

Report on

Sustainable Development

GOAL 2



ZERO HUNGER

End hunger, achieve food security and improved nutrition, and promote sustainable agriculture



The Sustainable Development Goal of **Zero Hunger** has eight targets and 13 indicators that aim to address the massive problem of nearly two billion people who do not have access to safe, sufficient, and nutritious food. Even though enough food is produced today to feed the planet, hunger is rising in some parts of the world. This calls for a holistic and multi-dimensional approach to address the issue and achieve the goal.

Shiv Nadar Institution of Eminence (IoE) is contributing to SDG 2 through teaching and research on agriculture, food sustainability, hunger, malnutrition and our campus operations. We are committed to monitoring and tackling food wastage and addressing hunger among local communities through engagement and advocacy.

1 Teaching and Learning

Several courses are offered to bring about a holistic understanding of food, agriculture, hunger, malnutrition, and related topics. The Department of International Relations and Governance Studies

offers Agri-Food Systems (INT 145), Agriculture vs. Environment (INT 232); the Department of Sociology offers interesting courses like Food, Sustainability, and Culture (SOC 396); and Agrarian Worlds: Readings in the Anthropology of Agriculture (SOC 213). In addition, a mandatory course is offered to undergraduate students on Agricultural, Land, and Water Crises and Responses (CCC 718).

Hack The Crisis - A Virtual Ideathon!

The Feeding India student Chapter of Shiv Nadar IoE organized **Hack the Crisis 2021** and invited

undergraduate students from various universities to put their problem-solving abilities to use as they navigate to find the possible solutions to UN sustainable development goals. The event went beyond superficial ideation and motivated its participants and audience to ponder deeply and feel accountable. With rigorous multiple rounds spread across six days, the faculty adjudged the ideas, and the winners won cash awards and social internship opportunity with the Association Internationale des Étudiants En Sciences Économiques et Commerciales.

KAZE

HACK THE CRISIS

THEME: UN - SDG
(SUSTAINABLE DEVELOPMENT GOALS)

MARCH 21, 2021
10:00 A.M.

CASH PRIZES WORTH 10K+
SOCIAL INTERNSHIP OPPORTUNITIES ABROAD

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2 Research

Here we highlight some exciting research projects by the faculty.

1. A project to reexamine the effect of food insecurity on child malnutrition using data from the Young Lives survey. The study employed several contemporary econometric approaches to estimate the mean and distributional effects of food insecurity on child malnutrition.

Dhamija, Gaurav, Manini Ojha, and Punarjit Roychowdhury. "Hunger and Health: Reexamining the Impact of Household Food Insecurity on Child Malnutrition in India" *The Journal of Development Studies* 58, no. 6 (2022): 1181-1210.

2. A research study was conducted to understand (a) the sociocultural factors at the family level responsible for varying numbers of cured, defaulted, and non-recovered Severe Acute Malnutrition (SAM) children at different localities, (b) explore the probability of the SAM children staying healthy post-successful treatment in community settings without any external intervention; and (c) explore the possible approaches beyond the emergency medical response to develop a long-term strategy to address malnutrition in children.



Dandekar, Ajay, Shobana Sivaraman, Ishank Gorla, Rahul Ghai, D. K. Mangal, and Shiv Dutt Gupta. "A Sociocultural Perspective on Malnutrition in Children: Evidence from POSHAN Programme, Rajasthan." *Journal of Health Management* 23, no. 2 (2021): 315-326.

3. Nutrient tests were conducted for nine plots of 3x2 meters to test the biomass yield. The objectives were to (a) conduct field experiments under controlled conditions and vary the dosage of fertilizers for different treatments, (b) to observe the variation in wheat crop yield with different dosages of fertilizers; and (c) to model the crop yield of different treatments using Info Crop and Decision Support System for

Agrotechnology Transfer (DSSAT) crop models.

Dwivedi, Anuj Kumar, Hitesh Upreti, and C. S. P. Ojha. "Wheat yield modelling using info crop and DSSAT crop simulation models." *Indian Journal of Agricultural Research* 56, no. 6 (2022): 646-652.

4. A research paper addresses the urgent need to scale up alternative approaches embedded within the paradigm of agro-ecology amidst growing recognition of increasingly destructive impact of the Green Revolution (GR) the world over, heightened further by COVID-19.

Shah, Mihir. "Dismantling Barriers to Upscaling Agro-ecological Farming in India." *Ecology, Economy and Society—the INSEE Journal* 5, no. 1 (2022): 31-62.

Agricultural Water Management Field Laboratory



3 University Operations

Campus Food Waste Tracking System

The university has a comprehensive and documented [food waste tracking system](#) to measure and monitor food waste at each level, i.e., production, handling, storage, processing, and distribution. Taking efficient measures and maintaining daily food waste log, we have **reduced food wastage per person from 26.52 kg in 2018-19 to 9.2 kg in 2021-22.**

Initiatives to ensure food security on campus

We [promote reducing food wastage on campus](#) through catering various scheduled menus and food options. Currently, the campus has three dining halls, ten food kiosks, and vending machines for snacks, tea, and coffee. The university has pantries in academic block where free tea and coffee is provided to all staff. The pantry on each floor in the academic area and hostel is equipped with purified drinking water for 3000+ student/staff/residents inside the campus. The students are provided [sustainable food choices](#) keeping in mind

the rich diversity of the student population on campus.

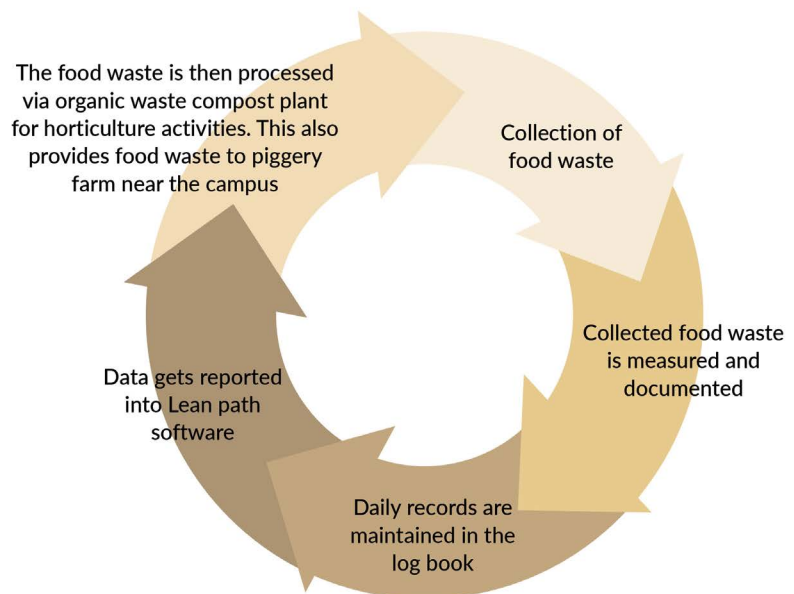
Free meals for students from economically weak backgrounds

The university believes in creating opportunities for deserving students from economically backward areas of rural India. One such example is students from VidyaGyan School¹ who are from rural India and lack access to resources and facilities. Every year, the university covers the full educational and living expenses and provides free-of-cost meals for

students from economically weak backgrounds.

The university also provides food to all its minimum wage working staff at subsidized rates.

FOOD WASTE TRACKING SYSTEM



4 Partnerships

1. Agricultural Water Management Field Laboratory

The Department of Civil Engineering has established [The Agricultural Water Management field laboratory](#) to address critical issues in agricultural water management and the food and water security nexus. The laboratory is co-funded by the Government of India and the university to serve as a state-of-the-art research facility. It has an extensive crop experimentation facility equipped with a drip irrigation system and research equipment facility for monitoring crop and soil parameters. Currently, four doctoral students and four undergraduate researchers are conducting their research at this lab.

¹VidyaGyan schools were established in 2009 by the Shiv Nadar Foundation to identify and nurture gifted students from economically underprivileged rural backgrounds and transform them through high-quality education into future leaders.





The research group has interacted with local farmers to provide knowledge regarding different irrigation methodologies and benefits with respect to saving water. Work is in progress to develop a farmer laboratory for soil and irrigation water testing and dissemination of weather data for use by local farmers. Also funded by the Government of India, the lead faculty associated with this project is developing AI-based decision-support systems for improved crop water use efficiency under a regulated deficit drip irrigation regime in the backdrop of climate change. This project will provide water-saving solutions for two widely grown and consumed crops, rice and wheat.

2. Support sustainable food choices and local community

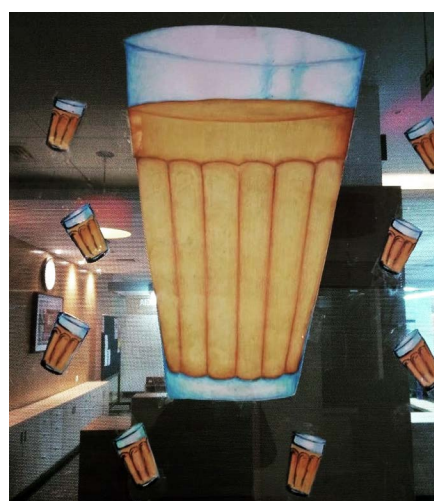
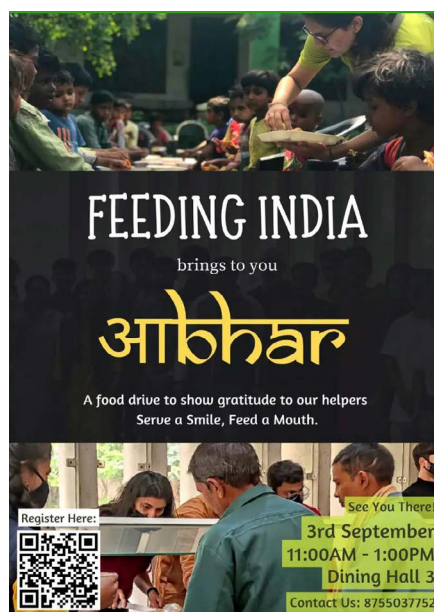
The university provides opportunities for local vendors to open food kiosks and vegetable shops within the campus. This helps support the local community with significant economic opportunities and provides [fresh and sustainable food choices](#) from local sources to university residents.

3. Partner with local organic farm

The university sources organic food from [Jaivik, a local organic farm](#) situated within 15 miles of the university campus. The produce is procured every week and used in preparing meals that are served on campus. In addition, an exciting, new, community-led food and nutrition initiative is in progress.

4. The student-run Feeding India Chapter of Shiv Nadar IoE

Our university has the only student-run chapter of Feeding India. Passionate about eradicating hunger and reducing food wastage on campus, the students work closely with non-government organizations



and schools around the university to distribute meals and spread smiles.

Aabhaar Drive – the drive is conducted occasionally to share a plate of gratitude with workers on campus. The students conduct a meal-slip collection drive out of their food money and provide meals for over 350 workers on campus.

Adrika Drive – the club students collaborate with AURA, the education student society of the university, and conducts drive in partnership with a local Non-profit organization, Aadrika. The aim is to deliver educational workshops to kids at Aadrika by means of fun and knowledge activities concluding with a delicious, wholesome meal.

Sard-E-Chuski is Feeding India's flagship event to serve a hot cup of tea to the guards on duty on cold winter nights. The drive reaches out to over 100 guards and workers on campus. University also provides hot tea twice at night during severe winters to all staff on duty.

Partnerships around Water Science and Policy program

Our program on [Water Science and Policy program](#) is supported by the Government of India, an international body (the International Development Research Center), NGOs, and civil society actors. The program had mandatory [training on the field for a semester](#) and included courses such as Sustainable Agriculture, Participatory Irrigation Management, and Sustainable

Water Science and Policy students on field



Ground Water Management, to name a few. The semester became an excellent opportunity for students to learn and receive training amidst the local communities and cultures, guided by our partner NGOs, with whom we have signed Memorandum Of Understanding (MOU), such as Development Support Center (DSC)¹, Gram Vikas², Samaj Pragati Sahayog (SPS)³, and Advanced Center for Water Resources Development and Management (ACWADAM)⁴. Student dissertations produced excellent case studies and some recommendations for the local areas.

Collaboration with Krishi Vigyan Kendra, Dadri

In India, the water use efficiency in agriculture is extremely low. The rising population has increased food demands, and the critical issue of food and water security nexus is further compounded by erratic water availability and crop yield loss due

to climate change. For sustainable agriculture, increasing water use efficiency significantly is critical. Additionally, with the changing climate resulting in frequent heat waves and extreme rainfall events, crop health monitoring has become



IN COLLABORATION WITH KRISHI VIGYAN KENDRA, DADRI

imperative to ensure optimum food production.

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 has been working closely to discuss research and scientific inputs related to the agricultural practices currently

followed by the 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 has also planned to establish a Center of Excellence and submitted a joint proposal for the same, to introduce end-user training and demonstration of agro-technologies to the farmers, support in 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.

¹Based in Ahmedabad, it provides knowledge-based support to institutions involved in promoting sustainable livelihood and participatory natural resource management.

²A 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.

³One of India's largest grass-roots initiatives working towards women empowerment, water and livelihood security.

⁴A not-for-profit organization, aims to establish groundwater management agenda in India with a mission to demystify ground water science and strengthen hydrogeological capacity of institutions working in water sector in India.

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
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DELHI NCR

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