

In the Footsteps of icons: Novel courses launched in the Department of Agricultural Engineering:

Why is the animal Mithun Found only in some parts of Nagaland and Arunachal Pradesh? Why can't be it domesticated as well as cows? Why can not we grow Tree-Tomatoes and Passion Fruits in the planes of Dimapur under continued sunshine? What is the reason for abnormally high infestation of insects in apples in and around Pfutsero? Believe me, such and similar questions can be and have been answered by invoking the principles of Physics and Thermodynamics! The man who dared to dream such an "engineering approach to plant and animal ecology" and who christened his newly developed discipline as Biophysical Ecology, is David M. Gates (DMG), University of Michigan, U.S.A. Gates, employed the Reductionist Approach to the science of ecology and made available, alternatively called, the science of Plant-Energetics or Environmental Biophysics. This subject has grown by leaps and bounds and is being utilized by agronomists, plant scientists, animal scientists and the practitioners in the field of forestry science, crop physiology, crop breeding research etc. for solving their day-to-day problems.

(Late) Prof. A.K.N. Reddy (AKNR), the visionary and the founder of the science of Rural and Renewable Energy- its production, planning and management –in India and indeed one of the firsts, globally, is our **2nd role model** and the icon. Trained as an Inorganic & Physical chemist, he contributed in such diversified areas as Mathematical theory of Nerve-conduction and Application of science and technology in rural areas (Astra). Indeed, while working in the India Institute of Science, Bangalore, he founded ASTRA Centre in early 1970s which has grown as Centre for sustainable Technology (CTS). The work of this group was nationally and internationally recognized and it laid the foundation of Renewable Energy Science & Technology in India, culminating in award of prestigious 'Deshikottama' of Vishwabharti, Shantiniketan, to Prof. Reddy.

Our third icon is Prof. K. Kannan (KK), the reputed grassroot biotechnologist and presently the Vice Chancellor of Nagaland University. Trained as a chemist from the prestigious Indian Institute of Technology, Bombay (now Mumbai), Prof. Kannan received his doctoral degree while working at CFTRI Mysore and was one of the pioneers who started the teaching and research programme in biotechnology in India. He has worked in CSIR laboratories and other research institutions in Mysore, Surat Pune,

New Delhi and had a stint as Director R & D Division in prestigious Drug Company Ranbaxy. But more significantly, Prof. KK is recognized as an Institution –Builder and Efficient Organizer of Academic and Cultural Events, utilizing the existing manpower and material resources in a most cost-effective manner. Within a year of joining Nagaland University as its V.C., he established two new Faculties – Engineering and Management – in a shoestring budget and has organized Four National Conferences/Seminars (One International) on such varied subjects as Drug Research (Ranbaxy), Science Education and Research (DST), Technical Education (NPTEL Programme in Collaboration with IITM Kerala) and Library Sciences (Planner 2008: An International Meet), attracting such national figures as Prof. Tejpal. Singh (Distinguished Biotechnologist : AIIMS), Prof. Alok Verma (USA), Dr. Pradip Bhatnagar (Sr. Vice President Ranbaxy, India), Dr. Jagdish Arora, Director Inflibnet Centre, Ahmedabad, and Dr. K.R. Srivatsan, Director, IITM, Kerala. Additionally; in Cultural arena, Pt. Hariprasad Chaurasia (Flutist), Pt. Vishwa Mohan Bhatt (Mohan Veena, Vishwa Veena) and artists of SPIC-Macay Foundation too made their presence felt in the State of Nagaland, through the initiative of Prof. Kannan.

Inspired by these cross-disciplinary role models, (DMG, AKNR &KK) the Deptt. of Agricultural Engineering N.U. SASRD introduced two Post Graduate Level Courses in Energy Sciences in the year 2007-2008 with the titles, “Introduction to Biophysical Ecology (2+1) (Courses I/C Prof. D.P. Sharma) and “Rural Energy Planning and Management, (2+1) (Course I/C Prof. D.P. Sharma)” within existing facilities and taught and trained three M. Sc. (Ag.) students (Roll Nos. M-330, M-348 and M-360), the intricacies of such field-oriented tasks as how to draw “Climate- Space Diagrams” for plants and animals, “Biomass Gasifier System”, a novel renewable energy programme being executed at Medziphema Village by Govt. of Nagaland. The students were imparted mathematical skills and given on-field instructions and after evaluation, came out in flying colours. As the existing literature would show, the ‘Climate-Space Diagram’ is an immensely useful Graphical tool to establish ‘Prey-Predator Relationships’ in Plant and Animal Kingdom. Similarly, the studies in Wood-Gasifier Systems would enable a worker to explore the possibility of using local biological resources (e.g. bamboo chips, sugar cane and/or pineapple plant residues etc) for generating location-specific energy technology in a hilly terrain like Nagaland.

(Report prepared by Prof. D.P. Sharma, Editor, NU Newsletter).