SDG2: Zero Hunger

SDG 2 in India: Zero Hunger

Sustainable Development Goal 2 (SDG 2) aims to end hunger, achieve food security, improve nutrition, and promote sustainable agriculture. In India, a country with a large population and significant agrarian economy, achieving SDG 2 is critical to ensuring the well-being of millions and fostering sustainable development.

https://upes-production-cvb3e7frghdda0a4.z01.azurefd.net/drupal-data/pdfs/Event-Management&F&B-Policy.pdf

Efforts by the Indian Government to Address Food Security

Public Distribution System (PDS):

The PDS is one of India's largest food security programs, providing subsidized grains like rice, wheat, and coarse grains to low-income families through a network of fair price shops.

Digitization of PDS has improved efficiency and transparency, reducing leakages and ensuring food reaches intended beneficiaries.

National Food Security Act (NFSA):

Enacted in 2013, the NFSA guarantees access to affordable food grains for approximately two-thirds of India's population.

The Act focuses on providing food security through targeted entitlements for households, particularly marginalized and economically disadvantaged communities.

Mid-Day Meal Scheme:

This initiative provides free meals to children in government and government-aided schools, improving both nutrition and school attendance.

Efforts to diversify meal plans and include fortified foods address malnutrition among schoolchildren.

Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):

Launched during the COVID-19 pandemic, this scheme provided free food grains to millions of vulnerable families, highlighting the government's commitment to food security during crises.

Promotion of Sustainable Agriculture:

Programs like the Paramparagat Krishi Vikas Yojana (PKVY) promote organic farming, reducing dependency on chemical inputs and enhancing soil health.

The government supports small-scale farmers through subsidies, crop insurance schemes like Pradhan Mantri Fasal Bima Yojana (PMFBY), and improved access to irrigation and market linkages.

Fortification and Nutrition Programs:

Food fortification initiatives aim to address micronutrient deficiencies by adding essential vitamins and minerals to staples like rice, wheat, and milk.

The Poshan Abhiyaan (National Nutrition Mission) focuses on reducing stunting, wasting, and anemia among children and women.

Research and Technology in Agriculture:

India promotes research in sustainable farming practices, climate-resilient crops, and efficient irrigation systems.

Initiatives like e-NAM (National Agriculture Market) help farmers access better markets and prices.

SDG 2 at the University of Petroleum and Energy Studies (UPES)

UPES actively supports SDG 2 by fostering awareness, conducting research, and engaging with local communities to address food security and sustainable agricultural practices.

Research and Innovation:

UPES engages in research focusing on sustainable agricultural practices, food systems, and technologies to enhance food security.

Projects exploring renewable energy applications in agriculture, such as solar-powered irrigation and cold storage, contribute to sustainable farming.

Community Engagement:

Students and faculty participate in community outreach programs, educating farmers about sustainable agricultural methods and efficient resource use.

Initiatives to improve rural food systems and reduce post-harvest losses align with the goals of SDG 2.

Academic Programs:

UPES offers courses and workshops on environmental science, sustainable development, and energy solutions for agriculture.

Students are encouraged to develop innovative solutions for global food security challenges.

Campus Sustainability:

The university promotes responsible consumption by minimizing food waste in its cafeterias and dining facilities.

Composting and waste management initiatives align with sustainable food system practices.

Awareness Campaigns:

Events, seminars, and awareness drives on food security, nutrition, and sustainable agriculture are regularly organized.

Collaborations with local NGOs and governmental organizations enhance the impact of these campaigns.

Student-Led Projects:

Student organizations at UPES lead initiatives like food donation drives, reducing food insecurity among underprivileged communities.

Projects exploring alternative farming techniques, such as hydroponics and vertical farming, are encouraged.

Impact of UPES's Contributions to SDG 2

Through its focus on education, research, and community outreach, UPES aligns itself with India's broader efforts to achieve SDG 2. The university prepares students to contribute to sustainable solutions for food security challenges while fostering innovation and collaboration. These initiatives not only support local communities but also demonstrate the role of academic institutions in advancing global goals like SDG 2.

Project Update: Rice Fortification in Uttarakhand

https://www.linkedin.com/posts/school-of-health-sciences-technology_project-update-rice-fortification-in-uttarakhand-activity-7216306860889448449-gEGQ/?utm_source=share&utm_medium=member_desktop

We are thrilled to share the latest progress on the "TSU for Rice Fortification" project in collaboration with the Government of Uttarakhand, led by Divya Rawat, PhD. The United Nations World Food Programme, our funding agency, has extended the project's timeline to 2027 from its original deadline of December 2024. This extension is a testament to the remarkable work accomplished over the past year. Additionally, the project has received an additional ₹11.5 lakhs in funding, bringing the total to ₹19 lakhs.

Dr. Ravinder Kaushik (Co-PI) has been a vital part of this project since its inception. We are also excited to welcome new members to our team as we expand our efforts.

Key Achievements to Date:

- Covered 10 out of 13 districts in Uttarakhand
- Reached government schools, fair price shops, rural households, aanganwadis, ICDS centers, rice mills, and godowns
- Conducted training and workshops for state government officials on fortified rice and demonstrated chemical analysis techniques
- Represented Uttarakhand state TSU at the Micronutrient Forum in The Hague, Netherlands, last year
- We are proud of our team's dedication and the impact this project is having on the community. Stay tuned for more updates as we continue our mission to enhance food security and nutrition in Uttarakhand.

Poshan Maah to ensure malnutrition amongst young children, women and everyone

https://www.linkedin.com/posts/upes-csr-387860270_poshanmaah-nutrition-csr-activity-7108027890557988864-nAS9/?utm_source=share&utm_medium=member_desktop

The objective of the Poshan Maah is to ensure community mobilization and bolster people's participation for addressing malnutrition amongst young children, and women and to ensure health and nutrition for everyone.

This September too UPES CSR celebrated Poshan Maah in 6 nearby Aaganwadi's. Our focus during this initiative was on the health and well-being of pregnant and lactating mothers, who play a crucial role in nurturing our future generations. We recognized the importance of their nutrition and well-being in ensuring a healthy start for their babies.

During the 3-day program, our team conducted informative sessions and distributed Poshan Kits, specially curated to cater to the unique dietary needs of pregnant and lactating women.

The smiles on the faces of these mothers were truly heartwarming, and it was inspiring to see their eagerness to embrace a healthier lifestyle for themselves and their children.

Special thanks to Dr. Shuchi Upadhyay for edifying the target audience through her sessions.

Food Security and Sustainable Healthcare Development

https://www.linkedin.com/posts/school-of-health-sciences-technology_the-school-of-health-sciences-and-technology-activity-7125781893316292608-ivre/?utm_source=share&utm_medium=member_desktop

The School of Health Sciences and Technology at UPES recently organized a special session on "Food Security and Sustainable Healthcare Development" as part of the 4th International Conference on Health, Safety, Fire, and Environmental Advances (ISC_HSFEA_2023) held during the Sustainability Fair 2.0 on October 31st, 2023. The session encompassed 20 research and review works through oral and poster presentations, focusing on food security, clean water, green chemistry, molecular docking, and sustainable utilization of food waste. Dr. Padma Venkat, Dean of the School of Health Sciences and Technology, initiated the session.

Dr. Dhruv Kumar delivered an inspirational welcome address at the conference, emphasizing the importance of environmental safety and rallying scholars to champion sustainability efforts. Dr. Kuldip K. Roy, Cluster Head of Pharmaceutical Sciences, set the technical session's tone with motivating words.

Dr. Ajay Singh, co-chairperson of the session and Dean of the School of Applied and Life Sciences at Uttranchal University, Dehradun, highlighted the groundbreaking concept of repurposing green waste using nanotechnology in drug delivery and cosmetic sciences. This innovative approach converts natural waste materials into valuable resources, contributing significantly to sustainability efforts. By leveraging nanotechnology, these waste-to-wealth strategies not only reduce environmental impact but also pave the way for exciting possibilities in pharmaceuticals and cosmetics.

Food technology can save the world. And you can be a part of it

https://blog.upes.ac.in/food-technology-can-save-the-world-and-you-can-be-a-part-of-it/ [2]

Food technology

Technological advances in food have clearly changed what goes on our plate and how. With growing scope and advances in the field, private and public organisations are increasingly hiring food tech professionals. As a profession, Food Technology is not only lucrative but also a fulfilling career that promises security, a diverse environment, good earning possibilities, as well as recognition

During their long expeditions, explorers such as James Cook and Christopher Columbus carried foods preserved in syrup and brine (a highly concentrated salt-water solution) for their longer shelf life. In 1810, French confectioner Nicholas Appert developed the canning process – an airtight food preservation method that is used practically everywhere today. In 1863, Louis Pasteur developed the Pasteurisation process, which helps improve the shelf life of food products. In 1961, Soviet cosmonaut Yuri A. Gagarin became the first human to eat in space, squeezing beef paste from an aluminium tube into his mouth. Day by day, novel techniques are continuously being employed in food processing for minimal nutritional and sensory losses.

What began as an attempt to conserve food has gradually transformed into a comprehensive field known as Food Technology. Today, along with preservation, it involves the production, quality control, as well as research and development of food products. Processing of food prevents food wastage, improves economical gain, and generates employment. The processed food with higher shelf life can be supplied to longer distances, leading to a surge in food markets.

In a world that faces the challenge of feeding 9.7 billion people by 2050 – a sharp rise from the current global population of 7.9 billion – governments are looking at ground-breaking innovations in food technology to solve the issue of food security. Food technology is also getting attention due to increased consumer awareness about what goes on their plate, where it comes from, as well as changing food preferences that seek alternatives to conventional food items. Environmental concerns are also augmenting the need for a better understanding of the subject.

It is crucial to provide enough nutrients and nutraceuticals in food in addition to satisfying the satiety. A micronutrient deficiency, which affects more than 2 billion people, not only has negative effects on one's own health but also on the global economy. When someone has a disease, special foods and individualised diets are created. Both weight gain and weight loss foods are created. Energy drinks and protein powder are now widely available in the market as sports foods.

With growing scope and advances in the field, private and public organisations are increasingly hiring food tech professionals. Food Safety and Standards Authority of India (FSSAI 2011) enforces each food processing industry/restaurants/hotels to follow all FSSAI regulations for maintaining hygiene, cleanliness, safe food production, and supply. As a profession, food technology is not only lucrative

but also a fulfilling career that promises security, a diverse environment, good earning possibilities, as well as recognition.

However, it is crucial to study the program from a university that is abreast with the latest developments in the industry. If you want to learn, learn from the experts.

Why UPES School of Health Sciences and Technology?

A B.Tech. in Food Technology from UPES School of Health Sciences and Technology lays a solid foundation in all areas of the subject and offers specialisations such as Food Biotechnology and Food Plant Engineering. Besides classroom teaching, students are given clinical and community exposure so that they become active change-makers and solution providers for the healthcare sector. The jobs and entrepreneur-oriented knowledge and facilities are provided to students.

UPES School of Health Sciences has a tie-up with Taipei Medical University, Taiwan to provide opportunities for students, research scholars, and faculty for academic collaboration and joint research projects.

The industry-aligned curriculum taught by faculty who are specialists in their respective fields along with active collaborations with industry leaders enables students to develop professional competencies required to address the world's health challenges.

Food start-up incubated at UPES seeks to empower local communities

https://blog.upes.ac.in/food-start-up-incubated-at-upes-seeks-to-empower-local-communities/ [3]

UPES EDITORIAL TEAM · OCTOBER 1, 2021

FitBread UPES Alumni

UPES alumnus Aryan Singh

(seen in the picture) founded ‘FitBread’ with Akshit Saxena and Aditya Kashyap

Three passionate youngsters including UPES alumnus Aryan Singh founded ‘FitBread’ to provide preservative-free, whole-wheat bread. Their hiring of women workforce and using locally-sourced ingredients has resulted in the financial empowerment of Uttarakhand communities

In the past decade, the Indian market has hardly seen any variegation in bread products. Consumers have to choose from the same monotonous range of brown bread, atta bread or multigrain bread. Being produced commercially, they use preservatives, artificial colours, emulsifiers, improvers, acidity regulators, flour treatment agents, and often do not divulge complete information about the ingredients they use. Some of the most popular brands have only 38% wheat flour in their atta bread and only 32% in brown bread, the remaining is maida or white flour. In multigrain loaves of bread, the grains are just used on the outer layer of the loaf.

Three young minds, Akshit Saxena, Aditya Kashyap, and UPES alumnus (MBA in International Business, 2017-19) Aryan Singh, understood the gap and began working to create a healthy and genuine alternative for bread-lovers. And in 2021, ‘FitBread’ was born as India’s first fitness bread brand. Incubated by UPES Council for Innovation and Entrepreneurship (UCIE), it has already started garnering appreciation from the consumers.

Baking the recipe to health

One of the founders of FitBread, a diet chef, started experimenting with various combinations, to find out where he could make improvements. It took him six long months and almost 20 batch trials to come up with the right mix. Each loaf of FitBread is made from whole wheat atta dough, expertly kneaded with flax seeds, oats, and amaranth seeds, so that the grains are found not just on the crust, but inside the loaf as well.

'FitBread' Co-founder Aditya Kashyap

FitBread products are produced with whole wheat grain atta, and are free from preservatives, molasses, improvers, acidity regulators, flour treatment agents, artificial colours, and emulsifiers. They are nutritious and, most importantly, tasty too!

FitBread range is available in six different flavours and is made with common everyday ingredients found in household kitchens.

Strengthening local community through inclusion and skill-training

At FitBread, ingredients are sourced locally from small vendors, thus creating additional Business-to-Business (B2B) revenue channels. The procurement of regional superfoods for FitBread products is a boon to local businesses. The hiring of a women workforce for the bread-making process while also imparting additional bakery skills and training to them, has resulted in financial empowerment of the local communities in Uttarakhand.

The founders of FitBread are working with the vision to expand their operations to other states as well. They are passionate about educating people about wellness and creating post-pandemic sustainable and scalable growth opportunities for local businesses. These entrepreneurs are working with the core belief of staying "committed to being connected" to their roots.

How a nutritionist can help you monitor your diet

https://blog.upes.ac.in/how-a-nutritionist-can-help-you-monitor-your-diet/ [4]

National Nutrition Week focuses on the importance of a balanced and nutrient-dense diet, thereby building a healthier society

Nutrition Week is celebrated from September 1 to September 7 to spread knowledge about nutrition and its importance for the human body, after the Food and Nutrition Board launched it in 1982. For a healthy lifestyle, energetic body and better immune system, a nutritious diet plan is extremely important. The theme for National Nutrition Week 2020 is 'Eat Right, Bite by Bite'. This time the theme focuses on the main sources of nutrition which should be chosen wisely and advises people to explore the nutritious food groups which are abundantly and locally available. Also, nutrition week propagates a holistic approach towards a healthier society. Awareness generation camps, workshops and educational programs inform people about nutritious foods and how a balanced diet reduces the risk of diseases.

Says well-known nutritionist Nmami Agarwal, "Healthy nutrition goes way beyond just fuelling your body. It provides you energy, keeps your organs healthy, helps you manage weight and strengthens your immunity. A healthy and balanced diet essentially eliminates or limits the consumption of processed, junk and saturated fat foods while the focus is more on food derived from natural sources like fruits, vegetables, and whole grains. Portion control is the key when it comes to following a balanced diet and healthy nutrition. The focus should be on having regular meals filled with all five food groups which are carbohydrates, proteins, fats, vitamins and minerals balancing your macronutrients and micronutrients."

Healthy nutrition goes way beyond just fuelling your body

Here's how a nutritionist can help monitor your diet:

Encourage healthy eating habits: Nutritionists use a scientific and food-based approach to evaluate an individual's eating habits and to create a personalized dietary plan. They will guide their clients towards eating fresh, natural foods, eventually promoting healthy eating.

Achieve better health and maintain weight loss: Nutritionists help create individualized meal plans for weight loss, mood, and energy. Family meal planning is often part of a weight loss plan, as well. In addition to meal planning, a nutritionist may also suggest basic wellness supplementation to assist a client in achieving health and weight loss goals.

Implement behavioural-change modifications and dietary approaches: The underlying behaviours that affect healthy lifestyle choices also need to be addressed and modified. A nutritionist can help a client identify destructive eating habits and help implement a healthier dietary plan. In addition, a

nutritionist can assess a client's level and choice of activity and make appropriate modifications based on individual needs and goals.

Suggest ways to improve lifestyle and manage stress: Stress is the root cause of all the problems. Nutritionists take classes on wellness and holistic nutrition to help clients improve their lifestyles and manage daily stress.

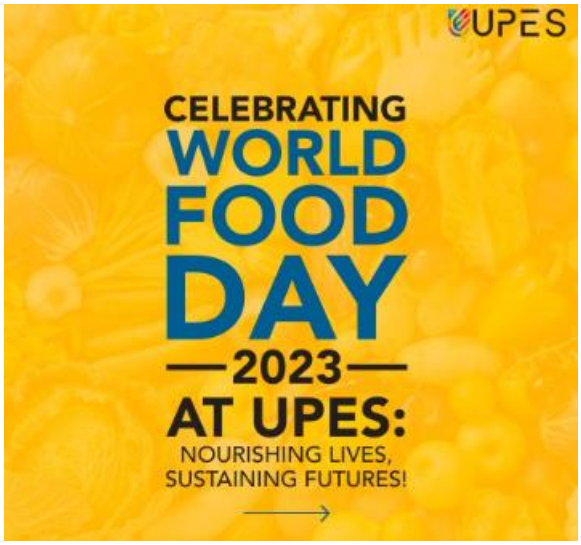
To tackle various health problems and create awareness among students about the importance of nutrition and a balanced diet, UPES School of Health Sciences also commemorates National Nutrition Week. Presentations, webinars, activities and fun games are a part of the celebration.

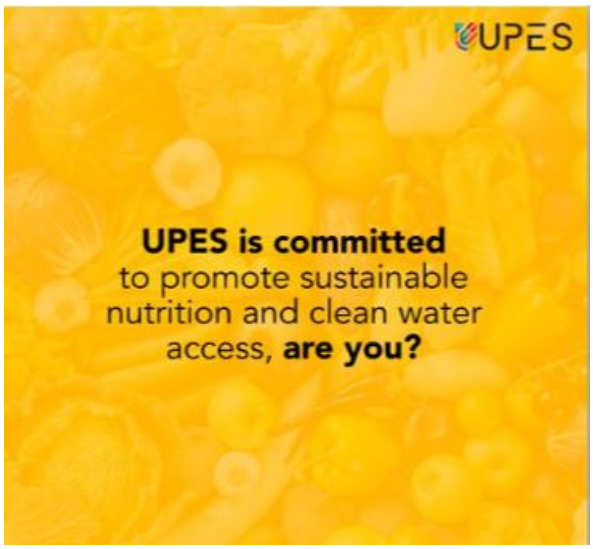
According to the Dean of UPES School of Health Sciences, Dr. Neeraj Mahindroo, "UPES celebrates National Nutrition Month to emphasize the importance of a nutrient-dense diet to thrive both physically and mentally. Here, the role of a nutritionist becomes vital in selecting the right kind of food to meet an individual's requirement and boosting immunity. There are a few sessions lined up that will create awareness about health, nutrition, the importance of workouts and ways to get essential nutrients from local produce."

World Food Day

https://www.linkedin.com/posts/upesdehradun_world-food-day-at-upes-activity-7119633667982815233-YoL0 [5]

School of Health Sciences & Technology, UPES celebrated World Food Day on October 5th, echoing the theme, "Water is Life, Water is Food, Leave No One Behind," in alignment with Sustainable Development Goals. Ms. Amandeep Kaur, Additional Secretary, National Health Mission (NHM), Government of Uttarakhand, shared enlightening keynotes with students. The 'Explore, Evaluate, and Express' video contest showcased students' creativity, emphasizing our dedication to sustainable nutrition and clean water access. Join us in championing sustainable nutrition and clean water access for all!





Why is it important to recycle food waste?

https://www.facebook.com/photo?fbid=359444922864581&set=a.356095576532849 [6]

Food waste that is not recycled may be sent to landfill where it rots, causing a huge negative impact on the environment by releasing methane – a harmful greenhouse gas that is 25 times more potent than carbon dioxide.

Some local councils send their non-recyclable waste to be incinerated to create useful energy. However, food waste is composed of about 70% water, requiring considerably more energy to burn it, making this a less efficient method of disposal than recycling.

More and more people are recycling their food waste. If we all stopped wasting the food which could have been eaten, it would have the same CO2 impact as taking 1 in 4 cars off UK roads.

Two generations from now, people are going to look back and wonder how we allowed for food waste to become such a big problem. After all, it's not like finding a cure for cancer – you don't need special expertise to contribute to a solution. Every time you do your groceries or consider throwing away food that can still be used, you get an opportunity to make those future generations happy. Use it.