

## **Sustaining Green Campus through scientific and eco-friendly interventions**

**Objectives of the practice:** The unique natural setting and distinctive ecological heritage of Palamuru University Campus add to its Sylvan beauty and provide perfect ambience for scholarly pursuits. Driven by the vision of campus sustainability, the University is committed for the protection of environment and stewardship of natural resources, while ensuring quality of life on the campus, through adoption of innovative practices and action plans. Accordingly, the objectives of this best practice are:

- To create a milieu for sustainability in the pursuit of higher education
- To ensure protection of bio-diversity and safeguarding of flora and fauna
- To institutionalize sustainable solutions through instruction, teaching, research, innovation and extension activities with live concern for the Campus and its neighbouring community.
- To support the preservation of wild-life.

**The Context:** The Semi hilly terrain and forest landscape of Palamuru University has the requisite features for shaping and sustaining it as a green campus. It is a vast area spread over 165 acres with a lot of compact forest cover. The campus is home to a number of wild life species such as wild geese, peacocks, garden lizards, chameleons and a critically endangered variety of Day Gecko etc. Besides being a home to natural habitat, the topography is accessible and amenable to land-use. Of-late, Campus sustainability has emerged as a strategic imperative setting tone for proactive interventions on the part of Universities. This has provided the context for initiating eco-friendly measures for the green campus.

**The practice:** The masterplan of the University has been drawn to ensure and sustain harmonious blend of human and environmental well-being. Accordingly, spaces for academic, administrative and recreational areas are delineated in harmony with the topography to ensure an eco-friendly campus.

In an endeavour to preserve healthy ecosystem, Palamuru University has embarked on agro forestry plantation drive on a scientific basis, at multi locations spread over 25 acres in the main campus. The methodology involved developing geo and plant-specific bio-fertilizers that provide NPK

through culture. This helps in cost-effectiveness and nature-friendly management of plantation. In this connection, Patent rights titled 'Geo Specific Polybio Inoculant-Plant Specific' and 'Efficient Nitrogen Fixing Plant Specific *Rhizobium*' have been published.

It is noted that bacteria which give most amount of nutrients to plants can be isolated and cultivated which in turn can be applied for the rich growth of the plants. Accordingly, a new strain of the bacterium *Chryseomicrobium palamuruense* ((PU1<sup>T</sup>) FN555708), which has been isolated from the soil of Palamuru University, was found to enhance the growth and survival rate of nursery plants and agro-forestry tree species. It may further be added here that this bacterium can be used as a potential bio-fertilizer that helps in increasing the plant growth hormones in many agricultural crops, thereby increasing the yield. In continuation of this study, a patent has been filed for application of this bacterium as biofertilizer.

The kaleidoscopic nature-grown cropping of *Azadiracta indica* (neem), *Acacia arabica* (thumma), Custard apple (Seethaphal) and *Mangifera indica* (mango) trees are a spectacle to watch. These are being protected carefully. Bordering strips of unused land on the campus are used for planting tamarind trees. Plans are afoot for planting papayas too. It is envisaged that these plantations would serve as demonstration farms and seed gardens to promote scientific research in crop development and inter-cropping. The University contemplates similar plantations in neighbouring community or villages to assist farmers in wealth creation.

The University has paid equal attention to sustainable water management and land use. A network of manmade water drains and channels along the stretch of 2 kilometres ensures redistribution of excess rain water. The natural vegetation enhances the scope for recharge of ground water and prevention of excess water flow during monsoon season. A dug well and soaking pits near it are constructed for replenishment of ground water table.

Care is taken for wild-life protection. Hunting is not permitted in the campus. No one is permitted to hurt animals or trees.

## **Evidence of Success**

**Seeing is believing:** The success of Campus sustainability initiatives is evident at a glance of the vast green canopy permeating the Palamuru University campus. The carefully nurtured vegetation, flora and fauna and wildlife are a visual treat and speaks volumes of eco-friendly culture unique to Palamuru University. Inspired by the concern for environment, the faculty and research scholars of the University have taken up studies and research in areas of tissue culture, pest resistance, bio-fertilizer production and medicinal plants. Mapping the flora and fauna in the campus has also been taken up as a measure of protection of bio-diversity and wildlife.

## **Problems encountered and resources required:**

While the prospects of exploring environment-friendly options are encouraging, the actions dedicated for sustaining a green campus call for investment of resources and integration of efforts.

- Building of fencing, water-pool and dug-well needed expert advice and investment of resources. These have significantly minimized the excess rainwater flow and contributed for the substantial recharge of ground- water.
- Selection and preparation of sites for academic, administrative and other buildings called for expertise in soil corrosion management, drainage, placement of retaining walls and plans for suitable landscape. Attention to these details did cost many a resource. However, the positive outcome has been magnificent buildings and office blocks that blend harmoniously into the landscape.

Organized planting of trees, bushes and lawns to stabilize slants and ridges have been expensive but quite rewarding, enriching the beauty of the campus.

**Notes:** This exercise can be executed by any educational establishment, especially those with large campuses. Of utmost importance in this best practice, are the following:

- Crafting a comprehensive masterplan for the campus development in consonance with the environmental

heritage and instil eco-consciousness into every facet of the University life.

- Making sure the involvement of faculty and students and leveraging the research pursuits in shaping and sustaining an eco-friendly campus.

### **About the Institution**

i. Name of the Institution: Palamuru University

ii. Address : Bandameedipally, Mahabubnagar, TS- 509001

iii. Contact Person for further Details: Prof. Pindi Pavan Kumar

iv. E-Mail : [pavankumarpindi@gmail.com](mailto:pavankumarpindi@gmail.com)

v. Website : [palamuruuniversity.ac.in](http://palamuruuniversity.ac.in)