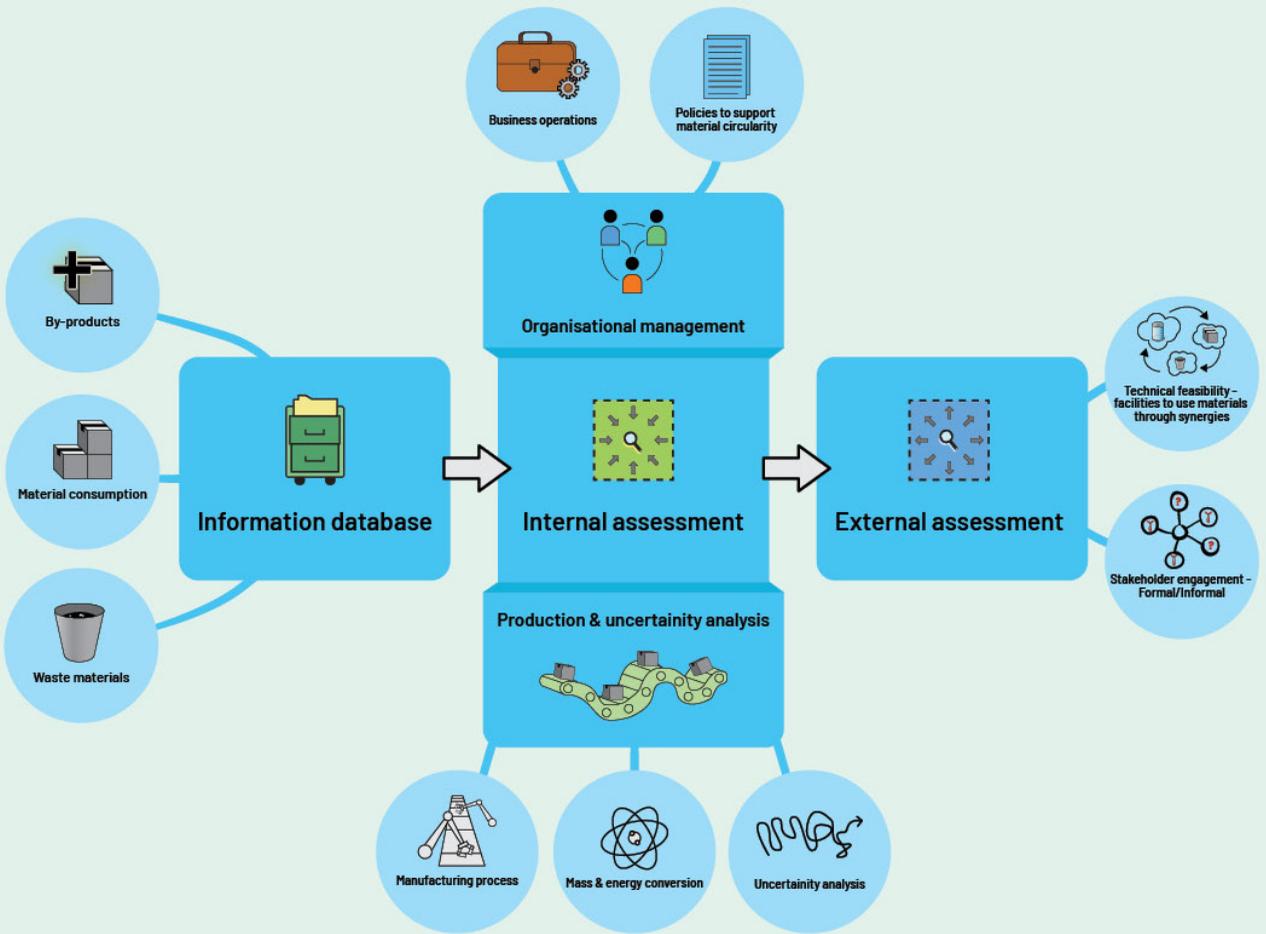
restructuring the industrial estates in India. The learnings from the Naroda Industrial Estate case study is published in this report. The report incorporates several interesting insights leading to the proposal of an effective framework

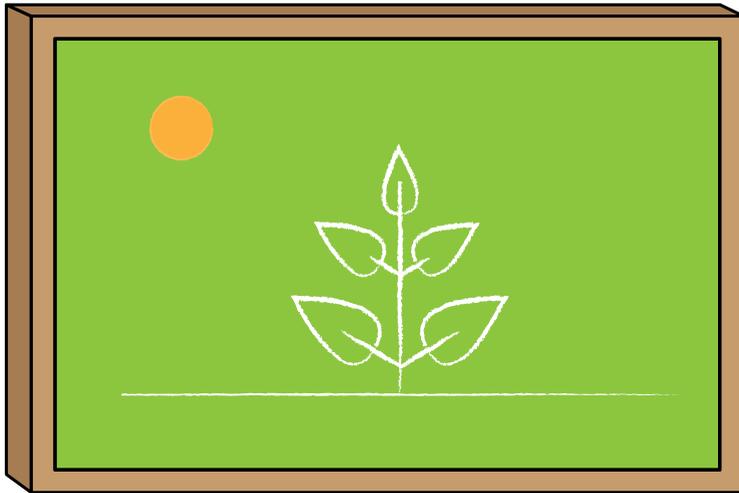


companies and informal economies of an Indian industrial estate to analyse the opportunities and challenges of implementing an resource exchange platform. The findings from the research portrayed the opportunities of

backed by an Information and Communication Technology platform architecture. Additionally, the report illustrates a practical working model to guide companies to implement industrial symbiosis in industrial estates.







## Centre programmes

## Anant Fellowship for Climate Action



The Anant Fellowship for Climate Action is a unique one-year immersive global programme for climate change solutionaries. Based on a mentor-mentee framework, it aims at creating a community of

climate change trailblazers who collaborate and cross-pollinate each other's work with ideas and expertise from across sectors, regions and generations.



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# Are you the next big climate solutionary that the world needs?

**Join the Anant Fellowship for Climate Action**

**Mentored by the best in the industry**



**Amer Vohora**  
Partner/Chief Client Officer,  
VALUeworks AG, Switzerland



**Andy Parker**  
Project Director, SRM  
Governance Initiative  
(SRMGI)



**Anoop Ratnaker Rao**  
Founder, ReLife &  
Owner and Managing Partner,  
Engineering Enterprises



**Arunabha Ghosh**  
Founder & CEO, Council on  
Energy, Environment and  
Water, India



**Bharath Visweswariah**  
Ex-Director of Investments,  
Omidyar Network India



**Chetan Maini**  
Co-Founder & Chairman,  
SUN Mobility, India



**Dhaval Monani**  
CEO, First Home Realty,  
India



**Diana Mangalagiu**  
Professor, Environmental Change  
Institute, University of Oxford, UK  
and Neoma Business School, France



**Indra Guha**  
Partner, Think Through  
Consulting, India



**Lise Bruynooghe**  
Executive Coach, ProFound  
Consulting AG, Switzerland



**Manish Kharbanda**  
Advisor, Jindal Steel &  
Power, India



**Maureen Nandini Mitra**  
Editor, Earth Island Journal,  
U.S.A.



**Mustapha Mokass**  
CEO, Beya Capital, Morocco



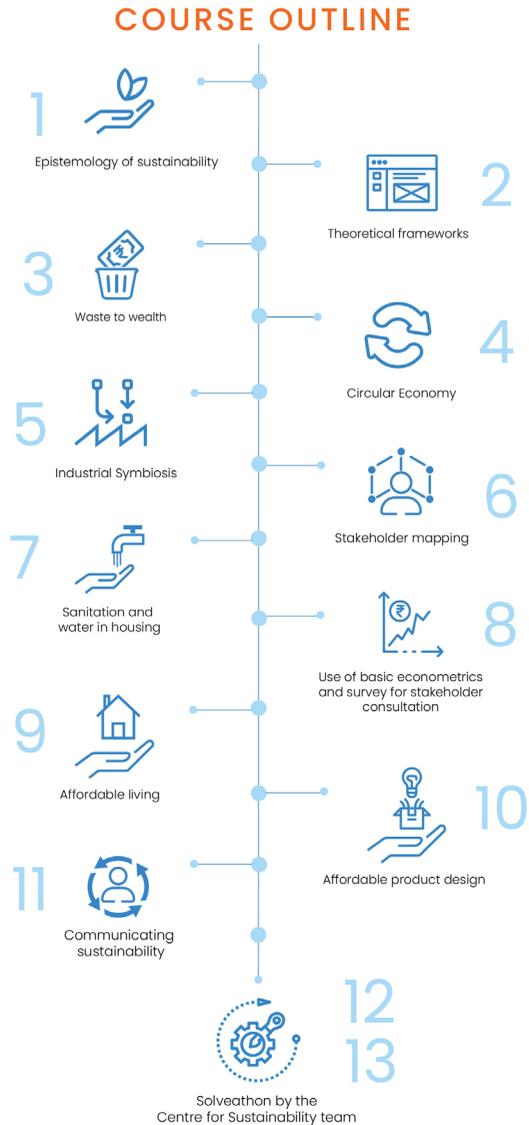
**Vikram Chatterji**  
Co-founder, Galileo,  
USA

**Write to [climateaction@anu.edu.in](mailto:climateaction@anu.edu.in)**



# Foundation course on sustainability

Students at Anant National University benefit from developing a robust foundation in sustainable design and practices by leveraging the resources offered by the Anant Centre for Sustainability. One key component of which is the Foundation Year course on 'Introduction to Sustainability'. Students trace the origins of 'sustainability development' since the early 1800s across academia, politics, business. They read key texts and publications that shaped the meaning of sustainability as we know it today, and learn about key topics such as waste to wealth, circular economy, industrial symbiosis, stakeholder mapping, sanitation and water in housing, as well as affordable housing and product design.



## Executive education

The lack of formal education in sustainability studies, including climate sciences, affordable housing, design thinking for solving social problems, deepens the need for executive education in this field.

Working professionals, job seekers, students can sign up for Executive Education courses offered by the Anant Centre for Sustainability round the year. Currently we offer two programs, which are as follows.

### Designing Affordable Living



The programme aims to enable students to understand the needs for affordable living in India, and then effectively design, produce, and market affordably priced items made with limited resources

in short durations of time. This is an aspect of design especially important to provide a life of dignity and comfort even to those who are economically disadvantaged.

## Designing Affordable Living

7 days certificate course

### Interested in Innovation?

Understand the needs for affordable living in India, effectively design, produce, and market affordably priced items

Open to all practitioners interested in innovation

<https://bit.ly/AnantUDAL>

Scan to enroll



Apply now  
[climateaction@anu.edu.in](mailto:climateaction@anu.edu.in)





## Entrepreneur in Residence



The EIR programme is envisioned to help three entrepreneurs with either a well-fleshed out business idea or an existing business in the field of affordable housing,

building construction, real estate, design and prop tech, who could leverage AnantU's physical infrastructure, expertise and partnerships to scale up.



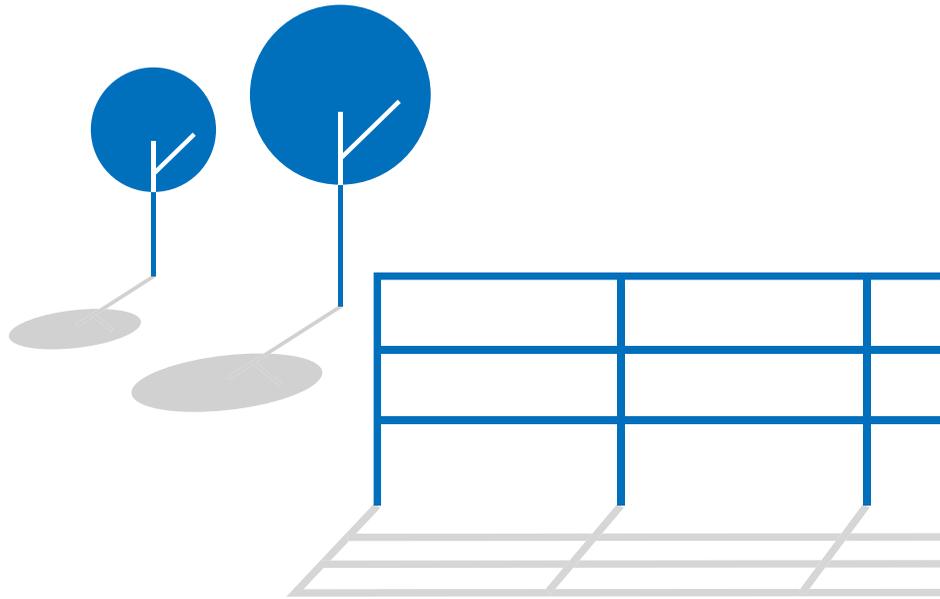
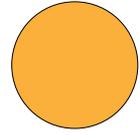
Do you have an idea or existing business in the affordable housing, real estate, design and property technology domain?

## Become an Entrepreneur in Residence.

Scale up your idea sustainably by leveraging AnantU's infrastructure.

<https://bit.ly/AnantUEIR>





# Sustainable campus



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CENTRE FOR  
SUSTAINABILITY

# Sustainable campus

The Centre for Sustainability is committed to providing a sustainable campus space for the AnantU community that contributes

## DOT

This new philosophy was strategically implemented over a period of two years across the length and breadth of the university through the use of change management techniques. It touched upon administrative practices, academics, research, student relations and partnerships, among others. The essence of DOT was visualised by a team of two AnantU students who worked as collaborators with the design team at the Centre for Sustainability. The creative exercise resulted in the development of a brand identity (logo) of DOT and a library of posters. These posters are published each week by the Centre via internal and external communication platforms in celebration of initiatives at the university that embody the philosophy DOT.

to building an eco-friendly environment through education, research and developments.

The Anant Centre for Sustainability conducted a university-wide survey to gather ideas and feedback from faculty, students, their parents and staff members on the aspects of the university that directly impacted them. The results from the survey were assessed by the Centre for Sustainability and were used as inputs to define a new cultural identity for the university. Dynamism, Open-mindedness and Talent, abbreviated to DOT, are the 3 values that are embedded in all that we do at the university. In addition to promoting rigour, innovative thinking and competitiveness, the philosophy of DOT also emphasises the importance of great collaboration in achieving greater heights.





**Dynamism | Open mindedness | Talent**

an idea or existing business in the affordable  
estate, design and property technology domain?

**an Entrepreneur in Residence.**  
idea sustainably by leveraging AnantU's infrastructure.

AnantUEIR 

Deadline for applications  
is **15th of October**

Send us your business idea  
and CV to [eir@anu.edu.in](mailto:eir@anu.edu.in)

CENTRE FOR SUSTAINABILITY | EXECUTIVE EDUCATION | campus



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AnantU is a sustainable campus

Have you read the first  
edition of **ANUsandhan**:  
Anant National University's  
student-led Publication, yet?

**Dynamism | Open mindedness | Talent**



**ANANT NATIONAL UNIVERSITY**  
AnantU is a sustainable campus

Fresh ideas and creativity stirred into a pot of DOT.

Read **ANUsandhan**, our student led publication.

**Dynamism | Open mindedness | Talent**



**ANANT NATIONAL UNIVERSITY**  
Dynamism | Open mindedness | Talent

4.



Congratulate  
the Aaramb

AnantU is a sustainable campus

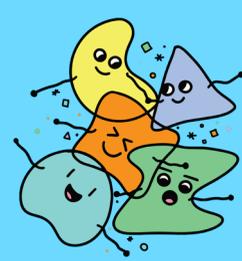


**Dynamism | Open mindedness | Talent**

Your talent at Euphoria brought  
the fun back into our Friday!



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**ANANT NATIONAL UNIVERSITY**  
AnantU is a sustainable campus

Let this new academic year be full of  
**dynamism, open-mindedness and talent!**



**Dynamism | Open mindedness | Talent**





**ANANT NATIONAL UNIVERSITY**

Thank you for your efforts at Euphoria!

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**ANANT NATIONAL UNIVERSITY**

Your  
t



**Dynamism | Open mindedness | Talent**



Suppa,  
book of ideas,  
favourite WFH outfit  
connect with your colleagues!

on at  
y Salon.



AnantU is a sustainable campus





**ANANT NATIONAL UNIVERSITY**

Thank you for participating in the Faculty Salon!

AnantU is a sustainable campus





Congratulations, **Milind and MakerSpace** for  
showing your tremendous **talent** and winning the  
Design a Box challenge!



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Grab your cup  
Get your job  
Done your fav  
And reconne

See you soon  
The Faculty S



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periences,  
ge ideas and  
connections

Faculty Salon

d for more



**Dynamism | Open mindedness | Talent**



**ANANT NATIONAL UNIVERSITY**  
AnantU is a sustainable campus

The International Centre for Inclusive Cultural  
Leadership returns with its 18th webinar that  
promises to be just as thought-provoking.

#HeritageMatters on 2 August

**Dynamism | Open mindedness | Talent**





**ANANT NATIONAL UNIVERSITY**  
AnantU is a sustainable campus

Welcoming the **dynamic** cohort of 2022 at  
the Anant Fellowship for Climate Action

**Dynamism | Open mindedness | Talent**



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Share exp  
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Stay tuned f



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# AnantU sustainability assessment

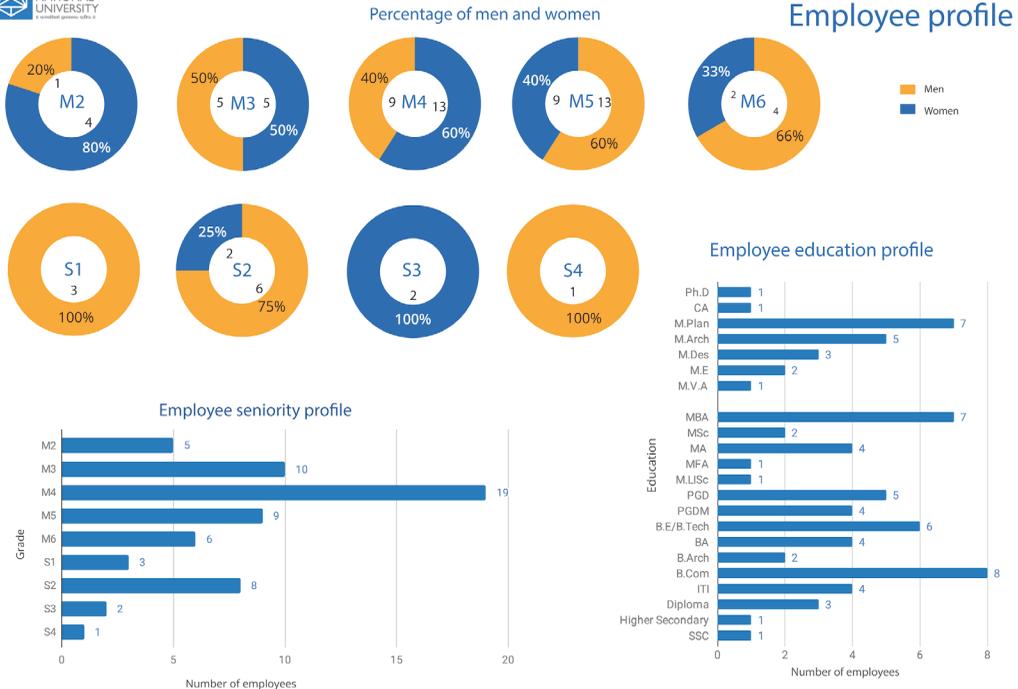
## Baseline sustainability measurement

The Centre for Sustainability is committed to providing a sustainable campus space for the AnantU community that contributes to building an eco-friendly environment through education, research and developments. As an initial step towards an impactful journey, the

Centre has conducted an in-depth sustainability measurement across 10 parameters - energy, waste, water, employee diversity, equal pay for equal work, faculty research interest, student diversity, nutrition on campus, marketing carbon footprint, governance - for the academic year, 2017 - 2018. The analysis led to several promising measures and targets were set for improvements.



Baseline sustainability measurement for June 2017 - July 2018





## Capstone projects

The Centre for Sustainability is dedicated to introducing research and community participation in the academic curriculum, which will inculcate the students on becoming truly solutionaries. The masters' students of Sciences Po Paris and Anant National University worked together on making AnantU campus a single-use plastic-free for the academic year 2019-2020. The Capstone project comprises students with a diverse academic background of environmental policy, economic studies, international affairs, humanitarian studies and integrated product designers collaboratively working together

on change management strategies, sustainable alternative materials, reutilization of plastic waste and relevant policy implications. In the semester-long research project, the students explored several waste management strategies, conducted field visits to waste recycling plants and understood the magnitude of waste dumping sites. They have monitored on-campus plastic presence and formulated a strategic and implementable roadmap to make the campus plastic-free. The students have also worked on various change management strategies to sensitise the AnantU community.



## Capacity building for waste management

### Making campus plastic free

The AnantU community is encouraged to use sustainable alternative materials to eradicate plastics. This community sensitisation initiative has been focused on bringing plastic-free products on-campus after thorough examination by the researchers. The use of eco-friendly materials includes:

Sustainable menstrual products like cloth pads and menstrual cups are being sold at the university

stationery store and at the Centre for Sustainability. It is promoted to the students and staff to encourage their transition towards sustainable menstrual products, which is a part of the 'Period power' initiative. A volunteer group of 12 members comprising of students and staff are in regular contact to promote sustainable menstrual products on campus.

The studio waste bins are made of eco-boards, which are made out of agricultural waste



Eco-friendly products (Notebooks made with recycled paper, desk organizers made out of recycled plastic, envelopes are made out of recycled paper, jute paper folder) are displayed at the Centre to encourage others towards using them.

Recycled and environment-friendly paper is used for all campaign poster printouts.

Copper bottles and copper glasses are used for events and meetings – to eradicate the plastic water bottle consumption

Plastic-free toiletries – stainless steel handwash and paper napkin dispenser installed in all campus restrooms

### **Recycling of waste**

Waste management at AnantU begins with the segregation of dry and wet waste. The segregated waste is recycled either within the campus or through recycling firms, NEPRA Resource Management for dry waste and Karo Sambhav for e-waste. Construction waste generated on-campus is accumulated and transported to Ahmedabad Enviro Project which is converted to building materials.

The food waste generated on-campus is composted in-house using a food compost bin. We have also signed an MoU agreement with Saltech Design Labs, which will enable us to convert waste plastic from AnantU campus into road paver blocks, floor tiles, and other reusable objects. The segregation infrastructure includes on-campus facilities, which is made of plastic-free materials:

- Trio bins with separate compartments for food, plastic and other (made of steel)
- E-waste bin (made of ecoboard\*)
- Studio-waste bin (made of ecoboard\*)
- Liquid-food waste bin (made of steel)
- Food compost bin (made of metal)
- Classroom dustbin (made of metal)
- Swing bin in the walkway (made of metal)
- Pedal bin for staff members (made of metal)
- Swing bin in the restrooms (made of stainless steel)
- ecoboard is made out of agricultural waste



## Waste management of army cantonment, Agra

The Centre for Sustainability is actively involved in leveraging the learnings to benefit other institutions on becoming a truly sustainable campus. Centre's lead circular economy researchers and officials from Army base workshop at Agra have vigorously worked towards recycling, managing and ensuring safe disposal of waste at

the cantonment. The Centre has conducted intensive field research and suggested a solution-oriented roadmap to categorize, segregate, and manage on-campus waste effectively. The guidelines also involve behaviour change initiatives and successful Army cantonment case studies to educate and prepare the personnel.



## Nutrition

We cannot change the global trade and consumption of junk food that has large quantities of saturated fats, sugars, preservatives and salts, but we can educate and provide nutritional choices for the community. The Centre, faculty members and students are actively working towards improving the canteen menu and raising awareness about the nutritious food

on campus. A survey conducted on the nutritional value shows the per day consumption of students of which carbohydrates are served 60.4%; Fats are 22.7% and Proteins are 16.9%. We are on a mission to increase the protein intake of the students on-campus.

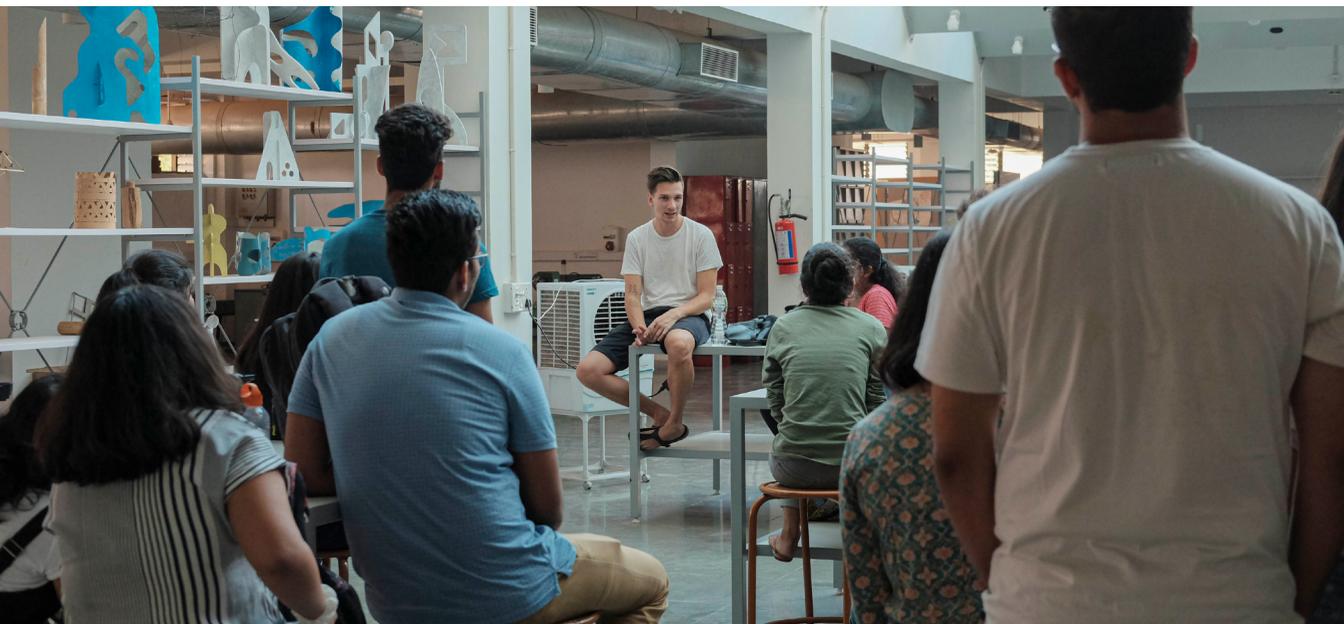


## Sustainability talks

The centre has conducted multiple activities to introduce students to the idea of sustainable design. The centre collaborated with design festival, Bengaluru ByDesign for two consecutive years, 2018 and 2019, which curated design thinking, innovation and sustainability through creative events. These events comprised workshops and

lectures by industry experts and academics of international repute along with an exhibition on the built environment.

Currently, the centre periodically organises interactive workshops on waste management to introduce staff and students to the magnitude of waste challenges.



## BW India's most sustainable companies//ACFS x SLP

Anant Centre for Sustainability and Sustain Labs Paris partnership seeks to address the gap of communicating the concept of sustainability by breaking it down into an impactful and easily understood format. This is through the centre's experience and skills in both sustainability and visual design.

SLP and BW Businessworld India, a monthly business magazine with the largest circulation in India, have partnered to assess and rank Indian companies on their sustainability performance. There is no fee charged from the largest 200 companies and

**BW BUSINESSWORLD** & **Sustain Labs Paris**

### Present **India's Most Sustainable Companies 2021**

there is no fee charged by SLP from BW Businessworld either. The companies are assessed fairly and transparently on their performance against six aspects outlined in the SLP Sustainability Cube - a proprietary framework created by SLP. The assessment scores, rankings and associated write ups are published in an annual special issue on sustainability by BW Businessworld in the month of December each year.

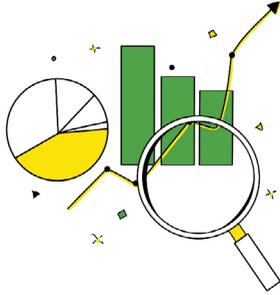
## Financial Health

**and 30 defining factors to assess your company**



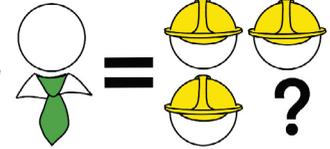
## Reporting

and 30 defining factors to assess your company



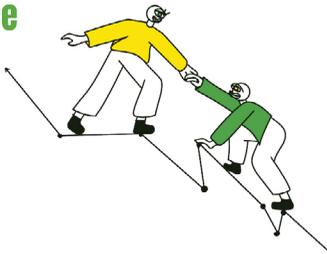
## CEO-Average Worker Pay Ratio

and 30 defining factors to assess your company



## Human Resource Productivity

and 30 defining factors to assess your company



## Waste Productivity

and 30 defining factors to assess your company



## Number of Lives Positively Impacted as a Result of Business

and 30 defining factors to assess your company

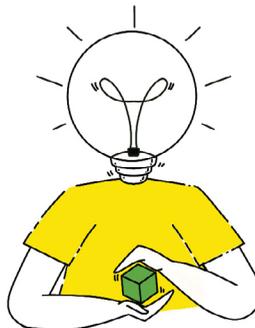
## Energy Productivity

and 30 defining factors to assess your company



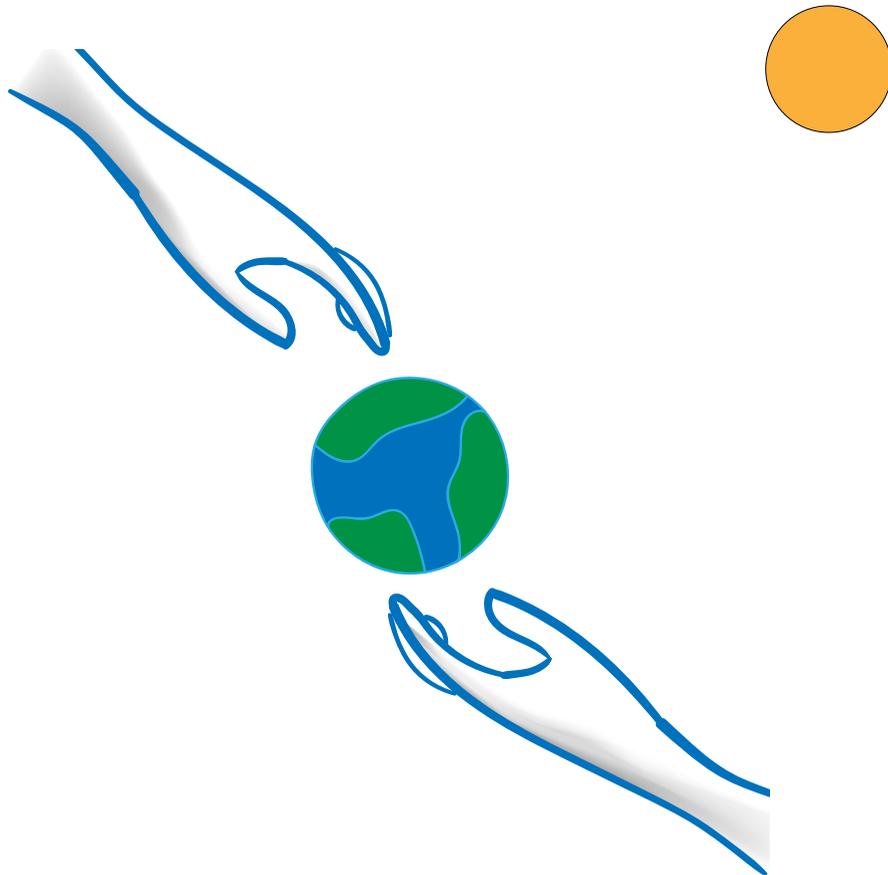
## Water Productivity

and 30 defining factors to assess your company



## Innovation

and 30 defining factors to assess your company



## Partners

The Anant Centre for Sustainability works in partnership with select international and Indian organisations to further its mission of advanced research and project implementation in climate action, affordable housing, indigenous models of circular economy, and building sustainable education campuses. In implementing

projects, the Centre has received grants and sponsorships from both government organisations and private sector companies. We have also delivered to clients in locations across India, products and solutions related to affordable housing, corporate sustainability, and sustainable campuses.



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## Terwilliger Centre for Innovation in Shelter, USA

Terwilliger Centre for Innovation in Shelter (TCIS) – USA, is an independent entity set up within Habitat for Humanity International to deal with a market-based approach and create an impact on 100 million lives. It functions independently of Habitat for Humanity with its budget and team. TCIS has set up and manages several funds for investing in housing ecosystem start-ups, including the much-lauded Micro Build Fund – which has led to the development of commercial paper by Credit Suisse for investments in the affordable housing space.

AnantU partners in research on areas of mutual interest with TCIS. The areas of cooperation may include, subject to mutual consent, any desirable and feasible activity that would further the goals of each institution.

Such interaction may include cooperation in a variety of joint

academic and education activities such as:

- The impact of accessibility to housing microfinance on low-income families
- Which materials or services have the most impact in creating a vibrant housing ecosystem
- How to integrate sustainable technologies in low-income housing construction

Further, both organizations are keen to develop and conduct modules for capacity building in the affordable housing space. The capacity-building platform would be open for students and faculty members to work with the portfolio companies of TCIS.



## Terwilliger Center for Innovation in Shelter

## Habitat for Humanity India

Habitat for Humanity – India (HfHI) is one of the largest organizations working to provide decent shelter to families. HfHI sets the stage for families, volunteers, donors, and supporters to come together to build suitable homes that provide the foundation for a better life.

HfHI and AnantU anticipate that a number of initiatives will occur during the period of this MOU. The key objectives of this exercise would be to address the issue of 30 million incomplete homes and their possible solutions. The focus would be on the self-build space, which accounts for 60 per cent of all home construction in India.

To fulfil the above-mentioned objectives, the scope of the work is classified into key heads such as:

- **Volunteering Programme:** Assistance to each other with Construction, Technology, Innovation & Design to affordable housing by sending their students/ staff on the field for volunteering programs.
- **Knowledge Hub and Workshops:** Facilitate and host key research workshops to enhance the efficiency of the housing projects.
- **Research and Development:** Undertake research, assessment, development of tools and resources that facilitate dialogue and synergy of best practices between different operating models and stakeholders.
- **Research Aspect:** To conduct joint action-based research such that it is implemented in field-level, policies and practices. These researches shall make an impact in creating awareness within the areas worked upon and the public, in general.
- **Publishing:** Case studies and innovation may be presented in national/international conferences and published in reputed Journals and Magazines.



## MIT solve

The Anant Fellowship for Climate Action is a member of MIT Solve, an initiative of the Massachusetts Institute of Technology, USA, with a mission to solve world challenges. The Fellows will be involved in various initiatives by MIT Solve all through the year.



## Saltech Design Labs

Saltech Design Labs is a technology startup that re-cycles and up-cycles plastic waste into commercial products for use in the construction industry.

- AnantU provides design support to Saltech to develop new products using its technology.
- Both parties focus on design competitions and exercises to create new products that can be mass-produced and taken to market.



## Terra.do

Terra.do is an online climate school and community developed with the objective of building a global professional community of climate change problem solvers. The course, 'Climate Change: Learning for Action' is a 12-week interactive climate Bootcamp that gives a deep and strategic overview of all things about climate.



## Brigade REAP accelerator

Brigade REAP the leading real estate focused accelerator in the country has entered into a partnership with the Center for Sustainability at AnantU to help its cohort companies gain access to subject matter expertise, sectorial research and mentoring from industry leaders. The partnership offers a unique opportunity for companies to gain access to a large and diverse pool of talent from the student body while giving the students a chance to gain experience with fast-developing companies have first-hand insights into entrepreneurship. The companies will regularly spend time on the state of the art AnantU campus to take advantage of the infrastructure and interact with faculty and students. Brigade REAP will also work with the EIR cohort as a mentor.

## Other partners

Sustain Labs Paris

Avante Garde Studios

## Grants

Fresh Foundation

Murali Deora Foundation

## Collaborators

PII



**PARLIAMENTARIANS WITH INNOVATORS FOR INDIA**



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# Clients

- Indian Army Base Camp, Agra, Uttar Pradesh
- Rajkot Municipal Corporation
- Rajkot Civil Hospital
- Brihan Mumbai Municipal Corporation
- Kerala COVID-19 relief locations

# Team



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[anu.edu.in/centres/centre-for-sustainability/](http://anu.edu.in/centres/centre-for-sustainability/)



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