CURAJ CAMPUS

APRIL 2013

ECO-FRIENDLY INITIATIVES

GREEN BUILDINGS

NURSERY

GREEN TRANSPORT

VERMICOMPOSTING

SEWAGE TREATMENT PLANT

CENTRAL UNIVERSITY OF RAJASTHAN

(Education for Sustainable Development)

From Vice Chancellor's Desk

A University is a seat for higher learning and research. But also, it must look to the problems and issues of the society and all stakeholders. Looking to the natural and man-made stresses in different spheres, a university must address the issues related to environment through its curricula and activities.

Since inception of the Central University of Rajasthan, efforts are being made to develop its campus on green concepts particularly focus on water conservation, use of alternative sources of energy, solid waste management, vermicomposting, green belt development, sustainable architectural designs of building etc. In a short period of time, CURAJ campus has emerged as a model campus which gives a message to the community and other organizations that under the natural stresses like of Rajasthan, we can solve the problem of water crisis to mitigate the impacts of regional as well as global environmental challenges to a greater extent. While experiencing CURAJ campus life, our students must learn about the threats to our environment and how to develop long term strategies for environmental conservation and its proper management for our present day needs and for our generations to come. It is our moral duty to put our actions and efforts following the motto of the university – Education for Sustainable Development.

I am sure the "Green Campus" of CURAJ will provide an ambience of healthy environment to student and add memorable experience of their student life at CURAJ.

I convey my best wishes for preparing this newsletter.

Prof. M.M. Salunkhe
Vice Chancellor

Profile

The Central University of Rajasthan has been established in February 2009 by an Act of Parliament, the Central Universities Act 2009.

Vision

The Central university of Rajasthan aspires to be one of India's most dynamic and vibrant universities, responsive to the changing global trends, providing unparalleled educational opportunities for the learner community especially for those coming from the lower sociol economic strata of society seeking quality education. It proposes to offer innovative undergraduate and postgraduate academic programmes as well as continuing personal and professional enrichment in selected areas that will lead to the formation of a scholary community by advancing, sharing and applying knowledge and by facilitating the development of thoughful, creative, sensitive and responsible citizens.

Mission

The mission of the Central University of Rajasthan is to contribute and work with a sense of commitment towards the educational, cultural, economic, environmental, health and social advancement of the region and the nation at large by providing excellent undergraduate liberal education and quality programs leading to bachelors, masters, professional and doctorate degrees.

INTRODUCTION

Central University of Rajasthan (CURAJ) is committed to raising ecological sustainability both on campus and in the world beyond. We recognize that environmental responsibility is a way of life, not just a trend, and that new science continually brings new opportunities for improvement, so the active commitment to nurture sustainability will never end. Recent efforts to improve environmental sustainability include the establishment of the water-shed management, green buildings, sewage treatment plant, rain water harvesting, functional state-of-the-art composting system(vermicomposting),green belt development, installation of solar panels and solar water heaters etc. In particular, students have played a vital role in encouraging environmental consideration in every functional facet of the institution. These innovative and ambitious groups include the team NAVSRJJAN, Department of Environmental Science, Central University of Rajasthan will continue to investigate environment-friendly possibilities in campus and develop strategies for funding and executing them. The campus sustainability efforts not only help to maintain the health of the public and surrounding ecosystems, but also adhere to the interdisciplinary goals of a liberal arts education through well-rounded scholarship and reflection.

GREEN BUILDINGS

The buildings in CURAJ are designed in such a manner where energy conservation techniques is implemented. CURAJ was able to successfully build and occupy the new buildings constructed with sustainable building concepts. Green buildings are a happy sign of the times, with a growing awareness on carbon emissions. It doesn't take much to make a building green: utilize locally available material, make the best use of sunlight and natural air currents, harvest rainwater and recycle corporation water, and manage waste efficiently. It accomplished this through the coordination of a number of disparate resources that dovetailed with those sustainable techniques. Surpassing ECBC with cavity walls of 2" thickness extruded polystyrene insulation + roof slab with 3" polyurethane insulation to reduce heat gain - windows protected from direct solar exposure with the help of horizontal shading devices & precast vertical 'Jalis" a vernacular design feature of the region.

Essential area of window glass with high performance glazing. Use of local stone for external cladding. In the master plan, courtyards / enclosed spaces emphasize, cutouts in student's hostels, passive systems viz. earth air tunnel, geothermal heat exchange and two stage evaporating cooling. The existing Building Thermal Performance was recorded on 30.05.2012 and was found to be

Floor	Outside	Inside
Ground Floor	44° C	31° C
First Floor	44° C	33° C
Second Floor	44° C	35° C

SOLAR ENERGY

The university is the first in the state of Rajasthan and among the 12 central universities formed by the HRD ministry in February 2009 by an Act of Parliament, the Central Universities Act 2009 to have successfully channelized solar energy to meet a part of daily requirements. A state with abundant sunshine should have set an example in using solar energy to meet most of its requirements, is still a distant dream. But, the Central University of Rajasthan, in a first-of-its-kind initiative, has shown the way by meeting 60% of its energy needs through solar energy. The university campus has four buildings with a monthly requirement of 600 kilowatt electricity, of which 420 KW is generated by solar panels. In addition to being renewable source of energy and eco friendly, the method is also proving to be cost effective for the university. University is now planning to install four solar units of 30 KW each and one of 1 megawatt in the upcoming time to become the first university in the country to run 100% on a renew

able source of energy. The university lies in the tropical region Ajmer district, Rajasthan and receives enough sunlight to meet 100% energy requirements. Fulfilling its commitment of promoting 'sustainable development', the university has installed 62 electric poles of 400 watt each across the university driven by solar panels. These solar lights automatically become active after sunset and switch off automatically during sunrise. Throughout the day the cells recharge themselves to a level that they could run for 16 hours. Furthermore, the solar energy is also used for heating 20,000 liters of water every day in each of the four buildings of hostel to provide uninterrupted supply of hot water during winter. Fans, tube lights, computers and other equipments below 9 KW can be operated by solar energy. Once the upcoming projects will be completed, the university will join the league of world's few academic institutions promoting sustainable development. The day is not so far when the university will attain self reliance in terms of power requirement.

VERMICOMPOSTING

The central university of Rajasthan has established the Solid Waste Management Facility using Vermicompost technology at its campus to manage the solid waste generated on the campus. Vermicompost facility was established by the Department of Biotechnology dated 30th March, 2012. The earthworms vermicompost is proving to be highly nutritive 'organic fertilizer' and more powerful 'growth promoter' over the conventional composts and a 'protective' farm input (increasing the physical, chemical & biological properties of soil, restoring & improving its natural fertility) against the 'destructive' chemical fertilizers which has destroyed the soil properties and decreased its natural fertility over the years. Vermicompost is rich in NKP (nitrogen, potassium and phosphorus), micronutrients, beneficial soil microbes and also contain 'plant growth hormones and enzymes'. Vermicompost is produced from waste materials collected in dustbin of university
which is converted into a 'valuable resource'. It is like 'killing two birds in one shot'. More significant is that it is of biological origin i.e. a 'renewable resource' and will be readily available to mankind in future and is environment benign process.

NURSERY

Plants, one of nature's most beautiful wonders. A nursery has been created at Central University of Rajasthan. This would not help the students do the research work only as the plants in the nursery are also kept at different locations in the CURAJ greatly reduces a person's stress levels. Natural aesthetic beauty is soothing to people, and keeping ornamental flowers around the university buildings is an excellent way to lower levels of stress and anxiety. As a result of the positive energy they derive from the environment, the chances of suffering from stress-related depression are decreased as well. Overall, adding flowers to environment reduces your perceived stress levels and makes you feel more relaxed, secure, and happy above all supplies fresh air free of cost.

SEWAGE TREATMENT PLANT

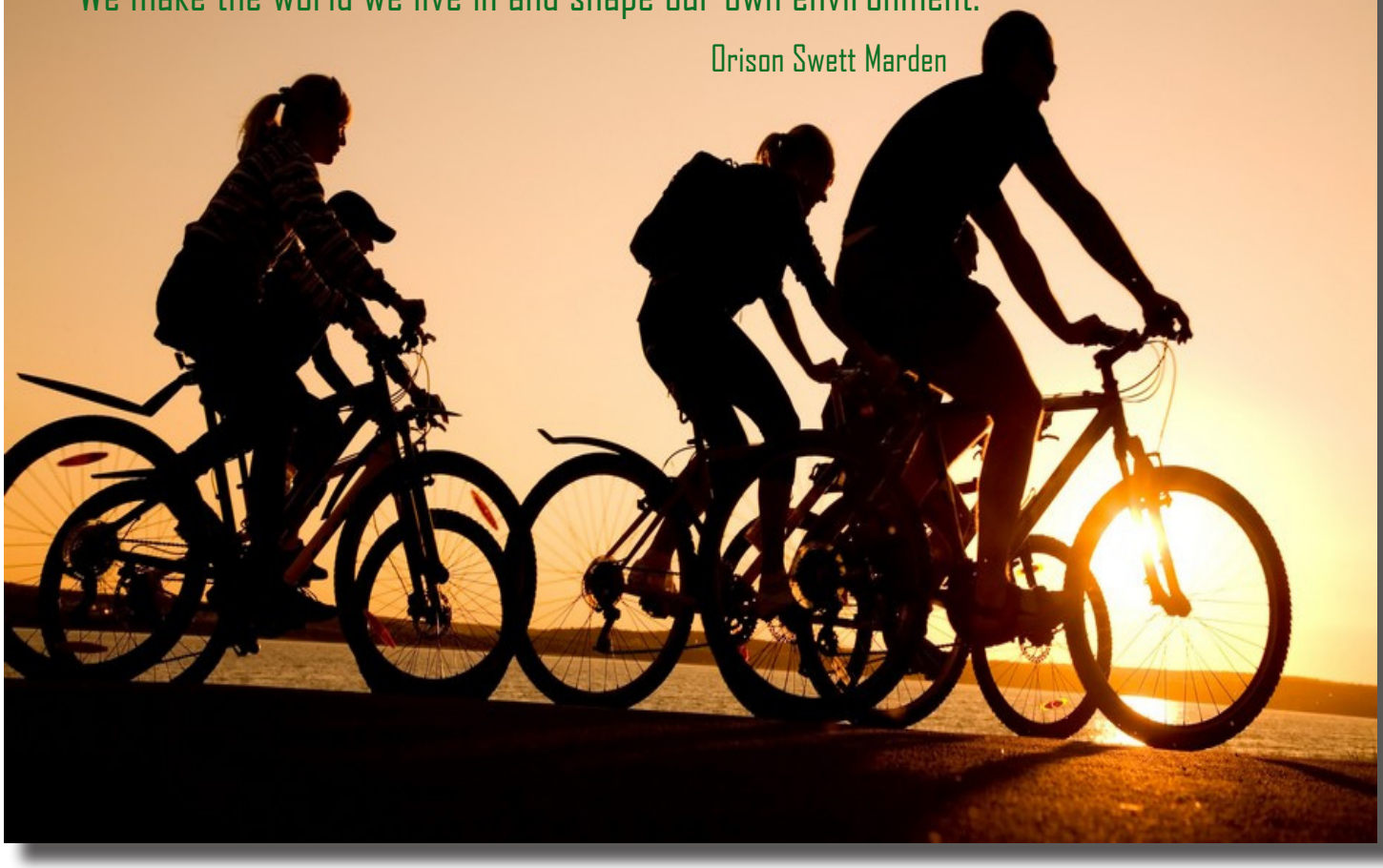
The treatment plant treat University waste-water. At CURAJ, 120KLD Sewage Treatment Plant based on Sequential Batch Reactor Technology has been installed and the treated water is used for the irrigation of plants with drip technology to reduce water loss. The water is also supplied to the nursery plants of CURAJ. The main benefit of wastewater treatment is maintaining clean water for reuse. Wastewater treatment processes remove potential disease-causing contaminants through a filtering system that blocks their path and further treatment that kills harmful organisms. This keeps potential diseases and bacteria from entering other water sources, or the ground, and harming people as well as plants and animals.

GREEN TRANSPORT

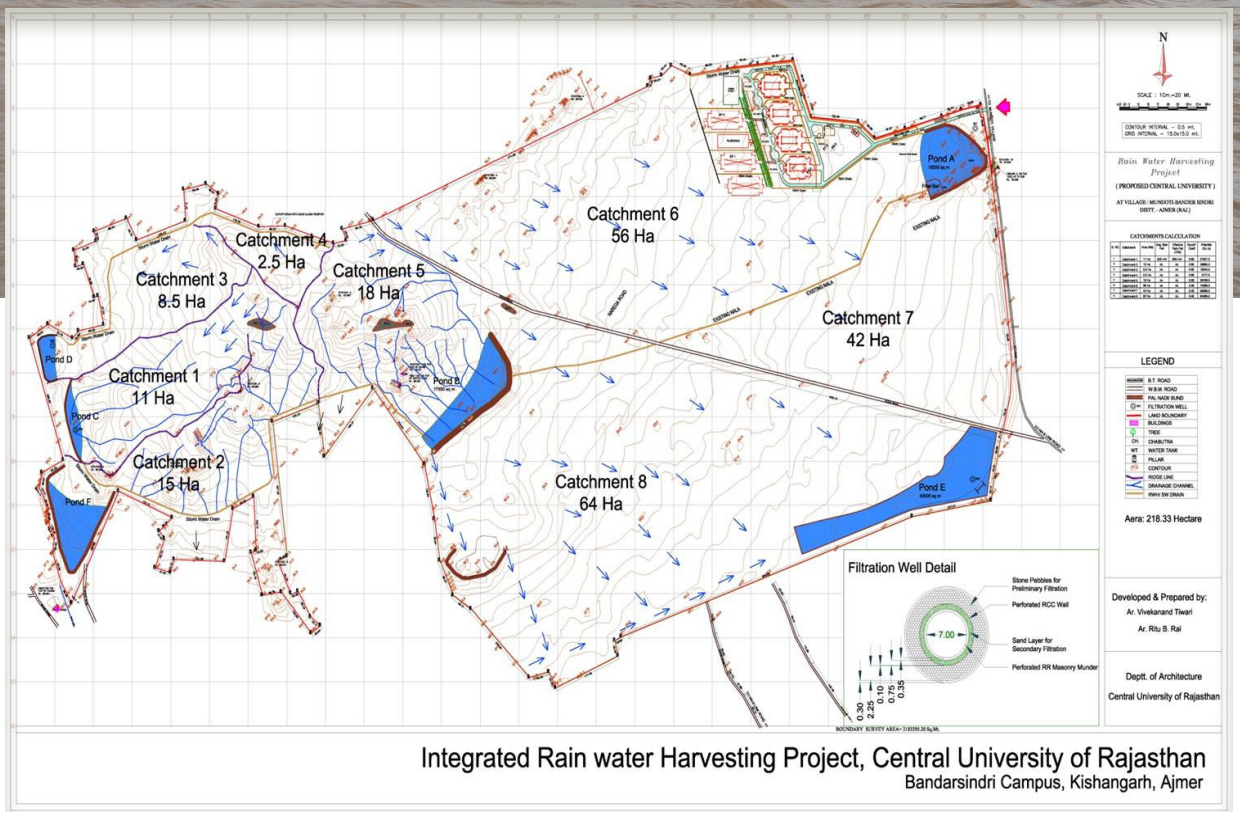
At CURAJ students of the Department of Social Work make use of cycles . For example, students can borrow cycles free of charge, using their student cards, and also bring in their own cycles when they go out in locality for social interaction with the local peoples around university campus.

" We make the world we live in and shape our own environment."

Orison Swett Marden



RAIN WATER HARVESTING



Series of ponds has been constructed under the integrated rain water harvesting scheme of Central University of Rajasthan. Such more ponds are to be constructed as per the plan of water conservation. The total area covered is 217 ha. The total catchment is divided into 7 parts having area of 11 ha, 15 ha, 8.5 ha, 2.5 ha, 18 ha, 56 ha, 42 ha and 64 ha. Water gets collected into ponds. There are eight buildings which are equipped with water harvesting and sewer re-charge system, provide water into 30 bores raising the ground-water table to support the green cover. Two artificial water bodies on either side of the campus have 20 crore litres of water. Birds like egret, black nirds, ibis, heron and lapwing are also visit to these ponds. The surrounding ponds are helping in maintaining the favourable microclimate of the university.

CENTRAL UNIVERSITY OF RAJASTHAN

NH-8, Jaipur-Ajmer Highway,
Bandarsindri-305801
Distt. Ajmer, Rajasthan[INDIA]
Email Id: info@curaj.ac.in
Phone : +91-1463-238755

www.curaj.ac.in
www.facebook.com/CentralUniversityOfRajasthan

Design by : *Aamir Hussain Bhat , PhD Reserch Scholar , Department of Environmantal Science ,CURAJ*