



7.1.2

1. ALTERNATIVE SOURCE OF ENERGY

Various efforts have been taken by the college to utilize energy sources in an effective way based on its unique infrastructure. It mainly includes the provision of On-grid tied solar rooftop power plants in the main college building which can produce an average solar energy of 3 KWP. A Solar Water Heating system has been installed at the top floor of the Girls Hostel through two (1500 LPD+500 LPD) evacuated tubes for hot water in the hostel.

Efforts towards reducing energy consumptions are-

- Spacious and well ventilated rooms to allow ample daylight and air.
- Students made aware of proper use of electrical lights and fans and switched these off when required.
- Low energy LED bulbs used.
- In the air-conditioned rooms, doors and windows have tight seals to prevent wastage. The doors of the air conditioned rooms are attached with elbow hinges to minimize leakage.
- Printers, copiers, laptops and desktop computers turned off or put into sleep mode when not in use.
- Equipment checked regularly for proper operation and maintenance.

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2. MANAGEMENT OF BIODEGRADABLE & NON-BIODEGRADABLE WASTES

Wastes are substances that have no use. These are, in fact, unwanted materials which become unusable materials after use. Wastes that we see in our surroundings is also known as garbage. According to nature, wastes may be classified as Biodegradable waste & Non-biodegradable waste.

Biodegradable wastes come from our kitchen and it includes food remains, garden waste, etc. These types of wastes decompose themselves over a period of time depending on the material. This can be composted to obtain manure.

Non-biodegradable wastes include old newspapers, broken glass pieces, plastics, etc. These wastes do not decompose by themselves and hence they are major pollutants.

Management of both types of wastes is necessary for the sustainability of our environment. In our college premises both types of wastes are generated. Non-biodegradable wastes are



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dumped separately so that municipalities can collect these easily and clean the environment. On the other hand, the Biodegradable wastes are recycled, and decomposed to get manure. These types of wastes are managed through these processes :

- **Recycling of Waste** - Recycling of waste products is very important as this process helps in processing waste or used products into useful or new products. There are a number of items that can be recycled like paper, plastic, glass, etc. Recycling helps in conserving natural resources and also helps in conserving energy. Recycling helps in protecting the environment as it helps in reducing air, water, and soil pollution.
- **Composting** - In this process wastes are decomposed by the action of bacteria and fungi and converted into organic matter by burying them in the compost pits.
- **Vermicomposting** - This method involves decomposition of organic matter into fertile manure with the help of red worms. This manure is known as vermicompost which is used for growing many agricultural crops.

- **E-Waste Management at RKSMVV.**

- **List of E-wastes at RKSMVV**

- LCD monitors, smart displays.
- Laptops with LCD monitors.
- LED desktop monitors, laptops.
- Computers, computer monitors, and printers.
- Xerox machine, printer.

- **Objectives of e-waste management**

The major objective of e-waste management is to reduce, reuse, and recycle. Some of the e-waste consists of valuable covering or materials inside which can be reused or recycled. Whereas some of the e-waste may contain hazardous chemical materials which should be disposed of carefully without causing harm to nature.

Electronic waste contains hazardous materials such as lead, mercury, cadmium and various other toxic substances. If not managed properly, these substances can contaminate soil, water and air, posing a serious threat to human health and ecosystems.

- **Process of disposal of e-waste :**

- **Collection** - Collecting electronic items via recycling bins, take-back programs, collection locations, or on-demand collection services is the first step in the e-waste recycling process.

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- Storage.
- Sorting, dismantling, and shredding by hand.
- Separation by mechanical means.
- Recovery.

At RKSMVV e-wastes are dumped at a particular place and, thereafter, these are collected by VITAL WASTE (Recycling and Waste Management Company). In the year 2023, on April 19, they collected 533.30 kgs of e-waste for recycling.

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3. WATER CONSERVATION :

Water scarcity is a growing concern, especially in places like West Bengal where the groundwater levels have alarmingly decreased in recent years. In such a scenario, the College is committed to this objective and maintains an eco-friendly green campus to inculcate the idea of sustainable development in the minds of the youth. The institution has worked on it and became a role model for the neighboring communities. The presence of a large number of indigenous trees and 37 species of medicinal plants, water conservation by rainwater harvesting, usage of renewable sources of energy like solar energy and water recycling are some of the highlights of the same.

The only solution for the growing water scarcity situation is water conservation. It is taken care of at different levels at the College, from rainwater harvesting, tree plantation to recycling water.

- RAIN WATER HARVESTING:

Rainwater harvesting means capturing rain where it falls or capturing the runoff of rainwater in your own premises. Rainwater harvesting system, also called rainwater collection system or rainwater catchment system, technology that collects and stores rainwater for further use. Realizing that rainwater harvesting is imperative for the future water needs of the campus, RKSMVV College has set up rainwater harvesting units within the College campus, which has the total storage capacity of up to 1000 litres. Awareness programmes on water conservation and rainwater harvesting have been conducted regularly through various services of the College.

- CONSTRUCTION OF TANKS :

As the water crisis continues to become severe, there is a dire need of reform in the water management system and revival of traditional systems. As a part of revival to traditional wisdom, the institution built two rainwater storage tanks, to collect the rainwater and can be

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used whenever it is required. Two overhead tanks are installed in the new college Building (Nibedita Bhavan) at the rooftop level with a capacity of 1000 litres. The conserved rainwater serves as a secondary source of water. The College adapted several rainwater harvesting methods like rainwater from the roofs channelled through the rain water pipes in the several ponds within the campus.

- WASTE WATER RECYCLING:

Waste water management has been critical towards our sustainability models for reducing and reusing water at our campuses. The wastewater after treatment is proposed to be utilised effectively for gardening purposes. Waste Water Recycling process facilitates the treatment of existing contaminants in the water or reduces the concentration of such contaminants so that the water becomes fit for the desired use. Harvested rainwater is filtered through several layers of natural filters fixed across the inlet to the storage system and is cleaned on a regular basis. The rainwater set-up units satiate the requirements of water for the entire College. A large open area comprising the College Ground and gardens allow the seepage of rainwater, thus recharging the water table.

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4. GREEN CAMPUS INITIATIVES OF RKSMVV

A Green Campus is a place where environmentally friendly practices are done to promote a sustainable and eco-friendly environment in the campus. This Program enables us to conserve natural resources, optimize energy efficiency, manage waste and educate about climate change and sustainability while addressing the well-being of the students as compared to conventional educational institutes.

RKSMVV is well equipped with various types of flora species. To create and maintain a green and eco-friendly campus, RKSMVV appealed to the Secretary of West Bengal Biodiversity Board to help us to create a serene academic environment and also to enhance environmental consciousness among our students. RKSMVV Campus nourishes more than 700 trees of different species of plants, shrubs etc. The West Bengal Biodiversity Board was requested to help us in marking the trees with separate identification tags and also in creating a medicinal plant garden within the campus. They are requested to visit our campus on 09.03.2023.

i) Supervision of Govt. Biodiversity Board on 09.03.2023

Dr. Anirban Roy, Research Officer of the West Bengal Biodiversity Board, visited our college on 09.03.2023. He made an inspection throughout the college campus and identified more than 65 different flora species.

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ii) Tagging and identifying trees under the guidance of WB Biodiversity Board_21.3.23

A number of students along with the teachers of the Garden Committee of RKSMVV performed this work. Bengali name of the species, their scientific name are noted and also the family in which they belong to. The number of trees of each species are marked with the letter 'A', 'B', 'C', 'D' etc. and with white and brown paint by the students of the Department of Geography and member students of the Garden committee. It took four days to complete the work.

iii) Measurement of trees

The height of the trees, their canopy area and also diameter are measured and recorded. A number of medicinal plants are also there at the campus. The location of each tree is determined by their latitude and longitude which are collected with the help of GPS Map Camera. Moreover, each tree is given a name-plate in Bengali, including their scientific names and medicinal uses. The entire work is performed under supervision of Dr. Anirban Roy, Research Officer of WB Biodiversity Board.

The measurement is done in this following way :

| Tree No | Bengali name of the species | Scientific Name | Family | Medicinal Use Of The Tree | No. Of The Species | Diameter Of The Tree | Canopy Area | Height Of The Tree | Latitude | Longitude |
|---------|-----------------------------|---|-------------|---|--------------------|----------------------|--------------|--------------------|---------------|---------------|
| 1 | কুর্চি গাছ - Kurchi | <i>Holarrhena pubescens</i> Wall. & G.Don | Apocynaceae | Antydysentric, Antidiarrhoea, febrifuge | --- | 6.0 mt | 70.15 mt | 12.3 mt | 22.6131 67 | 88.4092 43 |
| 2 | কদম - Kadam | <i>Neolamarckia cadamba</i> (Roxb.) Bossner | Rubiaceae | Stomachic, febrifuge | A | 5.5 mt | 121.20 mt | 15.2 mt | 22.6134 09 | 88.4095 7 |

iv) Initiative of Medicinal / Herbal Plant Garden

RKSMVV has taken an initiative in planting different medicinal plants at the college campus in front of Swamiji Bhavan on 22.07.2023.

- **Brief description of the event :** 20 NSS volunteers of RKSMVV , in collaboration with IQAC and under supervision and guidance of Dr. Anirban Roy, Research Officer of West Bengal Biodiversity Board, has planted 8 kinds of medicinal plants in the college grounds. The names of the medicinal plants are Kulekhara, Bishalyakarani, Bhingraraj, Satamuli, Ayapan, Pipul, Brahmi and Aloe Vera. At present, there are 37 types of medicinal plants in this garden. This herbal garden was named "JIVAKA KANAN".

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- **Outcomes** : Planting medicinal plants can yield various positive outcomes. These plants often have therapeutic properties that can be utilized for natural remedies and traditional medicine. Cultivating them can contribute to biodiversity, support local ecosystems, and potentially provide sustainable sources for pharmaceuticals or herbal remedies. Additionally, it promotes environmental awareness and may have economic benefits for communities involved in harvesting and processing these plants.

v) NAIMISHARANYA PLANTATION AT RKSMVV ON 28.07.2023

- Name of the activity : Plantation of different flora species.
- Category : Afforestation Programme
- Organising unit : Ramakrishna Sarada Mission Vivekananda Vidyabhavan
- Date : 28.07.2023
- Time : 1:30 pm onwards
- Venue : RKSMVV campus (at the side of Bagjola Canal)
- Number of Participants : All faculties, staff and students of RKSMVV.
- Brief description of the event : Initially the program started with inaugural music. Then different trees and saplings were planted by our Principal, all faculties, staff and students from all departments. More than 989 saplings of 42 different flora species were planted, maintaining a certain distance among them. Three types of trees - tall-tree (11 species), sub tree (16 species) and small tree or Shrub (15 species) are closely planted for maintaining three different tiers of this forest. The entire programme was guided by Dr. Anirban Roy, the member of West Bengal Biodiversity Board. It was followed by a cultural program and ended after complete planting of those saplings at about 5 pm.
- **Programme Outcome** : The area of our college where the plantations are done is given the name 'NAIMISHARANYA' for the plantation and presence of different plant species. In fact, this project is entirely an 'Aranya Srijon Project' which may be called 'Urban Forestry'. Urban Forestry is the care and management of single trees and tree populations in urban settings for the purpose of improving the urban environment. It involves the cultivation, management and preservation of natural resources as well as trees and green spaces within the developed areas, like, cities, towns and urban areas. It involves the programming of care and maintenance operations of the urban forests and other natural systems for the health and well being of human society.

One of the primary benefits of urban Forestry is the positive impact it has on the environment. Trees in urban areas filter the contaminated air by absorbing pollutants and releasing oxygen and cooling the environment. It improves micro climate and protects and improves the quality of natural resources including soil, water, vegetation and wildlife. Urban forest also reduces the risk of flooding and promotes the restoration of groundwater. In addition to providing economic benefits at the

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community level trees also benefit individual homeowners. Urban forest also acts as a buffer to reduce noise pollution.

Thus, it can be said that this effort of creating and maintaining urban forests within our college premises will definitely have a profound ecological imprint in this urban area and it will also monitor the air quality of the surrounding area as well as increase the bio-capacity for the sustainability of the environment for future generations.

This urban forest has an immense role in providing space for the population of different faunal components - especially butterflies and other insects, birds, lizards and smaller mammals. The litter in the soil sustains the microbial diversity maintaining the biochemical cycle essential for the growth of this forest. This urban forest is not only conserving the indigenous plant and dependent species but also providing life saving Oxygen and mitigating air pollution.

vi) Workshop On Impact Assessment Of Urban Forestry On 22.09.2023

- **Name of the activity :** Workshop (An Impact Assessment Study)
- **Topic :** Rapid Change in Urban Landscape & Ecological Footprint - Urban Forestry as a Remedial Measure.
- **Time :** 1:30 pm - 2:30 pm
- **Venue :** AV Room, RKSMVV
- **Number of Resource Person/s :** 01
- **Name & Designation Of the Resource Person/s :** Dr. Sarmila Banerjee,
- **Number of Participants :** 08
- **Brief description of the event :**

The Environment Committee of RKSMVV had organised a Workshop on 'Rapid Change in Urban Landscape & Ecological Footprint - Urban Forestry as a Remedial Measure'. Environmental Activist Dr. Sarmila Banerjee delivered an exhaustive and informative lecture on the topic. The faculties of the Departments of Geography, Economics, Sociology and Psychology participated in this workshop.

- **Programme Outcome :**

Urban forestry is the process of managing trees and forest resources in and around community ecosystems for the psychological, sociological, aesthetic, economic, and environmental benefits that the trees provide to a society. An urban forest is defined as comprising all tree-dominated green areas in and around urban areas. Urban forestry includes attention to the form and function of urban forest resources, as well as policies, planning, and design policies related to these.

Forty two (42) plant species, (989) individuals with three types tall-tree (11 species), sub tree (16 species) and small tree or Shrub (15 species) are closely planted for maintaining three different tiers of this forest. This urban forest has an immense role in providing space for the population of different faunal components - especially butterflies and other insects, birds, lizards and smaller mammals. The litter in the soil

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sustains the microbial diversity maintaining the biochemical cycle essential for the growth of this forest. This urban forest is not only conserving the indigenous plant and dependent species but also providing life saving Oxygen and mitigating air pollution.

In the South DumDum Municipality area the urban landscape is gradually changing day by day. Construction of multi-storeyed flats, buildings, continuous deforestation etc are causing harm to this urban environment. Ramakrishna Sarada Mission Vivekananda Vidya Bhavan has taken a unique endeavour by creating an urban forest within its campus. It is a pioneering effort to promote environmental sustainability.

Dr. Banerjee explained elaborately about the concept of ecological footprint, the ways of calculation of ecological footprint and its impact on human development, and discussed the top most options for reducing carbon imprint. A discussion was also made regarding the socio-economic, aesthetic as well as environmental values of this urban forestry.

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5. DISABLED - FRIENDLY, BARRIER FREE ENVIRONMENT

Ramakrishna Sarada Mission Vivekananda Vidyabhavan is committed to provide an inclusive and barrier-free campus for all of its employees and students. The college is also very interested in the ongoing evaluation and advancement of its disabled pupils. It offers writers for students who need assistance with normal coursework and exams. Additionally, it wants to routinely host lectures and workshops to educate students about inclusivity and to raise awareness. The college plans to enhance and broaden its disability-focused programs in the upcoming years. Our college provides differently abled friendly restrooms carrying the fixtures and fittings that are comfortable and convenient to the differently abled people. Non Slip floor, sliding door and grab bars provide easy access to the differently abled people. Wheelchair users can move around effortlessly with the help of wide ramps, entrances, and paths. restrooms that are accessible. Easy-read written material: straightforward and basic messages backed by visuals. There are benches and stools available so anyone who has trouble walking can relax. There are many goals in place to make sure that the initiative protects the rights and dignity of those who are disabled.

Objectives :

- Encouraging equitable access for students with impairments
- Encouraging fair participation of people with disabilities in the institution's cultural and academic activities.
- Constructing infrastructure that is accessible to people with impairments, such as audio books, Braille readers, and restrooms with ramps.

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- Raising awareness among college students about the needs of people with disabilities.

Outcome of the Event : Our college provides a barrier-free environment where people with disabilities can move about safely and freely and use the facilities and take advantage of the amenities provided within the built environment. The setting encourages people to function independently so that they can take part in regular campus activities without help. Barrier-free architecture, environments, and transit networks are implemented. The college's facilities make an attempt to set up mobility training and familiarize people with disabilities with the campus and surrounding areas, including accessible parking and bus and car access.

Brief Report On Audio Book Project

Creating an audiobook for the visually challenged students is an innovative initiative by the alumni association this year (2022-2023). This year four blind girls enrolled in the college, and to support their studies, the alumni association partnered with the college. They took responsibility for arranging accommodation, covering transportation costs, and managing other necessary expenses. Considering the challenges of studying for the visually challenged students due to lack of braille books in the graduation program, the alumni association has taken the drive to convert ordinary books into audio books for them. Study materials were collected from regular students and the college office communicated this through a designated WhatsApp group for the audiobook initiative. Interested Alumni members record the materials on specified days and convert them into audio format. The alumni association ensured the provision of listening to the audio books through a computer software system for needy students.

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