ANNUAL PROGRESS REPORT FOR SDG 12 – 2024

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17.3.12. University publishes progress against SDG 12

Sustainable Development Goal 12 focuses on ensuring sustainable consumption and production patterns. It aims to reduce waste generation, promote resource efficiency, and encourage industries and individuals to adopt eco-friendly practices. SDG 12 emphasizes recycling, sustainable management of natural resources, and responsible supply chains to minimize environmental impact. It also advocates for consumer awareness and sustainable lifestyles that balance economic growth with environmental protection. By fostering more efficient use of materials and energy, SDG 12 supports the transition toward a circular economy and a more sustainable planet for future generations.

At SPIHER, Responsible Consumption and Production is a central tenet of our commitment to sustainability. The institution actively promotes energy and water conservation through eco-friendly infrastructure and resource-efficient practices, such as rainwater harvesting and the use of solar energy. Waste management on campus is another key area, with a focus on waste segregation, recycling, and reducing plastic consumption. Additionally, through educational initiatives like millet-based food programs and zero-waste events, SPIHER encourages the community to adopt more sustainable consumption habits. The integration of these practices not only minimizes environmental impact but also empowers students and staff to play an active role in shaping a more sustainable future. By fostering a culture of responsibility, SPIHER contributes to the global efforts toward SDG 12 by creating a sustainable, resilient campus and community.

Public Awareness on "Carbon Footprint Mitigation

On September 18, 2024, the Department of Mechanical Engineering organized a rally aimed at raising public awareness on "Carbon Footprint Mitigation." The event convened by Dr. N. Rajeswari, Professor & Head and organized by Ms. K. Sunitha, Asst. Professor with significant contributions from all teaching and non-teaching members of the Department of Mechanical Engineering, involved students from various engineering departments and highlighted the critical issues about carbon emissions and their impact on the environment.

The rally commenced with an inspiring speech by Dr. S. Selvan, the Engineering Dean, who emphasized the urgency of addressing climate change and the role individuals can play in mitigating its effects. Following this, students along with the faculty members marched through Tonakela Camp Road, Sankar Nagar, Avadi, engaging the public with informative posters and distributing leaflets outlining actionable steps to reduce carbon footprints.

The rally focused on educating public about the various impacts of carbon emissions, including:

- Climate Change: The connection between carbon footprints and global warming.
- Health Issues: How poor air quality resulting from emissions can lead to health problems.

- Economic Impact: The rising costs associated with food, water, and energy due to climate change.
- Extreme Weather: The increasing frequency of severe weather events and rising sea levels as a result of environmental degradation.

This lecture was organized to educate individuals on the environmental impact of daily consumption patterns and to promote sustainable lifestyle choices. In alignment with SDG 12: Responsible Consumption and Production, the campaign emphasized the importance of reducing carbon emissions through mindful use of resources and environmentally responsible behaviour.

The session highlighted key sources of individual and community-level carbon footprints, including energy use, transportation, waste generation, and consumption habits. Participants were guided on practical strategies such as conserving electricity, reducing single-use plastics, choosing sustainable products, adopting eco-friendly transport options, and improving waste segregation and recycling practices.

Awareness materials and interactive discussions encouraged individuals to evaluate their personal carbon footprint and adopt changes that collectively contribute to climate mitigation. The program reinforced the idea that responsible consumption not only protects the planet but also supports long-term environmental sustainability. Overall, the campaign empowered participants to make informed choices, reduce their environmental impact, and contribute meaningfully to the global goals of SDG 12.

Programme Brochure

Public were given awareness to adopt sustainable practices, which included:

- Reducing Energy Usage: Turning off lights, using energy-efficient appliances, and minimizing reliance on cooling systems.
- Choosing Sustainable Transportation: Promoting walking, cycling, carpooling, and public transit to reduce carbon emissions associated with personal vehicle use.
- Reducing, Reusing, Recycling: Advocating for waste reduction through reusing materials and supporting products with sustainable packaging.
- Conserving Water and Natural Resources: Using water responsibly and reducing the consumption of goods that harm the environment.
- Supporting Clean Energy: Encouraging the use of renewable energy sources and advocating for sustainable practices in local communities.
- Planting Trees and Preserving Green Spaces: Engaging in reforestation efforts and protecting local green areas that serve as carbon sinks.
- Contributing to Climate Action: Promoting practices that reduce greenhouse gas emissions and advocating for a sustainable future.

The rally concluded with a call to action for all participants to commit to these sustainable practices and inspire others in their communities. Feedback from attendees indicated a heightened awareness of the importance of individual actions in combating climate change.

Participants of rally in SPIHER campus

Student participants in the rally

Student participants in the rally

Public Links

https://www.instagram.com/p/C_zox3Dvv7w/?igsh=MTRucTVnZGRzbTdhbA==

https://www.facebook.com/share/p/dGHcUcrumTQgVR6P/?mibextid=qi2Omg

https://x.com/SpiherIndia/status/1834115220815376799?t=uZZIbdnWneSbNxvupLpB1g&s=19

https://www.linkedin.com/posts/spiherchennai_engineersday-carbonfootprint-sustainablefuture-activity-7239880835699499011-FyTR?utm_source=share&utm_medium=member_android

Research Articles published under SDG 12

1. **Hemalatha B, Sashikkumar MC, Vivek S, Ramesh S, Babu MD, Laxmipriya S, Priya V. Experimental study of biodegradability of organic waste with industrial waste combined with effluents: A comparison by vermicomposting technology. GLOBAL NEST JOURNAL. 2024 Jan 1;26(3).**

Global NEST Journal, Vol 26, No 3, 05480

Global NEST

Experimental study of biodegradability of organic waste with industrial waste combined with effluents: A comparison by vermicomposting technology

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https://doi.org/10.30955/gnj.005480

Graphical abstract

Abstract

Vermicomposting is a mesophilic biooxidation and stabilization process of organic materials that involves the joint action of earthworm and microorganism. An experiment was conducted to prepare vermicompost using partially decomposed organic waste such as MSW, fruit waste, vegetable waste and yard waste by employing indigenous earthworm species. This research has been done for reducing the environmental issues, pollution problems due to solid waste and industrial waste i.e., wastewater and sludge by converting it into compost by using earthworms very successfully and economically. Non-toxic and organic industrial wastes could be potential raw material for vermicomposting. In the past few years, vermicomposting has been used for the management of industrial wastes and sludges and to convert them into vermicompost for land restoration practices. The earthworms used were Eudrilus euginea. In this study the industrial sludge and effluent from dairy industry was mixed with organic waste with different ratio. This process was done under the controlled conditions of pH, moisture content and temperature. In this process partially decomposed organic waste were broken down and fragmented rapidly by earthworms resulting in a stable non-toxic material with good structure which has a potentially high economic value as soil conditioner for plant growth. The results reveal the increased nutrient content, increased worm population and decreased processing days of the waste in the order of dairy waste with organic waste. The main objectives of this study include to find viable management techniques for organic as well as industrial waste and to make a detailed analysis of the route of stabilization with observations such as temperature, pH, EC, COD, TS, VS, AC and C/N, and to produce good quality biofertilizer fixed by nutritive values.

Keywords: MSW, vegetable waste, yard waste, fruit waste, dairy industry, eudrilluseuginae, decomposition, vermicomposting, etc

1. Introduction

Solid Waste is its major contribution; the complexity of the character of solid waste and its volume is greatly increasing due to increase of living requirements and population density. Hence the importance of efficient "solid waste management" is increasingly recognized (Rekha Agarwal

2. **Subbukutti V, Sailatha E, Gunasekaran S, Manibalan S, Uma Devi KJ, Bhuvaneshwari K, Suvedha R. Evaluation of wound healing active principles in the transdermal patch formulated with crude bio wastes and plant extracts against GSK-3 beta-an in silico study. Journal of Biomolecular Structure and Dynamics. 2024 Jan 22;42(2):559-70.**

J Biomol Struct Dyn. 2024 Jan-Feb;42(2):559-570. doi: 10.1080/07391102.2023.2194424.
Epub 2023 Apr 3.

Evaluation of wound healing active principles in the transdermal patch formulated with crude bio wastes and plant extracts against GSK-3 beta - an *in silico* study

Veerabahu Subbukutti [1 2], Ethirajulu Sailatha [1], Sethu Gunasekaran [3], Subramaniyan Manibalan [4], Kumba Janarthanan Uma Devi [5], Koteeswaran Bhuvaneshwari [2], Rajendran Suvedha [2]

Affiliations – collapse

Affiliations

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PMID: 37011015 DOI: 10.1080/07391102.2023.2194424

Abstract

The wound-healing process is accelerated by inhibiting proteins that decelerate the wound-healing pathway. One of the active proteins involved in enhancing healing at the nuclear level and in gene expression is catenin. Inhibition of Glycogen Synthase Kinase 3β (GSK3 β) phosphorylates and degrades catenin via the downstream Wnt signalling pathway, thereby stabilizing catenin. A medicated wound dressing transdermal patch designed with fusion of bio wastes, viz. physiologically clotted fibrin, fish scale collagen, and the ethanolic extract of *Mangifera indica* (L.) and spider web, was

World Consumer Rights Day, 15th March, 2024

DEPARTMENTS OF ECONOMICS & POLITICAL SCIENCE

WORLD CONSUMER RIGHTS DAY EVENT – 15.03.2024

REPORT

TYPE OF THE EVENT: GLOBAL CONSUMER RIGHTS EVENT

DATE OF EVENT: 15.03.2024

INVITED SPEAKER: PROF. C. DHANDAPANI, PH.D.
Dean & College Developement Council
Member-Syndicate, Thiruvalluvar University - 632115

The Report

The planned event was conducted in SPIHER'S Seminar Hall, Main Building on 15.03.2024 between 11.00 am to 12.45 pm. At the outset the invited speaker Prof. C. Dhandapani was welcomed by Prof. K. Sivasubramaniyan, HoD. Dept. of Economics. The Head of the Department of Political Science Dr. N. Ranjani spoke about the importance of the program and encouraged the students to partcipate vigilantly. Mrs. R. Anuradha has presented the profile of the Chief Guest, Prof. C. Dhandapani. All other supportive faculty members of the department of Economics have participated in the event.

Prof. C. Dhandapani, an Economist by profession, presently working as Dean – College Development Council, Member - Syndicate has started presenting the global event program of the specified title, **"WORLD CONSUMER RIGHTS DAY"** taking place globally on 15th March. He presented that World Consumer rights Day was first conducted in the USA, in 1962 by the then President John F. Kennady. Only after a couple of decades it was recognised by the U.N. General Assembly this program was conducted globally all over the world. India started to celebrate it from March 15, 1983. The speech was well presented for more than an hour. It was also well received by the participant students very interestingly throughout the speech. About 85 students and faculty members from the departments of Economics, Commerce and Political Science participated very actively.

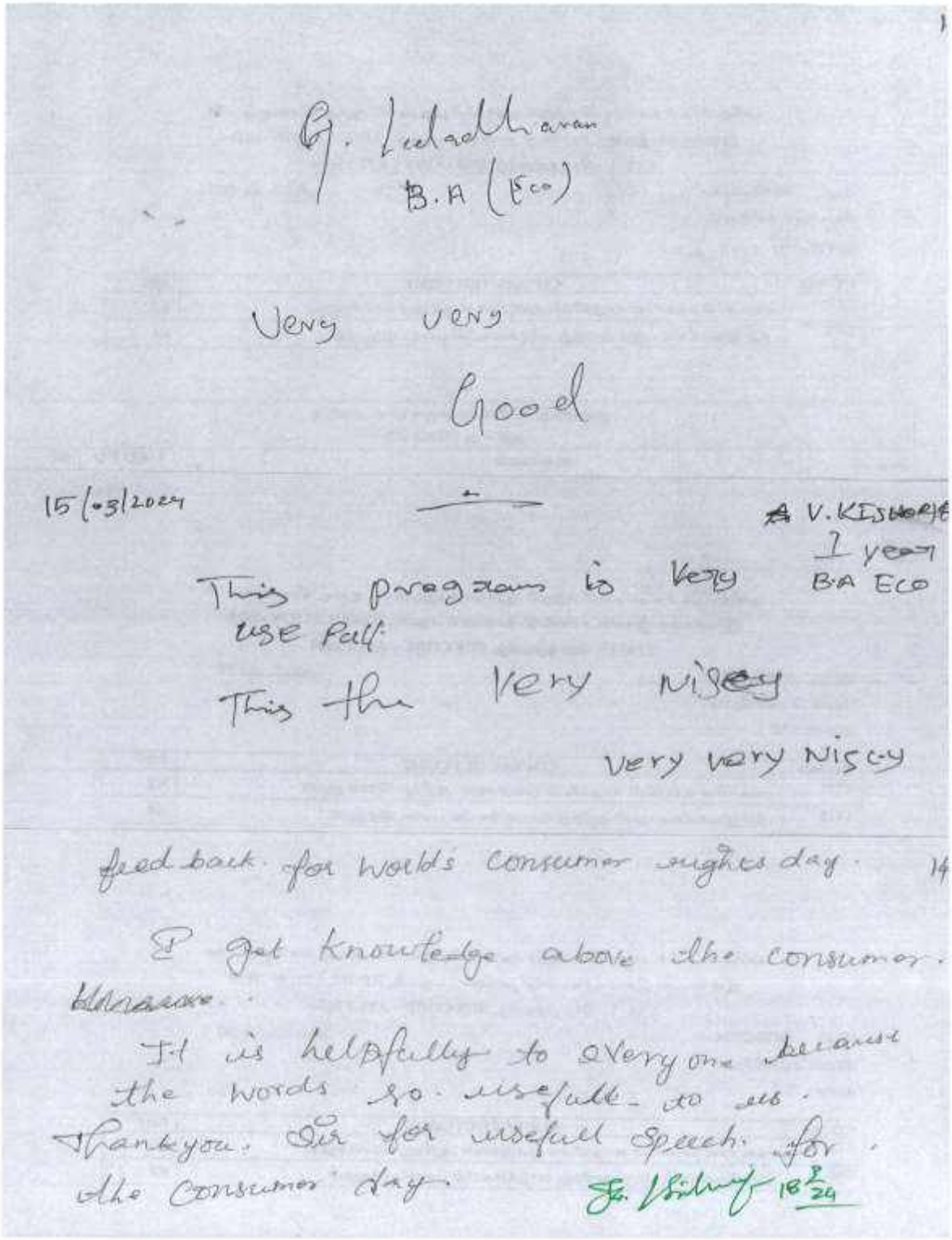
In the middle of the event, the speaker motivated the participant students by indicating 4 important points that one has to adopt while buying goods. The students also eager to know about their own rights based on the program. Also, based on the direction of the speaker, a feedback form to 50 students was distributed and got back from them before finishing the event. The outcome responses of the feedback form is given in Table 1.

On the whole, the program was MORE USEFUL TO ALL THE PARTICIPANT STUDENTS and it went well appreciably.

Enclosures: 1. Pamphlet. 2. Report. 3. Students Attendance and feedback copies.

4. Photos taken during the seminar.

Programme Brochure



G. Ilakkiaran
B.A (Eco)

Very very
Good

15/03/2024

V. KISHORE
I year
B.A ECO

This programs is very use full
This the very Nisey
very very Nisey

feed back for world's consumer rights day.

I get knowledge about the consumer.
Thanks.
It is helpfully to everyone because the words so useful to us.
Thankyou. Sir for useful speech for the consumer day.

G. Vishnu 18/3/24

Feedback from students

Chief guest, Prof. C. Dhandapani giving talk

Prof. K. Sivasubramaniyan addressing the gathering

Participants of the event

Feedback given by the participant

Felicitating the Chief Guest of the event

Conclusion:

SDG 17.3.12 demonstrate the institution's sustained commitment to monitoring, evaluating, and improving the impact of its partnerships on human development. By systematically tracking progress, outcomes, and resource utilization, the institution ensures that every collaboration remains accountable, transparent, and oriented toward real benefits for people.

This continuous evaluation process helps refine strategies, strengthen partnership effectiveness, and ensure that programmes genuinely uplift students, faculty, and surrounding communities. Through evidence-based decision-making and regular assessment of partnership outcomes, the institution promotes inclusive growth, equitable access to opportunities, and long-term capacity building. Overall, SDG 17.3.12 reinforces the institution's dedication to human-centred sustainability, ensuring that data-driven oversight enhances the quality, reach, and positive impact of its collaborative initiatives.