

Under the Management of Shiromani Gurdwara Parbandhak Committee, Sri Amritsar Sahib

NAAC ACCREDITED "A++" GRADE







# Project Completion Report under Environment Education Program-2023-24

Name of Organizing Agency	Dr Narinder Singh Principal	
Turne or organizing Agency	Guru Nanak College Budhlada,	
	Bareta Jakhal road Buhlada	
	gncbudhlada@yahoo.co.in	
	+9198764-42759	
Coordinator	Dr Jatinder Singh	
Coordinator	HOD Science (Project Director)	
(Name, Mobile & E-mail ID)	dr.jatindersinghap@gmail.com	
(maine, meane of 1 main 12)	Phone no. +9175087-68380	
	Coordinator: Dr Rishi Kumar	
	Assistant Prof. and Head Department of Physics	
	rishikumar.phd@gmail.com	
	Phone no. +9194641-92801	
	Deputy Coordinator: Dr. Rajdeep Kaur	
	Assistant Prof. Chemistry, Department of Science	
	rajdeepmalhi18@gmail.com	
	Phone no. +9181463-07009	
Event Category	Category "A" including	
	(i) Hands on Clover, Amaranth, Water Hyacinth and	
	other useful weeds	
	(ii) Waste management through Vermi-composting,	
	Construction of birds shelter	
	Competitions of Poster making (global warming,	
	plastic ban with slogan), working models	
	(recycling, drip irrigation, save energy, rain	
	harvesting etc.), projects (adulteration in food	
	stuffs, soil pH testing, water purification testing)	
	(iii) Handicrafts Skill Development Lifestyle	
	Workshops, Wildlife Photography	
	(iv) Exhibitions, under Mission LiFE (Lifestyle for	
	Environment)	
	(v) Campaign	
Type of Event	The Program comprise mostly of action components designed	
	to impart knowledge skills, activities like LiFE Lifestyle for	



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	Environment, Hands-On-Capacity Building Workshops, exhibitions, competitions, campaign and Demonstrations on gainful utilization of weeds like Clover, Amaranth, water hyacinth and preparing vermi-compost and construction of birds shelter to develop handicrafts.
Event Start Date	Budhlada, District Mansa, (December 2023 to March 2024)
Event End Date	
Venue/Location	
Event Description	Attach as Annexure-I (Day Wise Detailed Report to be submitted with this format)
Detail of Activities	1.) Workshop
(Mention Name of Activity)	<ul><li>2.) Competition</li><li>3.) Exhibition</li><li>4.) Campaign</li></ul>
If Nature Camp (Specify no. of days & nights)	
Aligned with LiFE Mission	<ol> <li>Energy Saved</li> <li>Water Saved</li> <li>Single-use Plastic reduced</li> <li>Sustainable food systems adopted</li> <li>Healthy Lifestyles adopted</li> <li>E-Waste reduced</li> <li>Waste reduced</li> <li>Capacity Building created</li> </ol>
Resource Persons/ Experts involved (Name & No.)	
Number of Schools/ Colleges covered (Specify with names)	No. of Schools: 15  1. Govt. Model School Kulrian, 2. Govt. Sen., Sec. School Girls Budhlda, 3. Govt. Sen., Sec. School for Girls Boha, 4. Govt. Sen., Sec. School for Boys Budhlada, 5. Govt. Sen., Sec. School Datewas, 6. Bhai Behlo Public School, Phaphre Bhaike 7. Govt. Sen. Sec. School, Bareta



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	1
	8. Govt. Sen. Sec. School, Kishangarh
	9. Govt. Sen. Sec. School, Bhikhi
	10. Govt. Sen. Sec. School, Bachhoana
	11. Govt. Sen. Sec. School, Dodra
	12. Govt. Sen. Sec. School, Ralli
	13. Govt. Sen. Sec. School, Rangrial
	14. DAV Sen. Sec. School, Budhlada
	15. Manu Vatika Public School, Budhlada
	No. of Colleges: 09
	1. Mai Bhago Degree College, Ralla
	2. Mata Sundri University College, Mansa
	3. University College, Bahadurpur
	4. Bhai Behlo Khalsa Girls College, Mansa
	5. National College, Bhikhi
	6. Krishna College, Ralli
	7. Nehru College, Mansa
	8. SD Kanya Mahavidyala
	9. S Balraj Singh Bhunder Mamorial University College,
If Calcada sine UDICE/Cada tama	Sardulgarh
If School, give UDISE/Code, type	
of school & name of Teacher In-	
charge (Upload List)	
Name & No. of Districts covered	District (01): Mansa
Name & No. of Districts covered	District (01). Ivialisa
Target Beneficiary	1.) Students
Target beneficially	2.) Youth
	3.) Teachers
	5.) Teachers
No. of Students participated	100-200
No. of Youth participated	300-400
	50.70
No. of Teachers participated	50-70
Did all continues to the Lies	Va a /N a
Did all participants take LiFE	Yes/No
Pledge	
Dhatagaaha ///idaa //Daaa	Condin Consla Drive Haland
Photographs/Videos/Press	Send in Google Drive. Upload
Clippings of the event	IDEC Images (5.6 host nictures with Penert)
	JPEG Images (5-6 best pictures with Report)



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\* Category 'A' – (i) Lifestyle Workshops, (ii) Competitions, (iii) Exhibitions, (iv) Campaigns under Mission LiFE (Lifestyle for Environment).

Category 'B' - Nature Camps (Specify no. of days).

# Fest on Mission LiFE (Lifestyle for Environment)

Guru Nanak College, Budhlada, Inspires Young Minds with Fest on Mission LiFE (Lifestyle for Environment) on 30, 31 January 2024

#### January 30, 2024

In a bid to nurture scientific curiosity and environmental awareness among school students, the Department of Science at Guru Nanak College Budhlada organized the "Mission Life Fest" on 30 January 2024. The event, made possible through the sponsorship of grant of Rupees two lakh for the environment educational program of the Punjab Council of Science and Technology under the Ministry of Environment, Forest, and Climate Change, witnessed enthusiastic participation from 25 schools in the Mansa region.

The Fest featured engaging activities including competition in poster, birds shelter, speech and project including Hands-on experiments.

The college Principal, Dr. Narinder Singh has welcomed the chief guests and motivate the students coming from different schools in the region. In his welcome adress, Dr Narinder address the students to believe in nurturing responsible citizens who are mindful of their environmental impact. This exhibition serves as a platform to educate and inspire students towards sustainable practices.

Dr Jatinder Singh, Head, Department of Science (Guru Nanak College, Budhlada) shared importance of Guru Nanak Dev Ji Philosophy Pawan Guru Pani Pita Maata Dhart Mahat that we should keep clean our air, water and land. He also discussed types of Air and Water pollutions and their impacts on human and plants and motivated students to make awareness regarding of pollutants.

Dr. Jatinder Singh outlined the brief introduction about program and activities under this environment education Program and invited Dr. Gulshan Kumar Jawa, Professor SLIET Longowal in his expert talk at Guru Nanak College. He addressed the students and remarks

"We believe in fostering an early interest in science and environmental issues for a sustainable future, the support from the Punjab Council of Science and Technology has been instrumental in making this event a success."



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The interactive workshops on Hands on weed by Dulip Kumar Ojha, Handicraft was organised by Dr. Neelam and Healthy Lifestyle Adaptation conducted by Dr. Sangeeta. The exhibitions on Handicraft and Healthy Lifestyle, and various conservation initiatives provided valuable insights into pressing environmental issues and provided awareness to the participants.

The speaker Dr. Jasvir Singh Lecturer Biology from Government Girls School, Budhlada delivered a talk emphasizing the need for collective action to address environmental issues. He highlighted initiatives such as community clean-up campaigns, tree plantation drives, environmental education programs, waste reduction efforts, and advocacy for renewable energy. Amarik Singh DM Science Mansa, Coordinator Green School Program and Jaskirat Singh Science Resource Person Block Budhlada also joined the Fest as Guest of Honour and stressed the importance of individual contributions in creating a positive impact and encouraged school students to be stewards of the environment for a healthier, more sustainable world.

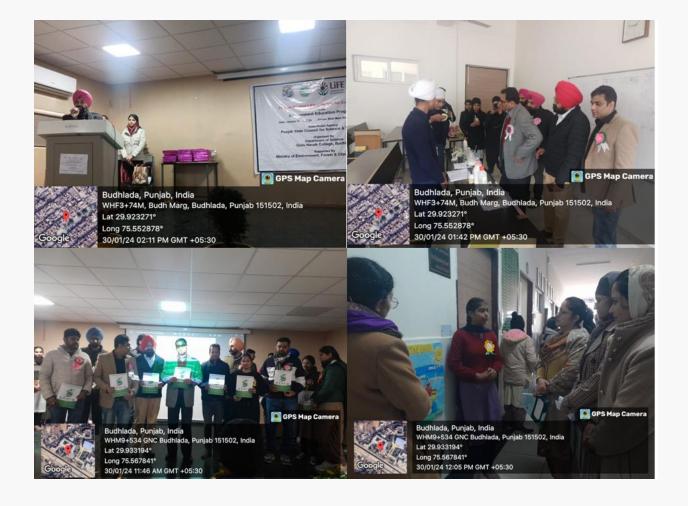
In this event 139 participants from 24 schools under Mansa district has been participated in Declamation, Quiz, Poster exhibition and Birds Shelter making competitions. In Declamation competition, Navneet Kaur (GMSS, Kulrian), Divyanshi (D.A.V, Mansa), Khushmeet Kaur (GNC, Budhlada) whereas in Poster presentation competitions, Rohan Bansal (D.A.V, Mansa), Khushpreet Kaur (G.M.S.S, Kulrian), Shifali (D.A.V, Mansa) In Birds Shelter making Saurav Singla (D.A.V, Mansa), Havin Kaur Sahota (G.M.S.S, Kulrian) and Geeta Devi (GGSSS Bhikhi) got first, second and third place respectively. The team of D.A.V, Mansa (Bhavika Gupta, Anish, Kirti) emerged victorious in the quiz competition. The chief guests distributed the prizes to winners and honour accompanying teachers of each School.

A prize distribution ceremony was conducted to recognize and honor the outstanding achievements of students who actively participated in various events. At the end, Project Coordinator Dr. Rishi Kumar expressed heartfelt gratitude to the dedicated volunteers, guests, participants and organizing team who have worked tirelessly behind the scenes to ensure the seamless execution of this event, Make it impactful and memorable occasion. Dr. Rajdeep Kaur host the event. Dr. Dhruva Kumar, Dr. Hardeep Singh, Sukhmandeep Kaur, Harwinder Kaur, Rajveer Kaur, Bhupinder Kaur, Ashu Sharma, Harinder Kaur as Assistant Professor of Science Department also play great role in handling and success of all the events.

The event's success reflects Guru Nanak College's commitment to promoting scientific knowledge and environmental consciousness among the youth. The Department of Science extends gratitude to the Punjab Council of Science and Technology for their support.



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In a bid to nurture scientific curiosity and environmental awareness among College students, the Department of Science at Guru Nanak College Budhlada organized the "Mission Life Fest" on 31 January 2024. The event, made possible through the sponsorship of grant of Rupees two lakh for the environment educational program of the Punjab Council of Science and Technology under the Ministry of Environment, Forest, and Climate Change, witnessed enthusiastic participation from SUS, College, Sunam and Guru Nanak College in the Mansa as well as Sangrur region.

The Fest featured engaging activities including competition in Powerpoint presentations, working/non working models, Wildlife Photography and project including Hands-on experiments.

The college Principal, Dr. Narinder Singh has welcomed the chief guests and motivate the students. In his welcome address, Dr Narinder address the students to believe in nurturing responsible citizens who are mindful of their environmental impact. This exhibition serves as a platform to educate and inspire students towards sustainable practices.

Dr Jatinder Singh, Head, Department of Science (Guru Nanak College, Budhlada) shared importance of Guru Nanak Dev Ji Philosophy Pawan Guru Pani Pita Maata Dhart Mahat that we should keep clean our air, water and land. He also discussed types of Air and Water pollutions and their impacts on human and plants and motivated students to make awareness regarding of pollutants.

Dr. Jatinder Singh outlined the brief introduction about program and activities under this environment education Program and invited Assistant Professor Sandeep Kaur (SUS, College, Sunam) in her expert talk at Guru Nanak College. She addressed the students and remarks "The environment is the natural world around an organism that allows it to survive. The French word 'environ,' which means 'to surround,' is derived from the English word 'environment.' It is made up of living creatures like plants, animals, and human beings. The non-living elements of the environment are air, water, and land. Nature has designed its functioning in such a way that everything is interdependent. Human beings are the most powerful of all the creatures that rely on and make use of the earth's natural resources. Air is required for the survival of not just humans but also plants and animals. Without air, there will be no life on Earth. Human beings alone are responsible for the degradation of the environment. The atmosphere, hydrosphere, lithosphere, and biosphere are the different layers that make up the environment. Several gases, like oxygen and nitrogen, that are required for life are found in the atmosphere. The hydrosphere is made up of different water bodies like rivers, oceans, seas, etc. The lithosphere is the earth's outermost layer, which is made up of rock and soil. The biosphere is home to all living beings. The environment is influenced by a variety of elements, some of which are natural and others man-made."

The interactive workshops on Hands on weed and Vermicomposting by Dulip Kumar Ojha, Handicraft was organised by Dr. Neelam and Healthy Lifestyle Adaptation conducted by Dr. Sangeeta. The exhibitions on Handicraft and Healthy Lifestyle, and various conservation



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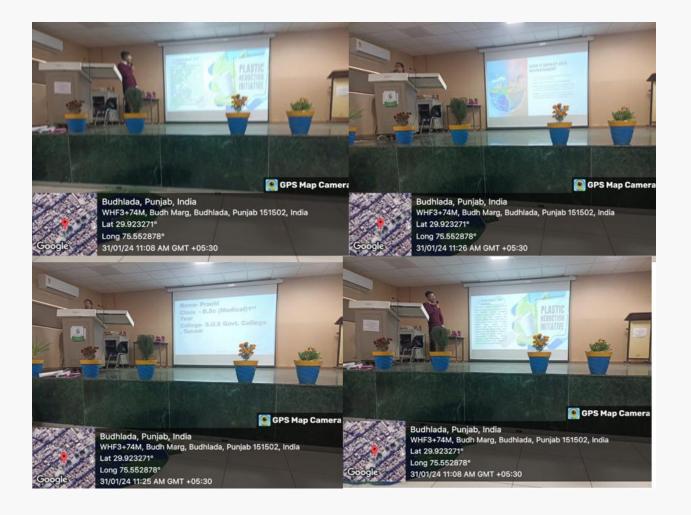
initiatives provided valuable insights into pressing environmental issues and provided awareness to the participants.

In this event 100 participants from 25 students from SUS, College Sunam under Sangrur district has been participated in working/non working models, projects, powerpoint presentations, wildlife photography competitions. In projects competition, Veerpal, Komal (GNC, Budhlada) whereas in Powerpoint presentations competitions, Meetali Bansal (SUS,College, Sunam), Babandeep Kaur (GNC, Budhlada), Yash Kumar (SUS, College, Sunam), Reena (GNC, Budhlada) In Wildlife Photography, Harmandeep Singh, Devkaran, Manav (GNC, Budhlada) got Ist, 2<sup>nd</sup> and 3<sup>rd</sup> positions. A prize distribution ceremony was conducted to recognize and honor the outstanding achievements of students who actively participated in various events. At the end, Project Coordinator Dr. Rishi Kumar expressed heartfelt gratitude to the dedicated volunteers, guests, participants and organizing team who have worked tirelessly behind the scenes to ensure the seamless execution of this event, Make it impactful and memorable occasion. Dr. Rajdeep Kaur host the event. Dr. Dhruva Kumar, Dr. Hardeep Singh, Sukhmandeep Kaur, Harwinder Kaur, Rajveer Kaur, Bhupinder Kaur, Ashu Sharma, Harinder Kaur as Assistant Professor of Science Department also play great role in handling and success of all the events.

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February27-28, 2024

# Department of Science celebrated National Science Day



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# Theme: Indigenous Technologies for Viksit Bharat February 27-28, 2024

On February 27, 2024, the Department of Science at Guru Nanak College Budhlada marked National Science Day with a vibrant celebration focused on the theme "Science for Girls." With the generous grant provided by the Punjab State Council for Science and Technology and the National Council for Science and Technology Communication, the event aimed to promote and empower girls in the field of science. The day was filled with engaging activities and insightful experiments designed to inspire young minds and foster a passion for scientific inquiry among girls. Through this initiative, the department endeavored to break gender stereotypes and encourage more girls to pursue careers in science, contributing to a more diverse and inclusive scientific community.

Students organized Hands-on experiments to raise awareness about food adulteration and promote healthy lifestyles. They engage students in various experiments and demonstrations. They showcased common food adulterants and demonstrated simple tests to detect them, such as the use of chemical reagents to identify the presence of harmful substances. By providing hands-on experiences, students not only raised awareness about food adulteration but also empowered others to make healthier lifestyle choices based on scientific knowledge. The students of graduate and post graduate students check soil pH by taking samples from different areas. Students also check hardness of water by taking samples of water from different areas. Further, students also study the acidity in different fruits, vegetables and tea leaves. Students determined surface tension of water and different liquids using Stalagmometer.

Dr. Jatinder Singh, as the head of the Department, enthusiastically imparted knowledge to students about C.V. Raman and his pivotal role in the field of science. Through engaging discussion he illuminated Raman's groundbreaking contributions to Physics, particularly his discovery of the Raman Effect, which revolutionized spectroscopy and earned him the Nobel Prize in Physics in 1930.

Dr. Rishi Kumar, by emphasizing Raman's perseverance, curiosity, and ingenuity, instills in his students a profound appreciation for the pursuit of knowledge and the importance of scientific discovery. With infectious enthusiasm, he encourages them to follow in Raman's footsteps, fostering a new generation of aspiring scientists eager to make their own mark on the world of research and innovation. His motivating words ignite a spark of curiosity and nurture the potential of his students leaving an indelible impression, shaping the future of scientific exploration for years to come.

Dr. Rajdeep kaur co-ordinated this whole event and emphasized Raman's scientific methodology, perseverance, and interdisciplinary approach, inspiring students to emulate his dedication and ingenuity in their own academic pursuits. By contextualizing Raman's achievements within the broader landscape of scientific innovation, she also fostered a deeper appreciation for the significance of curiosity-driven research and its enduring impact on society.



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The rest staff of Department of Science i.e Dr. Dhruva Kumar, Dr. Hardeep Singh, Bhupinder kaur, Ashu Sharma, Harwinder kaur, Rajveer kaur, Harinder kaur, Sukhmanpreet Kaur and Gagandeep kaur (working as Assistant Professors) play great role in handling and success of the event. Gurjeet Singh and Sukhpreet Singh (Lab Assistants) were also present.

The success of event reflects Guru Nanak College's commitment to promote scientific knowledge among the youth. The Department of Science extends gratitude to the Punjab Council of Science and Technology and National Council for Science and Technology Communication for their support.

The Department of Science at Guru Nanak College Budhlada organised a grand celebration for National Science Day on February 28, 2024, centered around the theme of "Indigenous Technologies for Viksit Bharat". The event was graced by esteemed guest Mr. Manmeet Singh, an alumnus of the Science Department from the 2016-19 batch, currently serving as a Flying Officer in the Indian Air Force. The celebration was a testament to the Department's commitment to promoting scientific inquiry and innovation.

Various competitions were organized to engage students and enthusiasts in thought-provoking activities. These included declamation, debate, handicraft, quiz, poster making, and model making contests, each designed to encourage participants to explore and showcase their knowledge and creativity.

The generous grant provided by Punjab State Council for Science and Technology and the National Council for Science and Technology Communication amplified the impact of event and reach within the community.

Through this celebration, the Department of Science not only commemorated the legacy of Sir C.V. Raman but also inspired a new generation of scientists and innovators to contribute towards the advancement of indigenous technologies for the development of the nation. The event served as a platform for collaboration, learning, and appreciation of the role of science in shaping a brighter future for India.

Dr. Narinder Singh, the Principal of the college, also attended the event and graced the occasion with his presence, reaffirming the institution's commitment to promoting scientific education and research. Dr. Jatinder Singh, the Head of the Department offered words of encouragement and inspiration to the participants. Dr. Rishi Kumar also added to the significance of the event, highlighting the institution's commitment to fostering scientific education and research excellence. The meticulous organization of the event was overseen by Dr. Rajdeep Kaur, ensuring smooth coordination and execution.

At the conclusion of the event, prizes and certificates were distributed to the deserving students, acknowledging their exemplary performances and contributions towards promoting scientific awareness and innovation. In the debate competition, Babandeep Kaur, Amandeep Kaur, Gagandeep Kaur, Khushpreet Kaur, Tarun Jindal, and Simranjot Kaur emerged as the winners, showcasing their eloquence and critical thinking skills. In the Handicraft competition, Rupinder



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Kaur and Jashanpreet Kaur secured the first position, demonstrating exceptional creativity and craftsmanship, while Jasmine clinched the second position, and Dviti, Jashanpreet Kaur, and Amandeep Kaur secured the third position with their remarkable creations. Reena, Harmaldeep Kaur, and Harmanpreet Singh claimed the top three positions in the declamation competition, captivating the audience with their powerful oratory and expressive delivery. Priyanka, Sonpreet Kaur, and Jashanpreet Kaur showcased their artistic talents in the poster making competition, securing the first, second, and third positions respectively with their visually striking compositions. Priyanka, Omika, Yashika, and Bobby emerged victorious in the quiz competition, demonstrating their extensive knowledge and quick thinking. Kunal Jindal, Prachi Goyal, Tushar, and Mehakdeep Kaur showcased their innovation and technical prowess, securing the first position in the model making competition, while Sukhmandeep Kaur and Deepanshu claimed the second position, and Deepanshu, Jasmine, Diksha, Manpreet, Isha, Jyoti, Jasdeep Kaur and Harjeet kaur secured the third position with their impressive creations. Jasmine, Diksha, Manpreet Kaur, Khushpreet Kaur, Husanpreet Kaur and Deepanshu excelled in the hands-on experiment, securing the first position, followed by Veerpal Kaur and Komal in the second position, and Tarun Jindal and Khushpreet Kaur in the third position, showcasing their practical skills and scientific acumen.

The rest staff of Department of Science i.e Dr. Dhruva Kumar, Dr. Hardeep Singh, Bhupinder Kaur, Ashu Sharma, Harwinder Kaur, Rajveer Kaur, Harinder Kaur, Sukhmanpreet Kaur and Gagandeep Kaur (working as Assistant Professors) play great role in handling and success of the event. Gurjeet Singh and Sukhpreet Singh (Lab assistants) were also present.

The success of event reflects Guru Nanak College's commitment to promote scientific knowledge among the youth. The Department of Science extends gratitude to the Punjab Council of Science and Technology and National Council for Science and Technology Communication for their support.

Science Carnivals feature wide variety of events. Outcomes from the event are mentioned below

- 1. Discussed achievements, activities, and efforts of <u>famous personalities</u> in the field of Science & Technology.
- 2. This platform helped to develop various skills of students such as critical thinking, problem solving, time management and communication by applying the principles of scientific methods.
- 3. Present event helped to spread awareness of the power of science and technology on current issues in the world and how science can solve those issues.
- 4. Hand on activities enhanced practical aspect of student in field of Science



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	(27/02/2024) Timing: 11:00	am
Name of Event	Theme	Incharge
Hands on Scientific Experiments	Food adulteration     Testing of Soil pH     Testing of water hardness     Stesting of water hardness     Study of acidity of fruits, Vegetables and tea leaves     Determination of surface tension of water and different liquids	Dr. Rajdeep Kaur (8146307009) Ms. Bhupinder Kaur (9781055935)
Documentary	The Elephant Whisperer	Ms. Harwinder Kaur (6239365928) Ms. Sukhmanpreet Kaur (9501145748)
	(28/02/2024) Timing: 10:00	am
Competitions: Science Quiz	General Science and Technology	Dr. Rajdeep Kaur (8146307009)
Poster making	Science and Technology	Ms. Harwinder Kaur (6239365928)
Working/non working models	Science and Technology	Ms. Harwinder Kaur (6239365928) Ms. Sukhmanpreet Kaur (9501145748)
Declamation	Topics: 1. Role of women in Science 2. Indigenous Technologies for Viksit Bharat 3. Healthy Lifestyle 4. Artificial Intelligence and Machine Learning	Dr. Rajdeep Kaur (8146307009) Ms. Ashu Sharma (9877473386)
Debate	Indigenous Technologies for Viksit Bharat     Advantages and disadvantages of advance technologies     Use and misuse of phones and internet.	Dr. Rajdeep Kaur (8146307009) Ms. Ashu Sharma (9877473386)
Waste to best (Handicraft)	Making plant pots, bags, decorative items from waste materials	Ms. Harinder Kaur (9915432724) Ms. Gagandeep Kaur (8146155315)
Exhibitions	Plant Utilization Healthy Lifestyle Posters/Models	Ms. Bhupinder Kaur (9781055935) Dr. Hardeep Singh (9878759911)
Science with Fun	Funny Games	Dr. Rajdeep Kaur (8146307009)

Dr. Jatinder Singh (Head, Department of Science)

Convener Contact: 75087-68380

Dr. Rajdeep Kaur (Co-ordinator) Contact: 81463-07009





Theme NSD-2024:

'Indigeneous Technologies for Viksit Bharat'

Event Catalyzed & Supported by: Punjab State Council for Science & Technology (PSCST)

National Council for Science & Technology Communication (NCTSC) Department of Science & Technology (DST), Govt. of India

Organized By:

Department of Science, Guru Nanak College Budhlada



#### Invitation

The Organising committee invites students of Undergraduate and Postgraduate of Guiu Nana College, Budhlada to participate in this event to be held on February 27-28, 2024. The even shall include Poster, models, Plant utilization exhibitions, Handicraft (making pots, bags decorative items using waste materials), Declamation, Debate, Quiz competitions, Hands or Scientific Experiments, Documentary on The Elephant Whisperer, Science with Fun (Games) and projects and projects presentations.

#### **About National Science Day (NSD)**

Department of Science of Guru Nanak College, Budhlada is celebrating National Science Day 2024 (NSD) on theme "Indigenous Technologies For Viksti Bharat" being sponsored by Punjab State Council of Science & Technology, Celebrating NSD aim is to discuss all sissues and implement new technologies for the development in field of science, encourage youth to develop interest and understand the importance of science and technology, Baltorim for showcasing the talents and skill of students and enable students to enjoy science concepts and to engage them on scientific issues.

#### **About Institution**

Guru Nanak College (NAAC Accredited 'A++' Grade) affiliated to Punjabi University, Patiala (listed in 12(b) 8.2(f) sections of UGC Act 1956) is situated on the outskirts of Budhlada city - a small town of district Mansa in Punjab. To tribute the SOOth birth anniversary of "Sir Guru Nanak Dev J", it was started in 1971 by some eminent personalities of the region to keep in mind the noble cause of making affordable education accessible to all the persopel of this backward, rural and remote area. At present, it has become the foremost organisation in the area, having 16 PG and 12 UG courses (including OS skill-development vocational and industry oriented courses).

#### **About Science Department**

Our department of Science is at the forefront of scientific exploration, conducting ground breaking research in diverse fields of Chemistry, Physics, Zoology and Botany at Guru Nanak College Budhlada. Some highlights of department strength are:

- Dynamic, updated academic programs in BSc (Medical and Non Medical), MSc in Chemistry and Physics under Curriculum of Punjabi University Patiala.
- Renowned PhD and NET qualify faculty fostering excellence.
- ▶ State-of-the-art labs for hands-on learning sponsored by Department of Biotechnology (DBT).
- Strong industry tie ups and MoU's for practical experience, field and industrial visits, field projects.
- indant research opportunities for critical thinking of students.
- Support services for academic and personality growth of the students.
- ► Emphasis on diversity, creating an inclusive community.

#### **Organising Team**

#### Patron

#### Dr. Narinder Singh

Principal, Guru Nanak College, Budhlada

#### Dr. Rekha Kalra

Vice Principal, Guru Nanak College, Budhlada

#### **Organising Committee**

- Dr. Jatinder Singh (Head, Department of Science), Co-ordinator
- Dr. Rishi Kumar (Head, Department of Physics)
- Dr. Dhruva Kumar (Department of Chemistry)
- Dr. Hardeep Singh (Department of Physics)
- Dr. Raideep Kaur (Department of Chemistry) Co-coordinator
- Ms. Bhupinder Kaur (Department of Chemistry)
- Ms. Harinder Kaur (Department of Physics)
- Ms. Harwinder Kaur (Department of Botany)
- Ms. Sukhmanpreet Kaur (Department of Zoology)
- Ms. Ashu Sharma (Department of Physics)
- Ms. Jaspreet Kaur (Department of Physics)
- Ms. Rajvir Kaur (Department of Chemistry)
- Ms. Ashu (Department of Chemistry) Mr. Gurjit Singh (Senior Lab Assistant)
- Mr. Shukarjeet Singh (Lab Assistantt)
- Mr. Sukhpreet Singh (Lab Assistant)



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ਸੰਗਰਰ ਜਾਗਣਣ

# ਗੁਰੂ ਨਾਨਕ ਕਾਲਜ ਬੁਢਲਾਡਾ ਵਿਖੇ ਸਮਾਗਮ ਕਰਵਾਇਆ

ਫਲਾਇੰਗ ਅਫ਼ਸਰ ਮਨਮੀਤ ਸਿੰਘ ਮੁੱਖ ਮਹਿਮਾਨ ਵਜੋਂ ਹੋਏ ਸ਼ਾਮਲ

ਗੁਰਵਿੰਦਰ ਸਿੰਘ ਚਹਿਲ, ਚੀਮਾ ਮੰਡੀ

ਗੁਰੂ ਨਾਨਕ ਕਾਲਜ ਬੁਢਲਾਡਾ ਦੇ ਸਾਇੰਸ ਵਿਭਾਗ ਵੱਲੋਂ ਰਾਸ਼ਨਰੀ ਵਿਗਿਆਨ ਦਿਵਸ 2024 ਦੇ ਥੀਮ ਵਿਕਸਿਤ ਭਾਰਤ ਲਈ ਇੰਡੀਜੀਨਸ ਟਕਨੌਲਜੀ' ਕੇਂਦਿਤ ਪੋਗਰਾਮ ਰਵਾਇਆ। ਇਸ ਵਿਚ ਭਾਰਤੀ ਹਵਾਈ ਸੈਨਾ ਵਿੱਚ ਫਲਾਇੰਗ ਅਫਸਰ ਵਜੋਂ ਸੇਵਾ ਨਿਭਾਅ ਰਹੇ ਅਤੇ ਵਿਭਾਗ ਦੇ ਸਾਬਕਾ ਵਿਦਿਆਰਥੀ ਮਨਮੀਤ ਸਿੰਘ ਨੇ ਮਹਿਮਾਨ ਵਜੋਂ ਸ਼ਿਰਕਤ ਕੀਤੀ।ਵਿਦਿਆਰਥੀਆਂ ਅਤੇ ਉਤਸ਼ਾਹੀ ਨੌਜਵਾਨਾਂ ਨੂੰ ਵਿਗਿਆਨਕ ਗਤੀਵਿਧੀਆਂ ਵਿੱਚ ਸ਼ਾਮਲ ਕਰਨ ਮੇਕਿੰਗ ਅਤੇ ਮਾਡਲ ਮੇਕਿੰਗ ਮੁਕਾਬਲੇ



ਗੁਰੂ ਨਾਨਕ ਕਾਲਜ ਬੁਢਲਾਡਾ ਵਿਖੇ ਹੋਏ ਸਮਾਗਮ ਦੌਰਾਨ ਮੁੱਖ ਮਹਿਮਾਨ ਫਲਾਇੰਗ ਏਅਰ ਫੋਰਸ ਅਫ਼ਸਰ ਮਨਮੀਤ ਸਿੰਘ,ਕਾਲਜ ਪ੍ਰਿੰਸੀਪਲ ਡਾ. ਨਰਿੰਦਰ ਸਿੰਘ, ਸਟਾਫ ਤੇ ਵਿਦਿਆਰਥੀ। ਪੰਜਾਬੀ ਜਾਗਰਣ

ਲਈ ਵਿਭਾਗ ਵੱਲੋਂ ਭਾਸ਼ਟ,ਵਾਦ ਦੇਮਖੀਡਾ ਜਤਿੰਦਰਸਿੰਘਨੇ ਮਕਾਬਲੇਵਿਚ ਵਿੱਚ ਰਪਿੰਦਰ ਕੌਰ ਅਤੇ ਜਸ਼ਨਪੀਤ ਕੌਰ ਦੀਕਸ਼ਾ ਮਨਪੀਤ ਕੌਰ. ਖਸਪੀਤ ਕੌਰ. ਸ਼ਾਮਿਲ ਭਾਗੀਦਾਰਾਂ ਨੂੰ ਇਨ੍ਹਾਂ ਮੁਕਾਬਲਿਆਂ ਨੇ ਬੇਮਿਸਾਲ ਸਿਰਜਣਾਤਮਕਤਾ ਅਤੇ ਤੋਂ ਜਾਣੂ ਕਰਵਾਲਿਆ। ਡਾ. ਰਿਸ਼ੀ ਕੁਮਾਰ ਸ਼ਲਿਪਕਾਰੀ ਦਾ ਪ੍ਰਦਰਸ਼ਨ ਕਰਦੇ ਹੋਏ ਉਨ੍ਹਾਂ ਜ਼ਿੱਥੇ ਲਿਨ੍ਹਾਂ ਸੰਸਥਾਵਾਂ ਦਾ ਧੰਨਵਾਦ ਵਿਵਾਦ ਮੁਕਾਬਲੇ ਵਿੱਚੋਂ ਬਬਨਦੀਪ ਕੌਰ, ਹਰਮਨਪ੍ਰੀਤ ਸਿੰਘ ਨੇ ਘੋਸ਼ਣਾ ਪ੍ਰਤੀਯੋਗਿਤਾ ਕੀਤਾ ਉਸੇ ਨਾਸ਼ ਤੋਂ ਇਸਿਆਨ ਸਿੰਘਰ बींड पिसे राज विशिव्य सिक्षिण भारतीय वित् बारातीय वित् प्रामुद्धि । दिस समय रामस्य बीडि प्रिमेरव मिलिया स्थापित अहारी है । अडे पति हुए डीहरारीय बक्त सारी मीमया वित, बहुद तिस्स अडे मिमकतीड बैंच । भूजपासे हिंच प्रिलेबा, मेरापूर्वि वेंच । भीचन पत्रन मारेत सीजपास क्यारी है ਦੀ ਵਚਨਬੱਧਤਾ ਦੀ ਪਸ਼ਟੀ ਕੀਤੀ। ਵਿਭਾਗ - ਨੇ ਜਿੱਤ ਪ੍ਰਾਪਤ ਕੀਤੀ। ਦਸਤਕਾਰੀ ਮੁਕਾਬਲੇ - ਅਤੇ ਜਸ਼ਨਪੀਤ ਕੌਰ ਨੇ ਆਪਣੀ ਕਲਾ ਦੇ - ਰਾਜਦੀਪ ਕੌਰ ਨੇ ਚਲਾਈ।

ਅਤੇ ਤੀਜਾ ਸਥਾਨ ਹਾਸਲ ਕੀਤਾ। ਕੁਇਜ ਮੁਕਾਬਲੇ ਵਿੱਚ ਪੁਅੰਕਾ, ਓਮਿਕਾ, ਯਾਸ਼ਕਿਾ ਅਤੇ ਬੌਬੀ ਜੇਤੂ ਰਹੇ ਕੁਨਾਲ ਜਿੰਦਲ,ਪ੍ਰਾਚੀ ਗੋਇਲ,ਤੁਸ਼ਾਰ ਅਤੇ ਮਹਿਕਦੀਪ ਕੌਰ ਨੇ ਤਕਨੀਕੀ ਤਨਰ ਦਾ ਪ੍ਰਦਰਸ਼ਨ ਕਰਦੇ ਹੋਏ ਮਾਡਲ ਮੇਕਿੰਗ ਮੁਕਾਬਲੇ ਵਿੱਚ ਪਹਿਲਾ ਸਥਾਨ ਪ੍ਰਾਪਤ ਕੀਤਾ ਜਦਕਿ ਸੁਖਮਨਦੀਪ ਕੌਰ ਅਤੇ ਦੀਪਾਂਸ਼ੂ ਨੇ ਦੂਜਾ ਸਥਾਨ ਅਤੇ ਦੀਪਾਂਸ਼ੂ, ਜੈਸਮੀਨ, ਦੀਕਸ਼ਾ, ਮਨਪ੍ਰੀਤ, ਈਸ਼ਾ, ਜੋਤੀ, ਜਸਦੀਪ ਕੋਰ ਅਤੇ ਹਰਜੀਤ ਕੌਰ ਨੇ ਆਪਣੀਆਂ ਪ੍ਰਭਾਵਸ਼ਾਲੀ ਰਚਨਾਵਾਂ ਨਾਲ ਤੀਜਾ ਸਥਾਨ ਹਾਸਲ ਕੀਤਾ। ਜੈਸਮੀਨ, ਪ੍ਰਯੋਗ ਵਿੱਚ ਸ਼ਾਨਦਾਰ ਪ੍ਰਦਰਸ਼ਨ ਕਰਦੇ ਹੋਏ ਇਸ ਮੌਕੇ ਸਾਇੰਸ ਵਿਭਾਗ ਦੇ ਪੋਫੈਸਰ

#### On March 2, 2024:

Awareness programme on Feminine Health and hygiene (no. of female participants = 55) Resource Person (01)

Sukhmanpreet Kaur (Assistant Professor in Zoology, GNC, Budhlada)

Feminine hygiene and health awareness are paramount for women's overall well-being. Proper hygiene practices not only promote physical health but also boost confidence and self-esteem. Education about feminine hygiene involves understanding the anatomy of the reproductive system, including menstruation, vaginal health, and the importance of regular check-ups with healthcare providers. It's essential for women to use gentle, pH-balanced products for washing the external genital area to avoid irritation and infections. Additionally, using sanitary products like pads, tampons, or menstrual cups correctly and changing them regularly is crucial to prevent bacterial overgrowth and discomfort. Beyond hygiene, being aware of common vaginal infections such as yeast infections or bacterial vaginosis empowers women to recognize symptoms early and seek appropriate treatment. Practicing safe sex, including the use of condoms, not only prevents unwanted pregnancies but also reduces the risk of sexually transmitted infections. Moreover, maintaining a healthy lifestyle, including a balanced diet, regular exercise, managing stress levels, and getting enough sleep, contributes to overall vaginal health. Lastly, breaking stigmas surrounding discussions about feminine hygiene and health encourages open dialogue, enabling women to seek advice and support from healthcare professionals and peers without hesitation, ultimately leading to better reproductive health outcomes.



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#### On March 14, 2024

Campaign on Say No to Single Use Plastic (no. of participants = 45) at College Lawn and playground

On March 14, 2024, Guru Nanak College in Budhlada hosted a comprehensive campaign advocating for the reduction of single-use plastic within its premises, particularly focusing on the college lawn and playground areas. The campaign, organized by passionate students and faculty members, aimed to raise awareness about the detrimental effects of single-use plastics on the environment and human health. This campaign highlighted the urgency of adopting sustainable alternatives and practicing responsible waste management. Students actively participated in pledge drives, committing to minimize their use of disposable plastics and promote eco-friendly habits within the college community.

The impact of the campaign was palpable, as it sparked a significant shift in attitudes and behaviors towards single-use plastics among students, faculty, and staff. Many pledged to carry



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reusable water bottles, utensils, and bags, reducing the consumption of plastic products on campus. Additionally, initiatives were undertaken to implement sustainable practices, such as installing water refill stations and organizing regular cleanup drives to keep the college premises plastic-free. The campaign at Guru Nanak College not only fostered a culture of environmental consciousness but also inspired broader societal changes towards a greener, more sustainable future.



#### On March 15, 2024

Campaign on Say No to Single Use Plastic (no. of participants = 42) at Department of Science

On March 15, 2024, Guru Nanak College Budhlada campus hosted a campaign advocating for the elimination of single-use plastic, drawing participation from 42 dedicated individuals. The event was aimed at raising awareness about the detrimental effects of single-use plastics on the environment and human health. Participants actively pledged to reduce their usage of plastic items, opting for eco-friendly alternatives and advocating for sustainable practices in their communities. The impact of this activity was profound, sparking a ripple effect of change as participants shared Their newfound knowledge and commitment with their peers, families, and social networks. The campaign not only fostered a sense of responsibility towards the planet but also empowered individuals to take tangible steps towards a greener future. Through collaborative efforts and collective action, Guru Nanak College Budhlada campus emerged as a beacon of environmental stewardship, inspiring others to join the movement and collectively say no to single-use plastics. The success of this campaign underscores the power of education and grassroots activism in addressing pressing environmental challenges and fostering a culture of sustainability.



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#### On March 16, 2024

Awareness Save Fuel Save Energy (no. of participants 65) on Resource Persons (02)(Assistant Professor in Library Dr. Singh Science, GNC. Budhlada) Dr. Hardeep Singh (Assistant Professor in Physics, GNC, Budhlada)

A lecture on raising awareness about the importance of saving fuel and energy conservation was recently organized, drawing an audience of 65 participants. Spearheaded by Dr. Inderjeet Singh, Assistant Professor in Library Science, and Dr. Hardeep Singh, Assistant Professor in Physics, both esteemed faculty members from Guru Nanak College Budhlada, the event aimed to enlighten attendees on the critical need to conserve resources for a sustainable future. Dr. Jatinder Singh, Head of the Science Department, along with other faculty members, graced the occasion, emphasizing the significance of such initiatives within the academic community. Throughout the lecture, attendees were engaged in discussions, shedding light on practical strategies and lifestyle choices that can contribute to fuel and energy preservation. As the session concluded, Dr. Rajdeep Kaur extended heartfelt gratitude to both resource persons for their insightful contributions, underscoring the importance of collective efforts in fostering environmental consciousness and responsibility. The event served as a catalyst for fostering a culture of mindful resource consumption and highlighted the pivotal role educational institutions play in shaping sustainable practices for generations to come.



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#### On March 19, 2024-Athletic meet

Campaign on Say No to Single Use Plastic and Awareness campaign on Healthy Lifestyle Adaptation (no. of participants = 60)

On March 19, 2024, amidst the spirited atmosphere of an athletic meet, a dual campaign aimed at promoting environmental consciousness and fostering healthy lifestyle habits took center stage. With a gathering of 60 enthusiastic participants, the event resonated with a resounding message: "Say No to Single-Use Plastic" and "Awareness Campaign on Healthy Lifestyle Adaptation." As athletes geared up for their events, they also geared up their commitment to these vital causes. The campaign on reducing single-use plastic gained traction as participants pledged to minimize plastic consumption in their daily lives, opting for reusable alternatives and spreading awareness about the detrimental effects of plastic pollution on our planet's ecosystems. Simultaneously, the drive for healthy lifestyle adaptation sparked conversations about the importance of physical activity, balanced nutrition, and mental well-being. The attendees embraced the significance of leading a holistic lifestyle, incorporating regular exercise routines and nutritious dietary choices. Amidst the adrenaline-fueled competitions, this campaign served as a poignant reminder of the



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collective responsibility to safeguard our environment and prioritize personal well-being for a sustainable and healthier future.



#### On March 20, 2024

**Wetland Conservation Awareness Campaign** (no. of participants = 60)

Resource Person (01)

Harwinder Kaur (Assistant Professor in Botony, GNC, Budhlada)

#### Wetlands:

Wetlands are defined as: "lands transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface or the land is covered by shallow water". Wetlands are vital for human survival. They are among the world's most productive environments; cradles of biological diversity that provide the water and productivity upon which countless species of plants and animals depend for survival.



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Wetlands are classified based on their geographic location and the type of water that fills the wetland. There are four types of wetlands: marshes, swamps, bogs, and fens. Each of these categories of wetlands is unique in its location and characteristics.

Importance: Ecosystem and biodiversity support: Wetlands are highly productive ecosystems that provide the world with nearly two-thirds of its fish harvest. Wetlands play an integral role in the ecology of the watershed. The combination of shallow water, high levels of nutrients is ideal for the development of organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects. Wetlands' microbes, plants and wildlife are part of global cycles for water, nitrogen and sulphur. Wetlands store carbon within their plant communities and soil (carbon sequestration) instead of releasing it to the atmosphere as carbon dioxide. They provide habitat for animals and plants and many contain a wide diversity of life, supporting plants and animals that are found nowhere else. They are also an important source of ground water recharge. Human Dependence: More than one billion people depend on them for a living. Wetlands are a vital source for food, raw materials, genetic resources for medicines, and hydropower. Many wetlands are areas of natural beauty and promote tourism and many are important to Aboriginal people. Also, they help in controlling the floods



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#### On March 21, 2024

**Awareness campaign on Healthy Lifestyle Adaptation** (no. of participants = 65)

Resource Person (01)

Dr. Dhruva Kumar (Assistant Professor in Chemistry, GNC, Budhlada)

#### Meditation:

Meditation has been shown to offer many benefits. Although it's well known as a technique to reduce stress and anxiety, research shows that it may also help enhance your mood, promote healthy sleep patterns, and boost cognitive skills.

Meditation is the habitual process of training your mind to focus and redirect your thoughts. The popularity of meditation is increasing as more people discover its many health benefits.



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You can use it to increase awareness of yourself and your surroundings. Many people think of it as a way to reduce stress and develop concentration.

People also use the practice to develop other beneficial habits and feelings, such as a positive mood and outlook, self-discipline, healthy sleep patterns, and even increased pain tolerance.

There are five health benefits of meditation.

- 1. Reduces stress
- 2. Controls anxiety
- 3. Promotes emotional health
- 4. Enhances self-awareness
- 5. Can decrease blood pressure

Powerpoint Presentations on Save Water (02)

- 1. Gagandeep Kaur (M.Sc.1 Physics)
- 2. Babandeep Kaur (B.Sc.I Non-medical)

#### **Save Water:**

Water is the most basic need of everyone (human being, animals, plants and other microorganisms). Without water we cannot imagine our life. Each drop of water is a priceless resource. As W. H. Auden said, "Thousands have lived without love, not one without water."

Now, why we need water conservation?

Despite the fact that water makes up 71% of our planet, only 3% of it is fresh water. Only 1% of the 3% is reachable, with the remaining 2% being trapped in ice caps and glaciers. This means that 1% of all living things on Earth, including people, animals, and plants, must survive entirely on their own.

The importance of water - water as we know is used in all activities for agricultural, it is a crucial source for the growth of plants and crops, for industrial purposes and for commercial purposes, as a mode of transportation, acts as a carrier of goods domestically and internationally and also as a hydropower for the production of electricity. Most importantly, water is useful to carry out all our daily tasks activities like drinking, cooking and cleaning etc.

It is quite disheartening to see the misuse of water. We misuse water heavily in households, industries and even in the agriculture field.

- In 2021, over 2 billion people live in water-stressed countries.
- In 2022, globally, at least 1.7 billion people use a drinking water source contaminated with faeces.

Microbiologically contaminated drinking water can transmit diseases such as diarrhoea, cholera, dysentery, typhoid and polio and is estimated to cause approximately 5,05,000 diarrhoeal deaths each year.

How we can save water?



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- We may conserve water by preventing water leakages in our taps, hand pumps, water storage tanks etc.
  - We should educate the children about water conservation .
- We should follow the latest agricultural methods and technology to avoid heavy water needs.
- Social media has a global reach. What is posted on social media is seen by millions. So, we should use social media for spreading awareness reading water conservation.
  - In fun parks, big malls and clubs, we have to ensure that water should not misuse.

#### Conclusion-

the drinkable water is quite low and if we continue to wastewater at the speed we do today, the day is not far when we will have to fight for water. No matter you are rich or poor; water is a necessity for you.it is not a single person's responsibility to save water. We should avoid the wastage of water only by joining hands.

I would just like to add that when you are thirsty, you do not search for any other beverage, but only for water.







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#### On March 22, 2024

campaign on Healthy Lifestyle Adaptation Awareness (no. of participants = 42) training Blood Group, Hb measuring BP Hands on testing and Resource Person (01)Sukhmanpreet Kaur (Assistant Professor in Zoology, GNC, Budhlada)

An awareness campaign on healthy lifestyle adaptation was recently conducted, engaging 42 participants in a hands-on training session focused on essential health metrics. Led by Sukhmanpreet Kaur, Assistant Professor in Zoology at Guru Nanak College Budhlada, the initiative aimed to empower individuals with practical knowledge on monitoring their wellbeing. The session commenced with insightful discussions on the significance of maintaining a balanced lifestyle, emphasizing the crucial role of diet, exercise, and regular health check-ups in preventing diseases. Participants eagerly delved into the practical segment, where they received guidance on testing their blood group, measuring haemoglobin levels, and monitoring blood pressure. Under Sukhmanpreet Kaur's expert supervision, attendees gained valuable insights into interpreting these vital health indicators and learned how they relate to overall wellness. Through interactive demonstrations and personalized instruction, participants developed confidence in conducting these tests independently, equipping them with valuable skills for proactive health management. The campaign fostered a culture of self-care and health consciousness within the community, empowering individuals to take proactive steps towards a healthier, more fulfilling lifestyle.



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#### On March 27, 2024

**Workshop on Waste management** (no. of participants = 55)

Resource Persons (02)

- 1. Er Atul Arora (Production Manager, VERBIO India Pvt. Ltd., Bhathal Kalan, Lehragaga)
- 2. Balwinder Singh (VERBIO India Pvt. Ltd., Bhathal Kalan, Lehragaga)

Students of GNC, Budhlada visit VERBIO India Pvt. Ltd. Plant on attending and participating workshop on Waste management. VERBIO India Pvt. Ltd. started producing compressed biogas (CBG/BioCNG) from agricultural residues, primarily paddy stubble normally burnt by farmers after the paddy harvest. This is the first, largest and only plant of its kind in India, as well as in Asia. It will consume 100,000 tonnes of agricultural residues per year, and will have a production capacity of 33 TPD (tonnes per day) of BioCNG (CBG) and 650 TPD (tonnes per day) of bio-manure.



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It was built over the last three years, and now supplies BioCNG into the retail network of the Indian Oil Corp. Ltd. (IOCL) for automotive application in the Punjab region.

At the official Grand Opening Ceremonies held in Chandigarh and at the plant site in Lehragaga (Punjab) last week, Claus Sauter, VERBIO AG's Founder and CEO, stated: "In India we are entering a growth market for renewable energy with very large potential."

#### This facility provides:

- 1. A significant relief in air pollution due to reduced stubble burning within a radius of at least 10 kilometres
- 2. Large savings for farmers as the entire stubble collection is conducted at no cost to them the creation of jobs and economic development for rural communities
- 3. The realistic prospect of improving soil health with the introduction of bio-manure, and climate-friendly and cost-effective fuel for automotive, industrial and commercial consumers.

#### **Campaign on Say No to Single Use Plastic** (no. of participants = 55)

- 1. Khandelwad Govt. School
- 2. Kishangarh Govt. School

#### **Workshop on Healthy Lifestyle Adaptation** (no. of participants = 55)

- 1. Khandelwad Govt. School
- 2. Kishangarh Govt. School

# Visit to farmers for awaring them harm of using synthetic and excess of fertilizers

**Fertilizers**: Most fertilizers that are commonly used in agriculture contain the three basic plant nutrients: nitrogen, phosphorus, and potassium. Some fertilizers also contain certain "micronutrients," such as zinc and other metals that are necessary for plant growth. Materials that are applied to the land primarily to enhance soil characteristics (rather than as plant food) are commonly referred to as soil amendments.

Fertilizers and soil amendments can be derived from:

- 1. virgin raw material
- 2. composts and other organic matter
- 3. wastes, such as sewage sludge and certain industrial wastes.

Overuse of fertilizers has resulted in contamination of surface water and groundwater.

#### Harmful effects of overuse Fertilizers



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Fertilizers are chemical chemicals that are applied to crops in order to boost their yield. Farmers utilise these on a daily basis to boost crop productivity. They improve the soil's water retention capacity while also increasing The following are the long-term negative impacts of fertilisers soil: on 1. Water contamination occurs when fertilisers are applied in excess amounts and then washed away owing to excessive irrigation, since fertiliser chemicals impact the unique nature and qualities of water, resulting in Eutrophication.

- 2. They enter the food chain via the plant's roots, causing bioaccumulation and biomagnification.
- 3. Nitrogen can remain in the water for several years, which can contain excessive levels of nirates and nitrites. And nitrateand nitrite-contaminated water can cause a blood disorder called methemoglobinemia, also known as the "Blue Baby Syndrome."

Overuse of fertilizers can have harmful effects on the environment. The Nitrates Directive aims to protect water quality by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices. The paper is based on research about agricultural producer's awareness about the impact of fertilizers overuse on the environment. Data were collected by face to face interviews with farm owners on 10 farms in Budhlada. Analysis of the collected data showed that all farmers use fertilizers. It is important to notice that 79.4% of farmers use chemical fertilizers more than recommended, and 87.1% use organic fertilizers more than recommended. Furthermore, 66.6% of farmers do not know specific harmful pollution effects of nitrates on soil and water. 71.7% of farmers have not heard about the Nitrates Directive. Therefore, it can be concluded that farmers are not sufficiently aware of fertilizers impact on the environment and it is necessary to provide education on this. Dr. Jatinder Singh aware farmers of harmful effects of using synthetic fertilizers and suggest them to use organic fertilizers to increase the fertility of soil so that crops can grow better.

# **Awaring farmers of harmful effects of using Pesticides** in their farms

**Introduction** (**Pesticides**): Pesticides are toxic chemicals applied to crops for killing insect pests, plant pathogens and weeds. Less than one per cent of the more than one million identified species of insects are 'pests'. Rather, a large number of insect species provide essential ecosystem services as plant pollinators, nutrient recyclers, trash burners, natural enemies of pests, and act as food for birds, fishes, amphibians, reptiles and small mammals, as components of food chains and food webs. Without these services, agriculture, forests and even human civilisation as a whole will not survive for long. Therefore, the pesticides need to be applied with utmost caution to minimise their adverse impact on humans, non-target organisms and the environment.

The banning of the 27 pesticides presents a golden opportunity to agricultural universities, state departments of agriculture and the farming community to take the big leap required towards biointensive IPM for environmentally safe crop protection. This can be a win-win situation for farmers and consumers, besides the environment.



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In Punjab, the only significant challenge to replacing the banned pesticides appears to be herbicide pendimethalin, which is widely used as a pre-emergence treatment in direct-seeded rice and other crops. The cultural method of stale seed bed is useful and needs to be popularised among farmers as a component of integrated weed management (IWM). It helps to significantly lower the weed density in the field.

#### Harmful effects of Pesticides

Pesticides are poisonous chemicals that are used to destroy pests. Fungicides, herbicides, and insecticides are examples of pesticides.

The following are the long-term negative impacts of pesticides on soil:

- i. Pesticides can destroy and harm the ecosystem of microorganisms that live in the soil, especially when these chemicals are abused or misused, resulting in chemical compounds building up in the soil. The permanence, concentration, and toxicity of the applied pesticide, as well as different environmental factors, influence the effect of pesticides on soil microorganisms.
- ii. The metabolic processes of nutrient cycling can be disrupted by long-term pesticide use.
- iii. Many pesticide compounds are persistent soil pollutants, meaning their effects can last for decades and have a negative influence on soil conservation.

Dr. Jatinder Singh from Department of Science visit a pesticides stores and suggest them not to sale hazardous or poisonous pesticides (e.g DDT, BHC, Aldrin, Endosulphane *etc.*) if farmers demands suggest them to use natural pesticides so that it may not cause harm to human health and environment. Dr. Jatinder Singh awares salesman and farmers for not using excess of pesticides in their farms as it cause harm to living beings. No doubt, the pesticides improve the crop productivity in agricultural land as well as promote the faster growth to plants, thus improve the economy, and satisfy the demands but, on dark side, the higher exposure of pesticides may influence abiotic and biotic factors. The soil quality, water purity, air quality all is dealt with it as biomagnification. Some pesticides are mutagenic and carcinogenic for plants (tumor formation) as well human. Dr. Jatinder Singh suggests them that eco-friendly pesticides shall be modified which may better serve to environment and significant for all human beings like Neem oil, citrus oil, mineral oil, Eucalyptus oil, onion and garlic spray, Chrysanthemum flower tea, chile pepper are also eco-friendly pesticides.

3. The realistic prospect of improving soil health with the introduction of bio-manure, and climate-friendly and cost-effective fuel for automotive, industrial and commercial consumers.



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#### On March 28, 2024

Awareness campaign were conducted for the elimination of single-use plastic, Save Fuel Save Energy, E-Waste reduce, Waste management, Save Water and Sustainable food system adopted in GHS Kotra, Lehal, District Sangrur, Block Lehragaga, Physical Chemistry Lab, Guru Nanak College, Budhlada, Guru Tegh Bahadur College for Women, Lehal Khurd, District Sangrur. The event was aimed at raising awareness about the detrimental effects of single-use plastics on the environment and human health, save energy to save fuel, how to manage waste and adopt sustainable food system. Participants actively pledged to reduce their usage of plastic items, opting for eco-friendly alternatives and advocating for sustainable practices in their communities. The impact of this activity was profound, sparking a ripple effect of change as participants



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shared Their newfound knowledge and commitment with their peers, families, and social networks. The campaign not only fostered a sense of responsibility towards the planet but also empowered individuals to take tangible steps towards a greener future. Through collaborative efforts and collective action, Guru Nanak College Budhlada campus emerged as a beacon of environmental stewardship, inspiring others to join the movement and collectively say no to single-use plastics. The success of this campaign underscores the power of education and grassroots activism in addressing pressing environmental challenges and fostering a culture of sustainability.





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#### **Outcomes of Event:**

The Project provided skill development and awareness to the students, teachers, youth, farmers, general public, members of society, of the above-mentioned district with focus on the conservation of water, air and soil pollution, protection of environment by developing ecofriendly handicraft items that may help replacing the single use plastic and adopting healthy and natural lifestyles. The project should also provided inculcating interest and awareness among youth for scientific ways to conserve their localities and shall work towards developing collaboration among students of different schools, farmers, women groups and the youth of different colleges.

The expected outcome of the events included training of teachers, students and all other stakeholders to understand the environment related problems as well as utilizing the potential of these young minds towards channelizing awareness campaigns for society at large and to then think of solutions to combat the environmental pollution, thereby generating sustainable livelihoods. Moreover, these events will facilitate children's participation in decision making in areas related to environment and development. Children and young minds from schools, Colleges will acquire training for upkeeping of healthy environment around them that will help them to, know their rights, articulate their concerns and develop self-confidence.

The action components enhanced the ability of participating groups to think innovative ideas of handicrafts development, market linkages and to take on responsibility for self, build relationships with others in the society and contribute towards better surroundings thereby contributing in nation building.

The learning of teachers, children along with peer group would provide fun and establish a positive impact on their local community. Last but not least, participants will be provided opportunities to think critically and solve problems logically which will directly or indirectly generate new idea towards creating better environments and even generating alternate livelihoods. Involvement of all stakeholders,



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particularly teachers, and community would sensitize them to the needs and concerns of children and young people so as to respond to them in positive ways.