SHIV NADAR
INSTITUTION OF EMINENCE DEEMED TO BE UNIVERSITY
DELHI NCR

Report on **Sustainable Development**

GOAL 17

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Sustainable Development Goals (SDGs) are a global journey that requires planetary solutions but must also be acted upon locally. These efforts and solutions must be supported in collaboration and can only be energized through partnerships. It is one platform that begins with a strong commitment to SDGs and one that cannot afford to leave anyone behind.

As a center for discovery and creation of new forms of knowledge, universities are significant players in achieving sustainable development goals through collaboration with other universities, government, civil society, private sector, and not-for-profits, partnerships within the country and across the globe.

At Shiv Nadar, with leadership spearheading the way, we actively advocate and collaborate to work on SDGs. This is reflected in all aspects of our teaching, research, institutional practices, and partnerships.

Here is a glimpse of our partnership on goals.

RESEARCH INTO PARTNERSHIPS FOR THE GOALS

Shiv Nadar University is a multidisciplinary, student-centric research University. Being a research university, academic research in its broadest meaning, including basic and applied research, scholarly publications, and creative expression, is the fundamental building block of its academic mission. There is an active culture of partnership within and outside departments with civil society, universities, governments, not-for-profit organizations, and other global platforms.

It fosters research, creativity, and leadership, develops future-ready professionals, and contributes to societal advancement.

With four Schools: Engineering, Natural Sciences, Humanities and Social Sciences, Management & Entrepreneurship, and the Academy of Continuing Education, outstanding faculty, state-of-the-art infrastructure, and a culture of rigorous and open inquiry as the foundations of graduate education, the university has invested a significant amount of funds in building cutting-edge laboratory facilities to train research scholars and enable them to work on problems of current relevance - as diverse as labor law, health care policies, the analysis of big data, natural resource management, climate change, drug and polymer design, protein and DNA bioinformatics, chemical and biological networks, inorganic nanomaterials, materials for energy applications, and research on treatments for diseases with research findings published in high-impact national and international indexed journals. Some of

these partnerships are mentioned in our Sustainable Development Goals Reports.

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Cross-sectoral dialogues about SDGs.

Department of Physics hosted a four-day international conference on Sustainable Nanomaterials Integration & Organization for Energy & Environment.

The Department of Physics at Shiv Nadar University, in partnership with UNSW Sydney, Australia, and KTH-Sweden, organized the International Conference on Sustainable Nanomaterials Integration & Organization for Energy and Environment (iSNIOE2-2024).

With over 250 participants from India and abroad, the conference brought together researchers and practitioners from academia, industry, and research laboratories worldwide, facilitating the dissemination of groundbreaking knowledge in sustainable nanomaterials and their innovative applications in renewable energy and environmental conservation.

During the four-day event, the conference featured parallel symposia dedicated to both experimental and theoretical research on sustainable nanomaterials, nanoscience, and miniaturized, as well as flexible devices for energy and environmental applications. The conference showcased 183 presentations, comprising 11 Plenary Speakers, 20 keynote speakers, 47 invited speakers, 46 oral presentations, and 59 poster presentations, providing valuable insights and fostering collaborations among participants.

Department of Science and Technology, Government of India, supports start-up research projects.

Dr. Gopal Das Singhal, Professor, **Dr. Hitesh Upreti**, Assistant Professor, and **Dr. Ellora Padhi** from IIT Roorkee received funding from the Department of Science and Technology to improve S&T Infrastructure (FIST). The grant runs until 2027 and includes sanctioned equipment like recirculating tilting flume and hyperspectral camera.

In the present scenario, the usage of freshwater resources has increased, and the availability of the same has become erratic due to climate change driven by increased global temperatures and erratic rainfall behavior. In the Indian context, the situation is significantly more alarming since our country is home to around 18% of the world's population but only possesses about 4% of the total global freshwater reserves (World Bank, 2019). There is

Dr. Gopal Das Singhal
Associate Professor and
Associate Head, Department of Civil Engineering, School of Engineering

Dr. Gopal Das Singhal
Assistant Professor
Department of Civil Engineering
School of Engineering

Dr. Ellora Padhi
Assistant Professor
IIT Roorkee

an urgent need to plan and manage the available water resources scientifically. This is particularly important in agriculture and irrigation planning as the contribution of agriculture to the abstraction of freshwater is more than 80%. The primary reason behind this is the poor water use efficiency in Indian agriculture. For this reason, the Government of India has started initiated missions such as “more crop per drop” (increasing water use efficiency), “har khet ko pani” (increasing the cultivated area under irrigation), and Goal 4 (Improving water use efficiency by 20%) of the National Water Mission.

The project aims to provide solutions for developing water-efficient irrigation strategies and mapping crop water stress, which is vital for ensuring sustainable food production and water availability. Also, cascading instream storage strategies will be developed to promote self-sustained water and to mitigate flood scenarios. The project focuses on Sustainable Development Goals 2 and 6.

Industry-Academia partnership to drive sustainable technological advancements

Shiv Nadar University, in partnership with Bharat Petroleum’s Corporate Research & Development Centre (CRDC), is working to advance sustainable chemical processing technologies. By focusing on process intensification for highly exothermic reactions, the project aims to develop novel reactor designs that enhance energy efficiency and reduce waste. This initiative aligns with several critical sustainable development goals, including Goal 9: Industry, Innovation, and Infrastructure - By fostering sustainable industrial innovation and infrastructure development through advanced reactor designs. Goal 12: Responsible Consumption and Production – By emphasizing efficient heat management and reducing the environmental impact of chemical processes. Goal 13: Climate Action - By enhancing energy efficiency and minimizing waste, our collaboration contributes to efforts to mitigate climate change impacts.

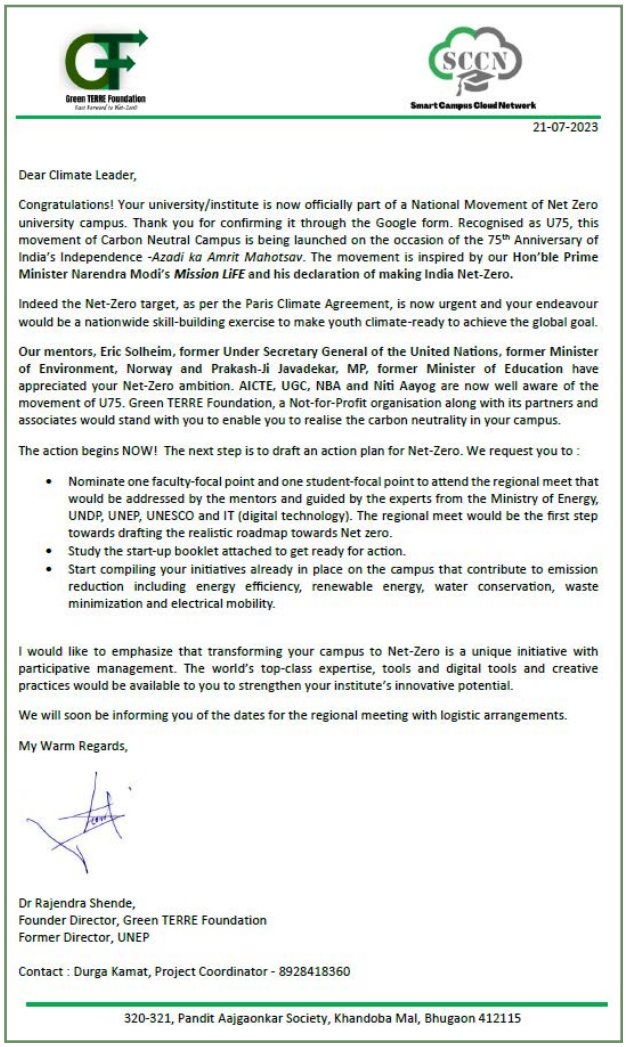
This partnership exemplifies how industry-academia collaborations can drive sustainable technological advancements, aligning with India’s commitment to the United Nations Sustainable Development Goals (SDGs). This partnership project is going to have a positive impact on industry standards and environmental sustainability.

Relationships with regional NGOs and government on SDG policy

Shiv Nadar University is selected as one of the 75 institutions for the National Movement of Net Zero University Campuses.

On the occasion of 75 years of Independence, the Hon'ble Prime Minister of India, Shri Narendra Modi, and Secretary General of the United Nations, Mr. Antonio Guterres, launched U75 - The National Movement of Net Zero on University Campuses, to be led by 75 universities across India.

Shiv Nadar University is selected as one of the 75 institutions for the National Movement of Net Zero University Campuses. Since then, we have been doing joint activities with the Green TERRE Foundation through their flagship project, Smart Campus Cloud Network (SCCN), to actively address SDGs on campus, with campus students as ambassadors.



Green TERRE Foundation
Fast Forward to Net-Zero

SCCN
Smart Campus Cloud Network

21-07-2023

Dear Climate Leader,

Congratulations! Your university/institute is now officially part of a National Movement of Net Zero university campus. Thank you for confirming it through the Google form. Recognised as U75, this movement of Carbon Neutral Campus is being launched on the occasion of the 75th Anniversary of India's Independence -*Azadi ka Amrit Mahotsav*. The movement is inspired by our Hon'ble Prime Minister Narendra Modi's ***Mission LiFE*** and his declaration of making India Net-Zero.

Indeed the Net-Zero target, as per the Paris Climate Agreement, is now urgent and your endeavour would be a nationwide skill-building exercise to make youth climate-ready to achieve the global goal.

Our mentors, Eric Solheim, former Under Secretary General of the United Nations, former Minister of Environment, Norway and Prakash-Ji Javadekar, MP, former Minister of Education have appreciated your Net-Zero ambition. AICTE, UGC, NBA and Niti Aayog are now well aware of the movement of U75. Green TERRE Foundation, a Not-for-Profit organisation along with its partners and associates would stand with you to enable you to realise the carbon neutrality in your campus.

The action begins NOW! The next step is to draft an action plan for Net-Zero. We request you to :

- Nominate one faculty-focal point and one student-focal point to attend the regional meet that would be addressed by the mentors and guided by the experts from the Ministry of Energy, UNDP, UNEP, UNESCO and IT (digital technology). The regional meet would be the first step towards drafting the realistic roadmap towards Net zero.
- Study the start-up booklet attached to get ready for action.
- Start compiling your initiatives already in place on the campus that contribute to emission reduction including energy efficiency, renewable energy, water conservation, waste minimization and electrical mobility.

I would like to emphasize that transforming your campus to Net-Zero is a unique initiative with participative management. The world's top-class expertise, tools and digital tools and creative practices would be available to you to strengthen your institute's innovative potential.

We will soon be informing you of the dates for the regional meeting with logistic arrangements.

My Warm Regards,

Dr Rajendra Shende,
Founder Director, Green TERRE Foundation
Former Director, UNEP

Contact : Durga Kamat, Project Coordinator - 8928418360

320-321, Pandit Aajgaonkar Society, Khandoba Mal, Bhugaon 412115

Global geopolitical landscape and India's approach to navigating it

Dr. Atul Mishra, Associate Professor, Department of International Relations and Governance Studies, School of Humanities and Social Sciences, has been invited to deliver lectures at the Sushma Swaraj Institute of Foreign Service, Ministry of External Affairs, Government of India. The lectures address diplomats from 30 'global south' countries for the first Global South Young Diplomats Forum, which Prime Minister Mr. Modi announced in January 2023. Dr. Mishra's lecture series addresses the global geopolitical landscape and India's approach, pointing out how development and sustainability have become a part of India's foreign policy, as illustrated by the popularization of Yoga, Mission LiFE, the international year of millets, the G20 agenda, the sustainable Indo-Pacific agenda, and the SAGAR policy.

Adoption of Green Areas

In partnership with the local agency, we have adopted green areas agreed upon under a Memorandum of Understanding (MoU) signed with the Greater Noida Industrial Development Authority (GNIDA) on June 2, 2019. Under this MoU, the University has agreed to adopt the green area on behalf of GNIDA. This area is called Veer Savarkar Chowk. Since then, we have developed and maintained the green area, cultivating flower beds, trees, shrubs, and community gardens.

Besides, we have regularly maintained the area by raking leaves, picking up litter, removing graffiti, pulling weeds, and bearing the total cost of this maintenance. To date, we have planted 160 trees, 1107 shrubs, and 5175.63 sqm of grass with a survival rate of 95%.

The Kala Chaupal Trust

We have signed a Memorandum of Understanding (MoU) with the Kala Chaupal Trust to explore avenues to work on the culture and heritage of Bulandshahr, art, and nature conservation. We are working on several projects to capture the district's ancient, medieval, and modern stories and narratives. The documentation and on-ground action will support the community's built and natural heritage to create a sustainable model for cultural tourism. The collaboration includes student internships, faculty research collaboration in Kala Chaupal's projects, nature walks, heritage works, and publications.

Water Management Field Laboratory

The Water Management Field Laboratory at Shiv Nadar University is co-funded by the Government of India and is a state-of-the-art research facility. With an extensive crop experimentation facility equipped with a drip irrigation system and research equipment facility for monitoring crops and soil parameters, the research projects hosted in the lab address the critical issues of food & water security nexus, water management, and the impact of climate change on water availability.

The Ministry of Water Resources and the Ministry of Agriculture & Farmers' Welfare, Government of India, have marked these research areas as of national importance. These areas are also aligned with the focus of the government's national missions on more crops per drop (increasing water use efficiency), har khet ko pani (increasing the cultivated area under irrigation), and Goal 4 (Improving water use efficiency by 20%) and Goal 5 (promotion of basin level integrated water resources management) of the National Water Mission.

Dr. Gopal Das Singhal, the lead faculty member, and his research team are developing AI-based decision-support systems for improved crop water use efficiency under a regulated deficit drip irrigation

regime against the backdrop of climate change. It will provide /water-saving solutions for the two widely grown and consumed crops, rice and wheat. The research group in the lab regularly interacts with local farmers to provide knowledge regarding different irrigation methodologies and their benefits concerning saving water. Other areas of research and dialogue include soil testing, irrigation water testing, and dissemination of weather data for local farmers.

Dr. Geetanjali Chawla is a member of the Technical Evaluation Committee (TEC) on Women & Child Health and Nutrition Department of Biotechnology.

Dr. Geetanjali Chawla, Associate professor, Department of Life Sciences, works extensively on age-related Diseases, RNA Biology, model organism genetics, and RNA therapeutics development. With many partnerships across universities and government projects, she has been elected to the Technical Evaluation Committee (TEC) on the Women & Child Health and Nutrition Department of Biotechnology.

Dr. Geetanjali Chawla
Associate Professor
School of Natural Sciences

International collaboration data gathering for SDG

The Biopolitics of Global Health After Covid

The New Frontiers Grants Program at Cornell University has awarded the project **"The Biopolitics of Global Health After Covid"** for 2023-25. **Yasmeen Arif**, Professor, Department of Sociology is the partnership lead at the Shiv Nadar University with Prof. Timothy Campbell (PI), Italian Studies, Cornell University, USA, and Prof. Davide Tarizzo, Philosophy, at the University of Salerno, Italy.

The project brings together sociologists, philosophers, and anthropologists from around the world to discern the effect of the COVID-19 pandemic on how global health is understood and practiced today. The collaborators will investigate how the pandemic changed perceptions of illness, health, science, and ethics and reconfigured relationalities between doctors and patients, institutions and subjects, neighborhoods and communities, and politics and governance. By situating part of the investigation in the Global South, the project challenges the Global North perspective that continues to dominate accounts of the pandemic and highlights the importance of local knowledge; advances research on biophilosophies and anthropology by creating a dialogue among the qualitative human sciences; elaborates frameworks able to renew perspectives on global health that rely less on exclusion and more on inclusion; and articulates a quest for a future in which institutions are better able to meet the challenges presented by the next pandemic.

Research contributing to the International Union for Conservation of Nature (IUCN)

Dr. Neelesh Dahanukar, Assistant Professor at the Department of Life Sciences, is collaborating with the IUCN to understand the conservation status of freshwater fishes of the Indian subcontinent. He has assessed 170 species of freshwater fishes. The IUCN red list of threatened species helps understand the likelihood of a species going extinct shortly unless conservation actions are designed to protect them.

In 2023, Dr. Dahanukar authored 68 IUCN Red List assessments for Indian freshwater fish. Of these, two species are Critically Endangered, 22 are Endangered, 11 are Vulnerable, 15 are Least Concern and 18 are Data Deficient. The list includes four subterranean fishes from the Western Ghats of India, which have been assessed as Endangered *(Kryptoglanis shajii, Horaglanis abdulkalami and Pangio bhujia) and Vulnerable (Aenigmachanna gollum)*, based on extensive data on these species.

The research group is currently working on molecular ecology, population genetics and conservation genomics of several Endangered (Kryptoglanis shajii, *Horaglanis abdulkalami* and *Pangio bhujia)*,

Vulnerable (Mesonoemacheilus tambaraparniensis) and Data Deficient (*Parapsilorhynchus odishaensis*, *Parapsilorhynchus swaini* and *Parapsilorhynchus alluriensis*) to help in conservation management and action.

Kryptoglanis shajii is a subterranean Fish from the lateritic aquifers of Kerala that is assessed as Endangered in the IUCN Red List of Threatened Species. Photo credit: Anoop VK.

Pangio bhujia is assessed as Endangered. Photo credit: Anoop VK.

Aenigmachanna gollum is assessed as Vulnerable. Photo credit: Ralf Britz.

Agroecological Transition of Indian Dairy Systems: a focus on institutional change – TransIndianDairy

This collaborative research project is between the Indian scholars (SNU- Delhi, NCR, and IIM -Ahmedabad) and the French scholars. (ENSFEA, CIRAD, and INRA Paris).

TransIndiandairy addresses technical, organizational, and institutional levers to upscale agroecological transitions. It does this by developing a multiscale framework for institutional resource regimes, guiding the analysis (both qualitative and quantitative), and supporting the integration of results. Indian dairy systems are chosen as case studies for their local and international importance and unprecedented transition scale. Concretely, the team of 12 social and biotechnical scientists will analyze the coevolution between the business models involved in the production, processing, and marketing of dairy products in three Indian states (WP1) and the multiscale governance of the transitions (WP2). It will also assess the system's multidimensional performance (matter and energy flows, value creation, distribution, resilience) (WP3). Project outcomes will be scientific (articles, reports, Ph.D.) and operational (unlocking, knowledge spreading, scientific cooperation). **Dr. Rajeswari Raina**, Professor in the Department of International Relations and Governance, is participating in the project.

Dr. Rajeswari Raina
Professor Department of International Relations and Governance

Estimation of burden and cost due to river blindness (onchocerciasis) in countries in Sub-Saharan Africa: Model the river blindness disease using the data from South Sudan

Dr. Samit Bhattacharyya, Associate Professor, Department of Mathematics, heads the Disease Modelling Laboratory at Shiv Nadar University and has collaborated with the Global Health Institute, University of Antwerp, Belgium. The team is working on Onchocerciasis, also known as "river blindness," caused by the bite of infected female blackflies (genus Simuliidae) that transmit the parasite Onchocerca volvulus. A high onchocerciasis microfarial load increases the risk of developing epilepsy in children between the ages of 3 and 18 years. In resource-limited settings in Africa where onchocerciasis has been poorly controlled, high numbers of onchocerciasis-associated epilepsy (OAE) are reported. The project uses mathematical modeling to predict the impact of onchocerciasis control strategies on the incidence and prevalence of OAE.

Dr. Samit Bhattacharyya
Associate Professor,
Department of Mathematics

Governance and Inequality

Dr. Yasmeen Arif, Professor, Department of Sociology, is a visiting researcher at GRIP Inequality in Bergen. Dr. Arif is working particularly with GRIP-affiliated senior researcher Bjørn Enge Bertelsen to address questions on identity and global intellectual labor. On another GRIP research project, she is working with Elina Troscenko on Political Protests

Dr. Yasmeen Arif
Professor,
Department of Sociology

and New Forms of Citizenship. Dr. Arif also lectures on Governance and Inequality at the Bergen summer research school.

Collaboration for SDG best practice

Shiv Nadar University joins the league of the Higher Education Sustainability Initiative (HESI) Community.

Shiv Nadar University became a member of the HESI community. The HESI community comprises UN entities, university networks, student organizations, and higher education institutions committed to advancing sustainable development. By becoming

a part of this consortium, we reconfirmed our commitment to be a part of a larger network of higher education institutions and play a significant role in creating a community of shared learnings in support of Sustainable Development Goals mapped to the University curricula, research, programs, and campus practices and to facilitate the transfer of knowledge.

The partnership will create opportunities to share best practices and learn and practice sustainability goals in more creative ways.

Partnership with Krishi Vigyan Kendra, Dadri

Dr. Gopal Das Singhal, Associate Professor, and Dr. Hitesh Upreti, Assistant Professor, Department of Civil Engineering, have collaborated with Dr. Mayank Kumar Rai, Head, Krishi Vigyan Kendra (KVK), Dadri. The collaboration is to discuss research and scientific inputs related to the agricultural practices currently followed by farmers near the university and ways to upgrade existing knowledge and technology around agriculture. The collaboration also involves enhancing the network with the local farmers, which is critical for any technological intervention for sustainable agriculture.

The partnership is also working to introduce end-user training and demonstration of agro-technologies to the farmers, support the validation of agro-technologies in farmer fields and field testing, and disseminate information on a large scale to the farmers in the remotest areas.

Partnership with local authorities brings our undergraduate students to conduct their OUR projects on local farms in the vicinity.

We established the focus on undergraduate research from the start of the university's founding. The Opportunities for Undergraduate Research (OUR) program enables undergraduate students to undertake research projects with faculty members in any discipline.

The following are examples of OUR projects under the guidance of Dr. Gopal Das Singhal, Professor, and Dr. Hitesh Upreti, Assistant Professor, Department of Civil Engineering. These projects use satellite remote sensing for agricultural monitoring and detecting crop water stress, which is crucial for food and water security. *The project's study area is the farming fields in the vicinity of our university.* The project impacts SDG 6 and 2:

1. Crop monitoring and detection of irrigation events in agricultural fields using remote sensing techniques

Chinthamaneni Sriyodh is working on a project that uses satellite remote sensing to estimate the soil water content and detect the irrigation dates in the farmer fields near the university. Also, remotely sensed data from the optical satellites are used to monitor the harvesting dates of the crops.

2. Assessment of crop water stress index using remote sensing and machine learning techniques

Likith Muni's project is about optical and thermal data from the satellites used to monitor and map crop water stress for wheat crops grown by the farmers in the region. Machine learning models are used to predict the crop water stress values.

3. Estimation of evapotranspiration using machine learning models and field-collected data

Sanjana is working on crop water use (CWU) estimates that are predicted using machine learning models. The aim is to predict the CWU when limited data is available. Monitoring and quantifying CWU is indispensable for assessing crop health and predicting food production.

GIS-based landslide susceptibility mapping

Dr. Jagabandhu Dixit and **Navdeep Agrawal** from IIT Kanpur are conducting research at the Disaster Management Laboratory, Department of Civil Engineering. Their recent work is on landslides, a common geological hazard causing impairment of public works and loss of lives worldwide and in India, especially in the Himalayan region. This study aims to map the landslide susceptibility for the Shillong Plateau region of India using different machine learning algorithms and provide insights into influential factors, focusing on disaster risk reduction. The landslide susceptibility maps (LSM) have revealed that the south-southeastern portion of Meghalaya, mainly slopes along the southern escarpment, are more susceptible to landslides.

The generated LSMs will assist decision-makers and planners in identifying high-risk areas, prioritizing mitigation measures, and guiding regional development. Therefore, the presented LSM for the considered study area can help the authorities and decision-makers to plan and prepare the risk mitigation strategies for future landslides and plan the sustainable infrastructure development in the region.

Partnership with The Habitats Trust (THT)

Shiv Nadar University and The Habitat Trust (THT)[1], have signed a Memorandum of Understanding to contribute to the capacity building of students. Towards this, the university students have the opportunity to do internships and volunteer at THT, and the employees at THT have a chance to pursue a Ph.D. at Shiv Nadar University. Under this partnership, we regularly organize webinars and sessions on various themes. Have research projects running with the School of Humanities and Social Sciences and the School of Natural Sciences. Our association with THT has generated over 21 internships across schools, including verticals like field projects, communication, grants, research and data analysis, education, and outreach.

Besides, we are conducting.

THT Practitioners' course, in collaboration with the Academy of Continuing Education, Shiv Nadar University, will begin in September 2024. The course is for conservation practitioners and will provide a strong understanding of various disciplines, how to integrate them, and their applications.

[1]THT focuses on lesser-known species and habitats of India that are threatened, often neglected, and in urgent need of conservation

Collaboration with NGOs for SDGs

We believe that partnerships are vital to advancing a critical cause. We have developed deep relationships with many organizations to make this a movement with impact and velocity. For example, the master's program on Rural Management at Shiv Nadar University is based on a unique pedagogy that provides students with an in-depth, multi-disciplinary understanding of the problems of rural India, combining innovative classroom and studio teaching with two full semesters devoted to field education, including internships with the best practitioners in rural India, nurturing their capacity to find innovative and far-reaching solutions.

Students intern with organizations that have done pioneering work over several decades in some of the most difficult management challenges facing rural India in areas of participatory water management, sustainable agriculture, rural livelihoods, women's empowerment, drinking water, sanitation, and innovation, to name a few. The semester is an excellent opportunity for students to learn and receive training amidst the local communities and cultures guided by our partners,

Gram Vikas – An NGO based in Odisha works to enable rural communities to lead dignified lives. This is done by building the capabilities of village communities, strengthening community institutions, and mobilizing resources.

Samaj Pragati Sahayog (SPS) – One of India's most significant grass-roots initiatives working towards women empowerment, water, and livelihood security. It works with its partners on million acres of land across 72 of India's most backward districts, mainly in the central Indian Adivasi belt.

Advanced Center for Water Resources Development and Management (ACWADAM) – A not-for-profit organization aims to establish a groundwater management agenda in India to demystify groundwater science and strengthen the hydrogeological capacity of institutions working in the water sector in India.most backward districts, mainly in the central Indian Adivasi belt.

The Center for Sustainable Agriculture – An organization that works with a vision to become a national institution to lead the transition of Indian agriculture to become ecologically and economically sustainable.

A partnership with these institutions aims to build a larger community of social transformers, which is essential to the vision that animates the field component in the master's program in Rural Management.

Publication of SDG reports

At Shiv Nadar University, every student is educated in sustainability. All undergraduate students take a core group of common courses, which includes an Ecology and Environmental Sciences component. Research on sustainability is extensive, with Environment and Energy being two of the university's priority themes besides others. All SDG reports of the University are available on the University website -

https://snu.edu.in/sustainability/#un-sustainable-development-goals-reports

Education for SDGs - commitment to meaningful education

At Shiv Nadar, spearheaded by the leadership, every stakeholder is fully committed to the UN Sustainable Development Goals (SDGs).

We are integrating the idea of sustainability on campus in many ways – teaching and learning, research, institutional practices, advocacy, and partnerships. The idea behind this approach is that for sustainability to thrive, it must become mainstream and interwoven into the university policy and strategy. At Shiv Nadar, we have positioned ourselves as a platform and hub for innovation, critical thinking, and creatively nurturing future leaders, entrepreneurs, researchers, and individuals who can make a difference. The social impact is, thus, built into much of the research and teaching at the university.

Dance education in Shiv Nadar Schools: A pilot study

Aadya Kartikar, Associate Professor, Department of Art, Media, and Performance, collaborates with Dr. Matthew Henley, Arnhold Associate Professor, EdD Program in Dance Education, Teachers College, Columbia University. The research project addresses the need for a teacher-training program for dance educators in k12 schools in India. It aims to understand the specific needs of the k12 educator from which a culturally relevant training program can evolve.

Shiv Nadar University and Max Weber Forum Delhi signed a Memorandum of Understanding.

The Department of History and Archaeology, Shiv Nadar University Delhi NCR, and Max Weber Forum for South Asian Studies (MWF DELHI) signed an MoU focusing on research collaborations and other academic initiatives.

A Memorandum of Understanding signed with the Silicon Labs Inc.

A Memorandum of Understanding was signed with Silicon Labs to establish a Center of Innovation at the university specializing in IoT and Embedded technology.

Khelo Dadri

Khelo Dadri is a university initiative in partnership with the Shiv Nadar Foundation that aims to enhance health and fitness, bolster socio-emotional learning (SEL) skills, and improve employability. This initiative integrates sports seamlessly into the curriculum, focusing on the holistic development of youth and children in Dadri. The pilot initiative encompasses sports such as Volleyball, Football, Kho-Kho, Kabaddi, and Athletics. This initiative comprises two key components:

- **MILES (Sports for Development) Intervention:** Actively engaging school children in inclusive sports education, MILES focuses on fostering their health, fitness, and social-emotional skills through sports and play.
- **Sports Excellence Program:** Identifying talented students in specific sports disciplines, this program provides structured training and competitive exposure at district, mandal, state, and national levels, aiming to nurture and highlight their athletic abilities.

Education for SDGs: specific courses on sustainability

We have integrated sustainability into our curriculum and research across departments. All four schools offer dedicated programs at both undergraduate and graduate levels, incorporating learning and understanding about various aspects of sustainable development.

The School of Engineering, The School of Humanities and Social Sciences, The School of Natural Sciences, and The School of Management and Entrepreneurship

For undergraduate students, many compulsory courses are regularly offered, such as Environmental Studies (CCC 704), Biodiversity: Assessment & Conservation (CCC 706), Environmental Impact Assessment (CCC 406), and Energy for Sustainable Future (CCC 614), Use of Energy in our Daily Life (CCC 624), and Green Energy Technologies (CCC613). The School of Management, as part of its three-credit course in Sustainable business strategy (STM205), has launched an initiative called *Campus as a Living Lab*. Here, students are challenged with a final project in which they work on sustainability initiatives for the Shiv Nadar campus using the Campus as a Living Lab. These projects address several key topics in sustainability, such as air quality, solar power, sustainable transport, no plastic, waste management for a circular economy, and many more. The entire exercise is not just a course in the curriculum but a way student thinks of *sustainability* as a living reality.

Another example of an opportunity in the area of sustainability is the *social sector internship (SSI)*. This is a project that all undergraduate students, without exceptions, go through in the School of Management and Entrepreneurship at Shiv Nadar University. In this program, students undergo a rigorous 8-week on-site internship immersion in rural and non-urban ecosystems. During their tenure, our students work with local indigenous communities to ameliorate social enterprise challenges or create growth models for the social sector.

Joint Master of Arts (MA) in Global Urban Sociology in association with the School of Oriental and African Studies (SOAS), London, launched.

Shiv Nadar University, Delhi NCR, signed a unique partnership with the School of Oriental and African Studies (SOAS), London, to offer a joint Master of Arts program in Global Urban Sociology. This jointly designed, taught, and jointly awarded one-year MA between SOAS, the University of London, and the Shiv Nadar University, Delhi NCR, will enable students to study in two premier institutions and two global cities. It is also one of the only programs to focus on global sociology, specifically on the global sociology of cities and urban life-worlds.

Development economics course with modules on Quality of Education

Dr. Geentanjali Sen, Associate Professor, School of Humanities and Social Sciences, teaches a popular course on Development Economics to Undergraduate and Graduate students (including Ph.D.). The courses have modules on Quality of Education that teach relevant issues across India and the globe, issues in early life shocks causing impaired cognitive development, health shocks to children affecting development, affirmative action, access, and issues of poverty, inequality, and language of education.

Launch of several new innovative programs

The year 2023 saw the launch of several new innovative programs with a curriculum enriched with multidisciplinarity, research, work-integrated learning, opportunities for entrepreneurship, and social impact. These include an integrated bachelor's master's program in Design, an Analytics specialization for the MBA program, a specialization in Drug Discovery for the BSc in Biotechnology, and much more.

New Program based on a unique pedagogy - 2-year Masters program in Rural Management program

Rural India is a vast, untapped market for emerging entrepreneurs. In 2023, we launched a one-of-

a-kind multidisciplinary master's program. The program aims to develop gen-next innovators and creative leaders with the requisite understanding and skill sets demanded by the emerging challenges and opportunities of rural India, which no other comparable program offers. The program curriculum has been designed to provide students with an in-depth, multi-disciplinary understanding of the problems of rural India and nurture their capacity to find innovative and far-reaching solutions.

Based on a unique pedagogy, the program combines innovative classroom and studio teaching and field education, including internships with the best practitioners in rural India. Guided by mentors throughout and beyond the program, the program builds professional competencies. It cultivates value systems that develop compassionate human beings with the capacity for deep listening and necessary sensitivities to the worldviews of those they will be working with in the future.

Center for Himalayan Studies

The Centre of Excellence for Himalayan Studies at Shiv Nadar University aims to engender a three-way conversation between central and local governments, academia, and the people living in the region, even as it remains attuned to geopolitics and its policy imperatives. The Centre's geographical coverage is more comprehensive than just the Himalayas, covering the Hindu Kush and the Karakoram and the governments and polities that have political jurisdiction over them, thus reflecting the University's global outlook and international ambitions, identifying and creating a network of scholars in the field, both in India and abroad, and bring together various disciplinary and sectoral approaches to studying the region. As a research institution, the Centre aims to produce academic research that is publicly accessible and policy-relevant.

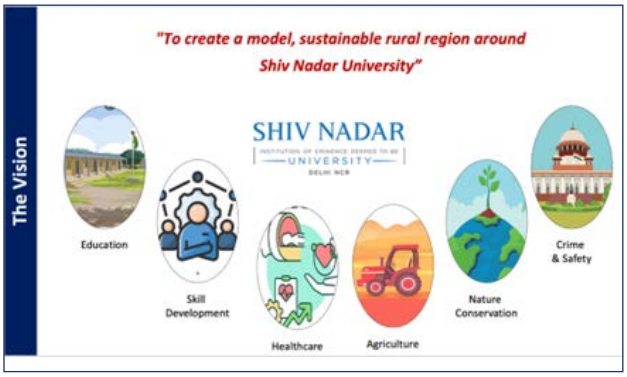
The Center releases a regular newsletter, HIMALAYAN PLUS, highlighting its activities, accomplishments, initiatives, and academic pursuits. It also produces briefs and commentaries on current and relevant topics.

Education for SDGs in the wider community

Community Initiative through the Community Connect project

Shiv Nadar University is located in a region called Dadri in Uttar Pradesh. Dadri is a rapidly urbanizing rural region with high socio-economic inequality and low SDG outcomes. The university is deeply committed to positively impacting the region and, accordingly, has assumed a central role in the Dadri Development Project, a transformative initiative convened by the Shiv Nadar Foundation (SNF), a non-governmental organization. The project aims to create a "model sustainable rural community around Shiv Nadar University." This commitment is shared by the university leadership, staff, and students and is instilled in the core of the University's academic mission.

The projects include well-considered, need-based interventions with multi-stakeholder engagement, implemented in phases, supported by thorough evidence, and subjected to rigorous monitoring and evaluation. These projects focus on education, health care, skill development for employability, social safety, nature conservation, and agriculture.



Women-led community kitchen – through our Community Connect program

Through our community connect program, we launched an innovative initiative called the 'Didi Jan Rasoi.' This initiative aims to establish three women-led community kitchens in the adjacent area around the University, mainly Dadri Block and Gautam Buddha Nagar, marking a significant step towards empowering women in our society.

The initiative works with the belief that when one empowers a woman, one uplifts an entire community and creates a sustainable social and economic development model. Implemented by ACCESS Development Services, this initiative seeks to provide economic opportunities to women from Self Help Groups and empower them to ensure that the community has access to nutritious and affordable food.

Flagship Nature Immersion Lab at our biodiverse campus

A Unique 5-day residential program was held between January 2-6, 2024, with an exciting range of activities to help school students reconnect with nature and their environment through experiential learning and hours of indelible interaction with eminent faculty and wildlife experts in lessons on sustainability and conversations. Over the five days, the group recorded 73 species of birds on campus, out of which 13 species were migratory birds from Central Asia.

On campus, we regularly host programs like the Young Thinkers Forum (YTF) that brings together specially curated programs on various themes, a three-day certificate program for grades 7-12 school students, week-long residential experimental programs, masterclasses, and summer and winter schools. Students in these programs interact with the faculty and experts in diverse disciplines, gaining invaluable insights.

Shiv Nadar Institution of Eminence is fully committed to the UN Sustainable Development Goals (SDGs). We have embraced a four-pronged strategy for SDGs through **teaching, research, our core institutional practices, and partnerships.**

SHIV NADAR
INSTITUTION OF EMINENCE DEEMED TO BE UNIVERSITY
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Deepa Hazrati
Lead, Sustainability, Office of the Vice-Chancellor
deepa.hazrati@snu.edu.in

Shiv Nadar Institution of Eminence
Gautam Buddha Nagar, Uttar Pradesh, India