

NASA honours Uddhab Bharali – an Indian village entrepreneur and inventor with 98 innovations

Uddhab Bharali has designed and prototyped more than 98 mechanical innovations and holds 39 universal patents to his credit¹. For much of his innovations, he was supported under the Micro Venture Innovation Fund Scheme (MVIF) at National Innovation Foundation-India (NIF)¹. On 5 July 2012, he was short-listed by *NASA Tech Briefs* magazine for a breakthrough innovation of pomegranate de-seeding machine, which won him the second prize².

Uddhab was born in a middle class family in North Lakhimpur, Assam. At the age of four, he first realized that his parents were neck-deep in debts¹. He completed his schooling from the Government Secondary School, Lakhimpur and was twice rewarded with double promotion at school, i.e. from class I to III and class VI to VIII, as he was profound in mathematics and could solve difficult problems without a hitch. He dropped out of Jorhat Engineering College in 1987, because of acute poverty in his family.

At the age of 23, in 1988, he started a polythene making business. Instead of spending about a lakh rupees on buying the machine, he designed the machine on his own at a cost of Rs 67,000. In 2005, his dexterity came to the attention of the

NIF, Ahmedabad, which took him aboard as grass roots innovator. He innovated the micro mini CTC tea-processing plant, which aims to help small time tea pickers' and farmers, for which he was awarded the World Technology Award by the World Technology Network in 2012 (ref. 3). Some of his other significant innovations include arecanut peeler, bamboo processing machine, cassava peeler (which has been bought in Kenya), garlic-peeling machine, tobacco leaf cutter, paddy thresher, cane-stripping machine, brass utensil polishing machine, safed musli (*Chlorophytum borivilianum*) peeling machine, jatropa de-seeder, mechanized weeding machine, passion fruit juice extractor, trench digger, a chopper for cattle and fisheries feed, stevia pulverizer, multipurpose herbal dyer which retains the colours of objects put in them like tea, king chilli powder, turmeric, ginger, passion fruit gel extractor, and many more. Currently he is developing a feeding machine, meant as a gift for the physically challenged people⁴.

The Assam Agricultural University will confer honorary Doctor of Science (D Sc) degree on Uddhab Bharali soon⁴. Uddhab was appointed as visiting Director of Engineering and Technology, simulta-

neously by Tezpur and Dibrugarh universities. The motive of Bharali's innovations is to reach out to those, who are below the poverty line, both in India and abroad. He also makes it sure that his innovations can easily be used even by the illiterate and physically challenged people. Most of his products consume less power and are easy to operate. Uddhab has shown that poverty is not a handicap for innovation and success.

1. <http://www.siliconindia.com/news/startups/98-Inventions-from-an-Indian-Village-Entrepreneur-nid-125114-cid-100.html> (accessed on 14 February 2014).
2. <http://article.wn.com/view/2012/10/03/Indian-Uddhab-Bharalis-pomegranate-deseeder-wins-Nasa-prize/> (accessed on 24 July 2014).
3. http://www.telegraphindia.com/1140316/jsp/northeast/story_18084842.jsp#.U9QE-UeOSw5g (accessed on 24 July 2014).
4. <http://www.assamtribune.com/scripts/detailsnew.asp?id=jun1214/state06> (accessed on 24 July 2014).

Debajit Brah, Barbi Gogoi* and **Dhrubojyoti Gogoi**, Centre for Studies in Biotechnology, Dibrugarh University, Dibrugarh 786 004, India.

*e-mail: barbi.gogoi@gmail.com

Scientists launch Right to Research Foundation

A group of scientists and academicians led by Jayant Khandare has initiated the Right to Research (R2R) Foundation to support foreign-educated and trained Indian researchers help them find suitable jobs, upon their return to the country. During recent times it is being seen that a large number of Indian researchers are returning from overseas, after obtaining their masters, PhDs and post-doctorate fellowships. And in spite of their enriched education and training, many of them do not find jobs worthy of their knowledge and experience or they do not get engaged in research.

The R2R Foundation termed this as 'Intelligent Reverse Brain Drain'. In order to engage such researchers, the foundation has been incubated and has

started operations near Hinjewadi Biotech Park, Pune. Khandare informed that some corporates have shown interest in supporting the Foundation. Khandare himself is a 'Alexander von Humboldt' Fellow.

According to him, 'the standard of research and training acquired by these scientists is exceptional and is unmatched, however the selection criteria of many domestic academic institutions hold these scientists as "ineligible", as our peers have their own definitions of excellence'. He further added that 'hiring of such researchers has been limited in the Indian institutes. India has a dearth of innovation based start-up companies. To obtain government funding for research, there are varied norms and conditions. There-

fore, many researchers prefer to return abroad,' he said.

To start with, the R2R Foundation has set up dry lab facilities, to engage around 25 researchers. The researchers will be engaged in research thought process across inter-disciplines, and founders firmly believe to find good avenues in India.

This initiative has largely been welcomed by a large number of researchers who have qualified themselves and returned to India to serve here.

Ganesh Patil, Vidya Pratishthan's School of Biotechnology, Baramati, India.
e-mail: ganeshprotein@gmail.com