

Swachhata Action Taken Report

[Quarter I : July - September 2018]



Mehr Chand Mahajan DAV College for Women

Sector 36- A, Chandigarh (U.T.)

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Hanging Planters from used tyres



As a part of innovative practices under the Swachhata Mission, the Department of Botany reused old discarded tyres to prepare hanging planters. A step towards generating best out of waste and adding to the greenery of the forest while making most of the space available, discarded tyres were painted and then prepared for planting. Plants like *WadeldiaChinensis* (Osbeck) Merr., *TradiscantiaPallida* (Rose) D.R.Hunt, *Asparagus densiflorus* (kunth) Jessop were planted in these tyres and hung in the Artificial Forest of the college, thereby adding to the greenery as well as aesthetics of the area.

New Plantation in the Campus

With an aim of increasing the green cover of the campus and preserving nature, Rishi Vatika, Botanical Garden and Artificial Forest areas of the college were planted with new plants. The detail of new plantation is as follows:

Rishi Vatika

1. *Chrysanthemum*: 40 double and 10 single
2. *Quisqualis* (Madhumatti): 8
3. *Duranta*: 100
4. *Hamelia*: 150
5. *Kochia*: 25
6. *Celosia*: 25
7. *Zinnia*: 150
8. *Carthamusrosea*: 25



Botanical Garden

1. *Celosia*: 50
2. Seeds of *Solanum melongena* (Brinjal), *Momordica charantia* (bitter gourd) and *Cucurbita pepo* (pumpkin)
3. *Zinnia*: 30
4. *Chrysanthemum*: 40 double and 20 single

Artificial Forest

1. *Costus igneus* (Insulin): 5
2. *Prunus persica* (Nashpati): 2
3. *Tinospora cordifolia* (Giloy): 4
4. *Withania somnifera* (Ashwagandha): 3
5. *Rosa indica* (Rose): 5
6. *Emblica officinalis* (Amla): 4
7. *Lagerstroemia* (Crape myrtle): 5
8. *Thevetia* (Kaner): 15
9. *Caesalpinia* (Gulmohari): 5
10. *Bauhinia variegata* (Kachnar): 5
11. *Cestrum nocturnum* (Raatrani): 10
12. *Sapindus mukorossi* (Reetha): 1
13. *Psidium guajava* (Guava): 3
14. *Cassia glauca*: 2
15. *Murraya koenigii* (curry tree): 5
16. *Artocarpus lakoocha* (Dheu): 1
17. *Justicia adhatoda* (Vasaka): 1
18. *Nyctanthes* (Harshingar): 2
19. *Cordia myxa* (Lasura): 1



'OM' Plant Formation in Rishi Vatika

Rishi Vatika is the meditating area of the college wherein students can experience oneness with nature, away from the hustle and bustle of this otherwise lively institution. Keeping in mind the tradition of AryaSamaj, the Department of Botany created an OM formation from plants in the Rishi Vatika. Created from air purifying plants



including *Alternanthera*, *Hamelia* and *Duranta*, this formation not only symbolizes the great values for which AryaSamaj stands but it further adds to the peace and tranquility of this area.

Workshops on Green Chemistry and Nano-Sciences

The Department of Chemistry has addressed issues regarding the rising environmental pollution and how Green Chemistry and Nano-Sciences have come forward as an aid for the environmental remediation. Both the technologies can help in the attainment of sustainable development without causing damage to the environment. We introduced the overarching goals of green chemistry-namely, more resource-efficient and inherently safer design of molecules, materials, products and processes that can be pursued in a wide range of contexts to our students. Concepts of Nano-Sciences were introduced through workshops and hands on training.

Activity: Detailed classroom discussions were carried on how different organic and inorganic pollutants present in the underground water, rivers and the surrounding eco-system cause significant damage to planet earth. For addressing the hazardous environmental concerns, detailed discussions on different methods of utilization of household waste materials were held. A practical demonstration on the application of household waste as raw material was carried out for the fabrication of bioplastics, as a safer alternate to the current synthetic plastic materials (non-biodegradable).



Figure I: Bioplastics prepared as classroom project

Result: Students prepared these bioplastics from corn starch and potatoes. These plastic materials showed excellent strength and stretching properties. The products are economical, easy to prepare and free of any kind of harmful pollutants. The students were encouraged to use these environment friendly products and also educate others about the importance of preserving our environment for today and for tomorrow.

5. Functioning of Biogas Plant and Composting Units

The college is a pioneer in installation of Biogas Plant within its campus that utilizes mess food waste for production of biogas. The functioning of the plant is monitored on daily basis. Food waste (around 70 Kg) generated in the college mess and food courts is collected daily in bins and added to the mixing tank of the biogas plant. The food waste is homogenized using the manual agitator in the mixing tank. Feeding of the waste to the digester is done by opening the hole at the bottom of the mixing tank. The digestion is a continuous process.



Feeding of Digester with Food waste

The spent slurry coming out of digester is continuously fed to the attached composting units to accelerate the composting process. The gas, thus generated is being utilized efficiently in the college canteen for cooking purpose. Besides, the green waste in the form of grass and fallen leaves generated in college lawns/garden is continuously dumped in the composting units for degradation process. Microbial consortia in the biogas digester is maintained by adding cow-dung in the digester once in every six months. Slurry thus obtained from biogas plant has been used for hastening the composting process.

Further, mixing of compost in the compost pits within the campus is being done on daily basis. For the above said processes, log book has been maintained by team members on daily basis. Also, the biogas plant along with the composting units were cleaned and painted as part of its maintenance.



Cultivation of Oyster Mushroom in Used Plastic Bottles

Under the initiative of adopting modern and scientific solid waste management practices to make MCM a zero-waste zone, B.Sc. (MFT) students and faculty of the Department of Food Science optimized and successfully cultivated highly nutritional variety of edible mushrooms referred to as “Oyster mushroom” scientifically called “*Pleurotusostreatus*” using combination of agricultural and domestic waste during the session 2017-18. Also, the students were able to generate their own in-house spawn for this mushroom variety.



Taking this initiative to next level, as part of research projects of BSc.(MFT)-III year students, Oyster mushrooms were cultivated in **used plastic bottles** collected from college campus by the students. The process included: **a)** Collection of used thrown

away plastic bottle (Bisleri, Coke, Fanta Bottles etc.), **b)** Cleaning and disinfection of the bottles, **c)** Soaking of solid waste (Wheat straw, juice leftover, peels etc.), **d)** Packing of bottles and spawn layering, **e)** Mycelial growth run in bottles, **f)** Pinning and final harvesting of mushrooms.

In addition to this, students have started the process of mushroom fortification. India is home to 197 million undernourished people with majority of children (4 out of 10 children) being stunted and 51.4% of women anemic. Food fortification is the process of enhancing the nutritional content of any food by adding essential nutrients. Since, Oyster mushroom are themselves highly nutritious, they can serve as an ideal and cheap fortified food to the target population. With this aim, our next research project has already started, aimed at producing **Bio-fortified Oyster mushrooms** rich in essential nutrients such as Zinc, Potassium and Magnesium. For this, we shall be using fruit peels and mixing it with wheat straw in different ratios. Increase in levels of these nutrients will be monitored to optimize the growth conditions.



Collection of waste plastic bottles



Cleaning and disinfection process



Mushroom Pinning started



Autoclaving



Spawn added and packing of bottles



Wheat straw soaked and dried

Competitions on 'Swachh Bharat Swasth Bharat'

With the aim of raising awareness about cleanliness and inculcating a sense of responsibility among youth to work towards realizing the dream of a clean and green nation, the Sanskrit Department of MCM DAV organized various competitions. Students enthusiastically participated in Slogan writing, Poster making and Bookmark making competitions on the theme- 'Swachh Bharat Swasth Bharat'



SwachhataPakhwada

Starting the new session with a momentum, MCM kicked off fortnight long activities under SwachhataPakhwada towards promoting Swachh Bharat Abhiyan. The NSS unit of the college organized following activities under SwachhataPakhwada:

Swachh Bharat Pledge

On 1st August 2018, at an event organized by the NSS unit of the college, Swachh Bharat pledge was administered to more than 250 students and faculty members. Students pledged towards devoting at-least 100 hours per year of voluntary work for cleanliness.



Lecture on Swachhata and Sustainable Development

On the inaugural day of the Pakhwada, the NSS unit of the college organized a highly informative lecture on 'Swachhata and Sustainable Development'. The lecture was delivered by Dr. Suman Mor, Department of Environmental Studies and Coordinator, Centre for Public Health, Panjab University.



Apprising the students about the various Swachh Bharat initiatives and their importance in conserving environment and promoting sustainability, Dr. Mor motivated the students to not only adopt a proactive approach towards environmental conservation themselves but also to sensitize others to make cleanliness a habit. Dr. Mor also made the students aware of different techniques to reduce waste generation like optimum utilization of water and paper, recycling and replacement of plastic bags with jute bags.

Speaking at the occasion, Principal of the college, Dr. Nisha Bhargava exhorted students to make cleanliness part of their lives and also asked the students to make their family members, friends, neighbours part of the mission. Regarding the importance of segregation of waste at source she said, "Appropriate



segregation of waste at source is essential for making India– Swachh Bharat. Let's take the pledge to segregate any waste in two dustbins - wet waste in Green and dry waste in Blue." She added that the college is planning to implement waste segregation under Swachh Bharat in all hostels, cafeteria and other areas." She reiterated that the endeavours under the Swachh Bharat Abhiyan have been instrumental in bringing about behavioural change towards cleanliness – a concept that has evolved into a wider phenomenon encompassing sustainable development and environmental conservation.

Tree Plantation Drive

The NSS unit of the college organized a Tree Plantation Drive under the SwachhtaPakhwada initiative. The drive witnessed participation of 70 NSS volunteers. Over 50 saplings of medicinal plants were planted on the campus. The students of B. Sc. 3rd year helped the NSS volunteers in planting of saplings of medicinal plants



such as *Catharanthus rosea* (Sadabahar), *Citronella cymbopogon*, *Wedeliachinensis*. Principal Dr. Nisha Bhargava said such endeavors were a reflection of college's commitment towards making Swachh Bharat a reality.

Cleanliness Drives (4th-9th August)

Reaffirming its commitment towards the furtherance of the objective of Swachh Bharat Abhiyan, the NSS unit of the college organized Cleanliness Drive as part of SwachhataPakhwada- a fortnight of activities revolving around the Abhiyan. Along with the NSS volunteers, students of different faculties also enthusiastically



participated in these drives. The drive was conducted in the college and aimed at generating awareness about the mission and bringing about behavioural change towards cleanliness. The NSS volunteers carried out cleaning of different areas of the campus, including classrooms, laboratories and gardens. A "Go Clean" drive was undertaken by students of Home Science in the Clothing and Textile Lab wherein all the machines were oiled and serviced properly. Students also cleaned the notice boards and removed old notices. The charts and models in the lab were carefully cleaned to avoid any unwanted alteration.

NSS Volunteers on the swachhata mission



Lecture on Solutions for Social Problems

Continuing its efforts towards creating mass awareness among students regarding Swachh Bharat Abhiyan, a lecture on 'Solutions for Social Problems' was held. Conducted under SwachhtaPakhwada, the lecture was delivered by social entrepreneur Mr. Varun Kashyap, Co-founder, Lets



Endorse. Advising the students against reinventing the wheel, Mr. Kashyap stressed upon the need to adopt an out-of-the box approach in finding solutions to the long-standing social problems ailing our society. He encouraged the volunteers to come up with innovative solutions for various social issues like water sanitation, improvement of the condition of aanganwadis, etc. More than 250 students and NSS volunteers attended the lecture.

Survey and Awareness Drive in Adopted Village Badheri

With an aim to spread awareness about cleanliness, the NSS unit of the college visited its adopted village Badheri on 11th August 2018. A survey was conducted by the volunteers. Women, children and senior citizens were made aware about the importance of cleanliness in the surroundings. The volunteers also interacted with the youth of the village. Key points discussed during this interaction included, vector borne diseases, clean toilets, safe drinking water, garbage segregation at source, use of eco-friendly ways to manage waste, personal hygiene, stagnant water, mosquito breeding and associated problems and clean roads. The volunteers interacted with residents and educated them about following -

- Cleanliness in and around houses
- Washing hands before cooking and eating food
- Using toilets
- Dumping waste in MC specified locations
- Washing and boiling feeding bottles for babies.
- Using safe drinking water for health



WASTE SEGREGATION:

Waste segregation at source into dry waste and wet waste is very important step in maintaining a zero waste zone. This concept has been regularly followed at the college campus. To initiate it further, all the dustbins of the college campus (including hostel area) were permanently labeled (by paint)



depicted wet and dry waste on them as shown in picture. Also, few additional dustbins of green and blue color were procured and placed at suitable positions covering all the areas of the college (teaching blocks, canteen area, grounds, washrooms, hostel area, administrative areas etc.).



Lecture and Workshop on Nanotechnology

The Postgraduate Department of Chemistry at MCM DAV College for Women organised a lecture-cum-workshop on Nanoscience, Nanotechnology and its Environmental Applications. The resource person for the same was Prof. Ahmad Umar- an internationally acclaimed academician with proven knowledge and expertise in nanoscience and nanotechnology. Dr.Umar is presently Deputy Director, Promising Centre for Sensors and Electronic Devices (PCSED), Najran University, Saudi Arabia. Over 40 students enthusiastically participated in the workshop during which they received hands on training in the preparation of nanoparticles.



Result: Students were explained the method of preparation of Zinc nano-particles. Simple laboratory methods were followed to prepare it. Later students followed the formation spectrophotometrically.

PoshanMaah

Under PoshanAbhiyan, the month of September was celebrated as RashtriyaPoshanMaah (Nutrition Month) across the country to address the malnutrition challenges and sensitize our countrymen regarding the importance of holistic nutrition. PoshanMaah aimed at making people aware of the importance of nutrition and giving the individual access to government services to support nutrition for their children and pregnant women/lactating mothers. PoshanMaah was observed with the aim of reaching every household with the message of nutrition— '*hargharposhantyohar*' (every house a celebration of nutrition). The month-long intensive campaign aimed at promoting antenatal care, breastfeeding, fight anemia, and improving nourishment for kids, pregnant women, and lactating mothers. Its vision is to build a malnutrition free nation by 2022.

The youth are the change agents of the society and it is pivotal that the message of nutrition percolates through them in every strata of society. The NSS volunteers of MCM DAV College took the onus to convey messages about the importance of nutrition for girls and the right age for marriage, the importance of growth monitoring and also promote hygiene and sanitation to the local village residents surrounding Chandigarh. The entire range of nutrition themes were exhibited and showcased in the form of melas, rallies, interactive campaigns, etc.

Health and hygiene are the two sides of the same coin. In the month of September 2018, NSS unit of MCM DAV College conducted social outreach activities, keeping in mind both these themes. As per the directions from NSS Office, September 2018 was to be observed a 'PoshanMaah' i.e. 'Nutrition Month' and from 22nd September to 1st October "*Swachhata Hi Sewa*" activities were to be undertaken. Sensing the interlinkage of both nutrition and cleanliness, MCM NSS volunteers undertook various activities throughout the month.

Lecture on Nutrition at Badheri

To provide information to women regarding the importance of nutrition for health and a better living, 50 NSS volunteers along with 2 faculty members visited the adopted village Badheri on 1st September, 2018. While observing Nutrition Month 2018, a

special lecture and awareness program on “Health and Nutrition Awareness” was organized by the NSS Unit along with Women Development Cell of MCM DAV College. Their basic objective has been to intensify the awareness among women about the nutritional diet. A lecture cum demonstration on low cost



healthy nutritious recipes was organized for village women, aanganwadi workers and helpers. The lecture was delivered by Dietician Sonia Gandhi of Fortis Hospital, Mohali. It was an informational lecture where the women learnt about how their families will suffer if healthy diet is not followed. They were taught to make healthy dishes like salads, sprouts, etc. The total number of beneficiaries was around 100.

Flash Mobs

Two Flash Mobs were organized by the NSS Unit of the college to promote the ongoing theme of ‘Poshan Maah’ on 27th September 2018 wherein 50 NSS volunteers participated and another on 30th September 2018 wherein 70 NSS volunteers participated. Both the flash mobs were organised in the Sector 17 Plaza with the main aim of generating



awareness about the importance of nutrition. Informative pamphlets related to benefits of nutrition were also distributed after the flash mob.

Open Eye Foundation Camp

Open Eye Foundation, an NGO, in collaboration with NSS Units of the college put up a canopy at college campus on 26th and 27th September 2018. Through this venture, they encouraged the students of MCM to contribute their old books, stationary and clothes to the needy with the help of this foundation.

Saarathi Project

SAARTHI, which literally means someone who guides, is a joint initiative by the Chandigarh Red Cross Society and Chandigarh NSS Cell with an aim to provide service to the patients and their attendants at PGIMER.

The volunteer support group formed for the purpose would offer all kinds of help, guidance and support to needy patients and their attendants visiting the new OPD Block of the PGI. From helping, guiding and supporting them to reach the right department for treatment, they would also provide physical help by lifting patients, moving their trolleys/wheelchairs in the case of need. Amongst various challenges of hospitals, helping and assisting patients and their attendants remain a key challenge. SAARTHI not only represents the social face of Chandigarh Administration but also its endeavor to feel the pulse of patients in hospitals.



More than 300 volunteers from various educational institutes of Chandigarh took up the initiative to help the sick patients and their families in the Out Patient Department's Help Desk. The duty required to assist the staff and guiding patients so that they reach appropriate departments for treatment. From MCM DAV College for Women, 7 NSS students took up the task. The duties were given out to each volunteer after a gap of 20 days and were required to work for at least 4 hours. There were two shifts for the same 8 a.m. to 12 p.m. and from 12 p.m. to 4 p.m. Before the commencement of duties, a small induction was given to all so as to get familiar with various



departments at PGI OPD. PGI is an enormous institute and one cannot know about it all in 2-3 days, thus volunteers did face difficulty in the beginning due to lack of proper training and a long time gap between two shifts, but with time and guidance from the staff, they were able to perform better. Being a part of SAARTHI brought a sense of responsibility and enhanced communication skills. Volunteers learned the importance of being considerate, reliable, accurate and tolerant and also developed commiseration and fellow feeling which further helps in understanding the society in a better way and becoming a good human being and a virtuous citizen.

Workshop on Poshan Abhiyan

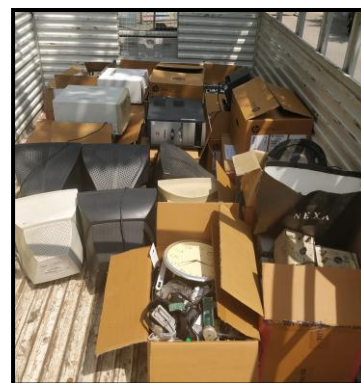
A State level Workshop on Poshan Abhiyan was organized by the Department of Social Welfare in convergence with the Line Departments as part of the Rashtriya Poshan Maah Celebration at PGI, Chandigarh on 28th September 2018. 25 NSS Volunteers and 2 Faculty members of the college participated in this workshop. Hon'ble



Governor of Punjab and Administrator U.T. Chandigarh Sh. V.P. Singh Badnore graced the event as Chief Guest and Sh. Parimal Rai, IAS, Adviser to the Administrator, UT Chandigarh was the Guest Of Honour. During this event a video themed "The Glimpse of POSHAN Journey" was shown, followed by taking a Poshan pledge and the book named "Suposhan" – a handbook on Nutrition and Low Cost Healthy Food Recipes, compiled by Director Social Welfare, Chandigarh Administration and Govt. Home Science College, Chandigarh.

E-Waste Management

An agreement has been signed with Ramky Enviro Engineers Ltd. (Local office at Nimbua Greenfield (Punjab) Limited, Village Nimbua Tehsil - Derabassi, Punjab) for management of e-waste. A total of 345 kg of e-waste collected from college, students and faculty members was sent to the office of Nimbua Greenfield (Punjab) Limited, Village Nimbua Tehsil - Derabassi, Punjab on 14.09.2018.



Knowing your plants

On the occasion of Shramdan Diwas on 15.9.2018, students of B.Sc. III (Medical) contributed towards the cause of Swachhata by placing name plates of plants bearing scientific name, common name and family of different plants in Rishi Vatika. In this innovative process, they gathered knowledge about various medicinal plants grown in Rishi Vatika.



Educational visit to Central Poultry Development Organization

During the last several decades, the environmental impact of the poultry production has received an ever-growing attention. Nowadays, producers are under heavy pressure to minimize the impact of their production on the environment and to adopt welfare friendly practices. With an aim to sensitize students about the above issues, department of Zoology organized an industrial cum educational tour of B.Sc. Medical (Semester-VI) students to Central Poultry Development Organization (Northern Region), Chandigarh on 28.09.2018. Dr. Vineet Kumar, the farm Manager briefed the students about strict bio-security precautions taken to prevent poultry diseases. He further discussed that the magnitude of environmental impacts is highly dependent on production practices and especially on manure management practices. Dr. Vineet motivated students to find out practical solutions to control the environmental effects mentioned above.



Swachhata Hi Seva

In the run-up to the 4th anniversary of the Swachh Bharat Mission, the Ministry of Drinking Water and Sanitation and Ministry of Human Resource Development, Government of India urged various stakeholders to observe Swachhata Hi Seva- a jan andolan for Swachhata from September 15th to October 2nd 2018. MCM DAV organized various activities under this movement:

Wall Painting on Swachhata Theme

A painting was made reflecting the theme of Cleanliness and its importance towards nation building by 10 NSS volunteers along with the 5 students of Fine Arts Department of MCM DAV College. The painting is located at a central place in the college campus on one of the corridor walls of academic block of the college. The wall painting is attracting lot of attention of students and staff members crossing the corridor because of its aesthetics and central location. The painting aims to reiterate the significance of Swachhata in the mind of onlookers.



Cleanliness Drives in Adopted Village

Cleanliness drives were organized in the adopted village Badheri by the NSS volunteers of the college. The main objective of these drives was to generate awareness among the villagers regarding cleanliness and hygiene. The drives were conducted in the dispensary and aanganwadi of the village. Medicines were checked for the expiry date. 14 NSS volunteers took part in the activity along with 2 faculty members. Total numbers of beneficiaries were 60-70. The drive include

- Cleanliness of the campus and storeroom
- Filling of ditches with mud
- Preventive measures against malaria and dengue were discussed with them
- They were taught about how to take care of general hygiene



Many people, especially females were made aware about the reasons for infections they were suffering and were motivated for cleanliness.

CLEANING OF CANTEEN AREA:

College canteen is a source of food supply to the students, staff and maintenance of its hygiene is of utmost importance. Storage conditions, raw food materials used, cleaning of kitchen area and utensils, disposal of waste food etc. are some parameters that need regular checking and maintenance. As part of clean and green initiative under Swatchh Abhiyaan, faculty and student volunteers of the department participated full throttle into the cleaning of the College canteen. A check list was prepared and worked upon with special emphasis on storage conditions, cleaning of utensils, regular mopping and cleaning of floors and shelves before and after use, waste disposal of left over food.

Points covered under checklist:

1. Cleaning of Fridge, cupboards and microwave.
2. Expiry date on all food items.
3. Cleaning of all raw vegetable crates.
4. Checking of cleanliness of aprons and usage of headgears and gloves.
5. Use of disinfectant for cleaning shelves of cooking area.
6. No junk food.
7. Paint work

Also, the old menu showing the sale of junk food was changed and a new menu logo was put up in the canteen only depicting healthy food.



South Indian			
Vada	40.00	Rajmah Rice	90.00
Idli	40.00	Channa Rice	90.00
Plain Dosa	50.00	Kadahl Rice	90.00
Masala Dosa	60.00	Fried Rice with Manchurian	100.00
		Fried Rice with Chilly Paneer	100.00
		Atta Noodles with Manchurian	100.00
		Channa Poori	90.00
		Pao Bhaji	90.00
ALL ATTA BAKERY			
Veg Burger	30.00		
Veg Hot Dog	30.00	Beverages	
Veg Grilled Sandwich	50.00	Minute Maid Juice	20.00
Veg Cold Sandwich	30.00	Mineral Water	20.00
Bread Pakora	10.00	Cold Coffee	40.00
Mix Pakora (per plate)	50.00	Oreo Shake	40.00
		Tea	10.00
		Coffee	20.00
Honey Cauli Flower	50.00		
Honey Potato	50.00		
Veg Spring Roll	50.00		
Chilly Paneer	100.00		
Chilly Mushroom	100.00		
Veg. Manchurian	90.00		