

Echoes of Eco



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Vivekananda Kendra- nardep Newsletter

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Sustainable Agriculture



VK-Nardep is famous all over India for its work in the field of Azolla technology. In this month, we are giving the history of Azolla which may be of interest to many readers.

History of the Azolla - A wonder fern

Biological nitrogen fixation is the conversion of atmospheric nitrogen gas, a colourless gas found in great abundance in ordinary air into 'fixed' nitrogen which is needed for making the vital proteins of all living creatures. By some strange quirk of evolution only the simplest forms of life on earth, the bacteria and blue-green algae, have developed this process making man dependent on these wee creatures for almost all the naturally occurring N-fertiliser found in nature. A unique little plant capable of capturing solar energy for making its own N-fertiliser is described below.



Azolla is a small water fern seen as a green mat floating on the surfaces of fresh water ditches and catch basins in many parts of the world. Travelers from the rice belt of Asia have brought natural production of N-fertiliser in rice paddies of sections of North Vietnam and China

According to folklore, the practice of using Azolla as a natural source of fertiliser began more than 300 years ago in a remote village in North Vietnam. Ba Heng, a peasant lady of the region, perplexed her neighbours by habitually bringing in an unusually heavy harvest of rice. Her secret involved the culturing and puddling of Azolla into her paddy soil before planting. We now know that Azolla behaves as some excellent green manure rich in N. The practice spread until today many farmers of the region use this technique. Some enterprising peasants carried out a business on the side of supplying their neighbour with inoculum of Azolla for the spring planting. Maintaining cultures of Azolla in active, vegetative form through the long winter months for rapid proliferation as inoculum in the spring turned out to be a tricky business mastered by only a handful of families. One reviewer of the literature of this filed dug up the interesting story that the formula for over wintering of Azolla became a tightly held secret traditionally passed on by word of mouth from father to son (only upon the son's marriage).

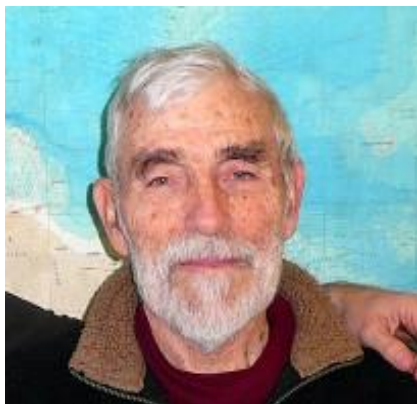


Sustainable Agriculture



Daughters who might stray from the clan were not permitted to share the formula. The secret formula: keep adding wood ashes (potash) from the fire to the Azolla pond throughout the winter months maintaining a suitable level of alkalinity! Today, Ba Heng is honoured as the 'Goddess of Azolla' during an annual fall festival held at the 'Azolla pagoda' in North Vietnam.

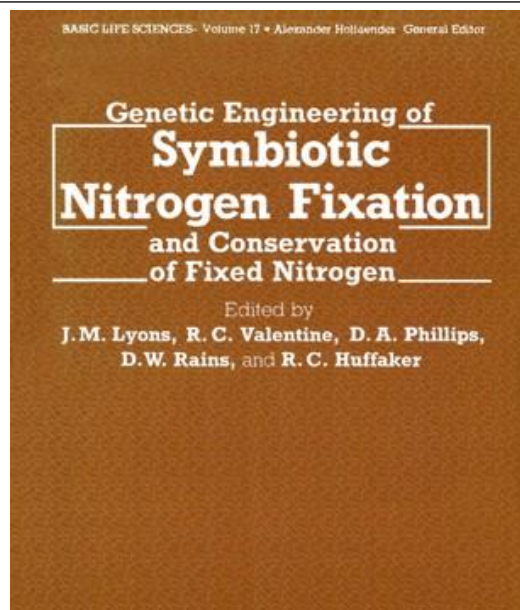
Is this black magic or does, Ba Heng's floating weed actually contribute N-fertiliser to the rice paddy? Indeed, using modern techniques, agronomists D.W.Rains and Stevan Talley of the University of California at Davis have succeeded in growing respectable crops of rice using the N-input from Azolla species native to California waterways.



Raymond C. Valentine

In this scheme, solar energy is harnessed by the fern in symbiotic association with blue-green algae which reside a packet on each leaf. In essence, each leaf maintains its own miniature N-fertiliser factory for supplying its growing cells. During this process, the bountiful gaseous form of nitrogen which makes up the bulk of our air is broken apart through the action of sunlight and suitable catalysts yielding a form of N-fertiliser available for cellular growth. This process is called biological nitrogen fixation and is governed by a set of genes called the nitrogen fixation genes.

Credit of identification and naming of the nitrogen fixation genes goes to Raymond C. Valentine, Ph.D., is currently professor emeritus at the University of California.





Case studies - Sustainable Agriculture



A Radio interview of an Organic farmer

Shrimati Akhila is an organic farmer from Perumalpuram village, near Pottaiyadi of Kanyakumari district. She was interviewed at All India Radio, Nagercoil on 2nd February, 2020. We are giving below the extract of her interview.

Smt.Akhila carries out all agricultural operations, planting, fertilizing, weeding and compost feeding. She is unhappy that for the same work done by a male worker gets Rs.450/- a day and a woman gets only Rs.300/-



To start with, she was cultivating Bhendi (lady's finger), cucumber and snake gourd. She was selling her produce at APTA market. As she is a member of Vivekananda Kendra Nardep's self-help group, she was allowed to sell her produce in the Kendra campus. She is getting a fair profit "I have been asked to sell at Market rate here too. Earlier when I was selling Bhendi in the open market I could get only Rs.5/- per kg. Now I sell for Rs.30/- per kg. In the market they sell Bhendi at Rs.40/- per kg to the customers."

"I loosen the soil, put compost fertilizer including poultry manure. The Vivekananda Kendra also helps in teaching me agricultural technologies. My children are studying medicine in Ukraine. Agriculture helps me in financing their studies.

Others can also raise vegetables in the open lands around their houses. I was purchasing seeds from the market to start with. Now I raise my own seeds. I have cows, goats and cocks / hen. All these give me manures. I raise my seeds, so that I have not to purchase any farm input from outside. When I use poultry manure, I have to be careful that my land does not dry up. We believe poultry manure warms up the soil.



Case studies - Sustainable Agriculture



My customers say that my vegetables are all tasty, because of organic farming. People including Vivekananda Kendra teachers telephone me for getting their supplies.

Kendra has helped me with Farming Tool kit. I go to my farm at 6 A.M. for plucking vegetables and work there up to 10.30 A.M. Around 1.30 P.M. I come to the Kendra campus with my vegetables for sales.

I do not give any extra chemicals etc. Bitter gourd, Tomato etc. I raise my seeds also. Now I have 15 years of experience in Organic farming.



My cows are increasing in number. I have goats too. Goat requires very little up - keep. They go for grazing. Rarely do I call a Veterinary doctor. We carry our local treatment procedures.

I do not have to prove that I cultivate my vegetables with Organic manures. The taste of the vegetables and the satisfaction of my customers speak for themselves. In the open bazaar the vegetables are 2 - 3 days old. I supply fresh vegetables. The shop keepers won't pay us properly. I have to wait for 2 - 3 days. Now I get ready cash. But I have to handle the sale's work in person. I could give only two meals to my children. They know with what difficulty I have raised my children. My husband also cooperates. All my family members are understanding. The Kendra has asked me to sell only what I personally produce.

If our women folk try, they can take the family forward. My neighbours praise me for the way I educate my children.

My family uses our own fresh vegetables. Our women can empower themselves in this way.





Case studies - Water Management



Hanuman Teertham? No! Septic Tank.....

We started our work of Revival and Renovation of Teerthams (Traditional Water Body - TWB) with Hanuman Teertham. The TWB was full of thorny trees, mud, dilapidated walls and goats entering the TWB and spoiling the entire area with their excreta.

When we started the renovation work, locals were not only cooperating but also used to play mischief. One day, when we went for a work, we found a dead goat thrown inside the work place. We removed it and continued our work. Knowing that initially people will resist even the good work.

During the renovation, one day we found water coming out from a small hole from the upper side of the water body. We were all puzzled that how the water is coming from the road level and that too, when there is no rain. After thorough checking and investigation, we were shocked to know that the house owner opposite to TWB has laid pipe from his septic tank and the water was discharged to this dilapidated Teertham (?).

We convinced the owner of the house and plugged the hole. Also installed a beautiful idol of Hanuman near the renovated Teertham and kept some Naga idols so that people will not spoil the area. Now, people have started using the renovated Teertham which is having water. It also helps as a percolation tank.





Case studies - Water Management



Sacred (?) Ramar Teertham

Ramar Teertham is the biggest (25x28x5=35 lakhs cum) Traditional Water Body in Rameswaram and visited by most of the pilgrims. Vivekananda Kendra - Nardep carried out the renovation work after a long gap of 30 - 35 years. The TWB was full of thorny bushes, 3 - 4 feet silt accumulated and thus reducing the water holding capacity of the Teertham. The Teertham has beautiful steps on all the four sides which gives a grand look. However, these steps too were damaged and required extensive repairing. We carried out this massive work with the help of JCB by breaking the wall on one side and preparing a ramp for easy passage.



During the renovation, to our horror, we found that the neighbouring houses are using the left side wall of the temple tank by constructing kitchen or toilet without leaving any space. To cap it all, one Municipal Councillor was discharging toilet water inside the TWB! Unfortunately, no authority - Municipality or HR &CE - is checking or regulating such criminal acts. Thanks to Vivekananda Kendra - Nardep and Green Rameswaram Project, that now the Teertham is better, full of water and neat and clean because of plenty of fishes. People are not only taking the Teertham but also enjoying feeding to the big fishes.



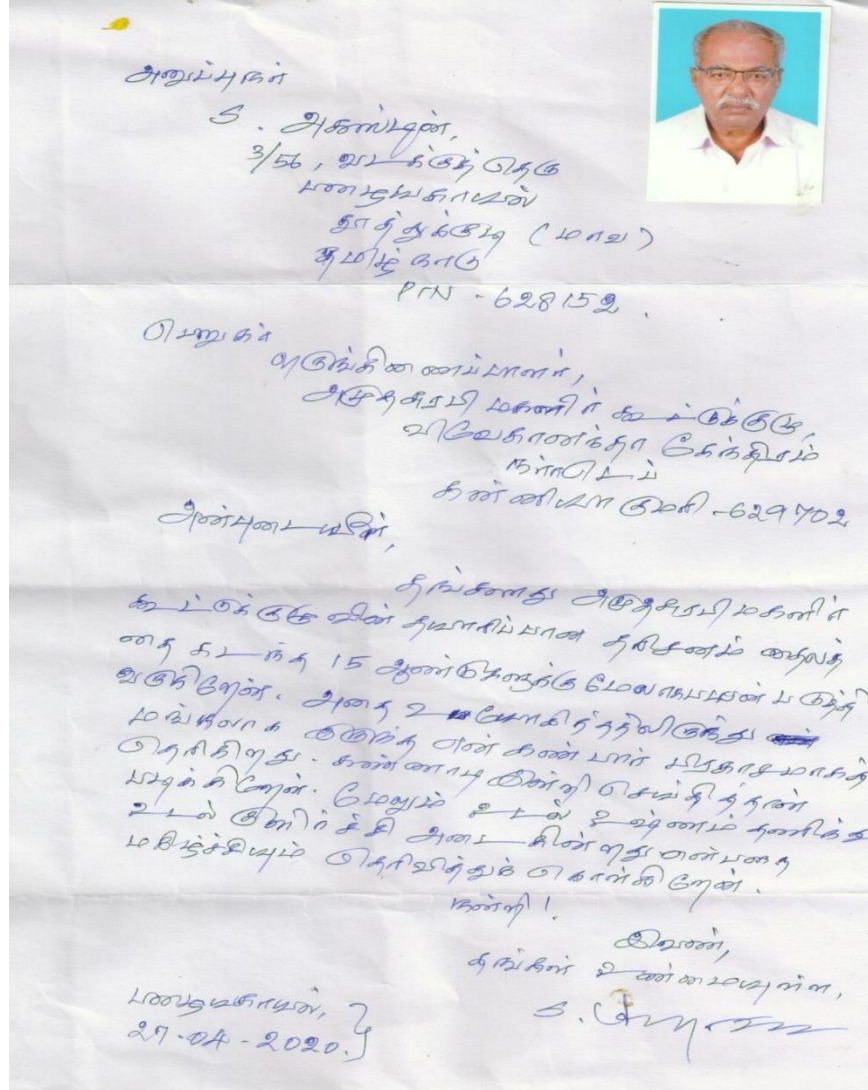
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I am Mrs.Manonmani resident of Mahadhanapuram in Kanyakumari district. I am 69 years young but had a fall while walking on 31st January and then had a severe pain near my ankle joint. Vivekananda Kendra's Varma Research and Resource Center Dr.Ganapathy suggested me to apply 'Vatha Varma thylam' and 'Surabhi Balm' for a couple of months. I did as per his advice along with pack of cloth with hot water. I received total relief. Thanks to Kendra....





Case studies - Holistic Health



I am Augustine from Pazhaiyakayal, Thoothukudi district. I am using Darishanam oil for the last 15 years prepared by "Amudha Surabhi Federation" under the guidance of Vivekananda Kendra - Nardep. Earlier, I used to feel terrible heat in my body and so my eyes used to burn. However, after regular application of this wonderful oil which is to be applied on the head, helped me in cooling my entire system and now my eyes are so much better that I can read without glasses.





Ferro cement Ornamental items

Ferro cement technologies as an alternative to conventional building material in the form of doors and windows, roofing channel, toilets, water tanks etc., are becoming popular.

VK-Nardep has used this technology as a pilot project two decades ago while constructing Technology Resource Center at Anjaneyapuram, Kanyakumari district. The doors, windows, water tanks, toilets and name boards are not only eco-friendly but also cheaper than the conventional material and products.

With the support of Dept. of Science and Technology, New Delhi, we are fine-tuning the technology further and experimenting several ornamental items such as showcase, curvature doors, flower vessels etc. We used the lockdown period for developing water fountains out of ferro-cement technology. You will enjoy to see the use of Papaya and Palmera leaves for altogether different purpose.





Cost Effective Construction Technologies



Use of Palmera leaf for making design





Cost Effective Construction Technologies



Water fountains





Cost Effective Construction Technologies



Water fountain from Papaya leaf design



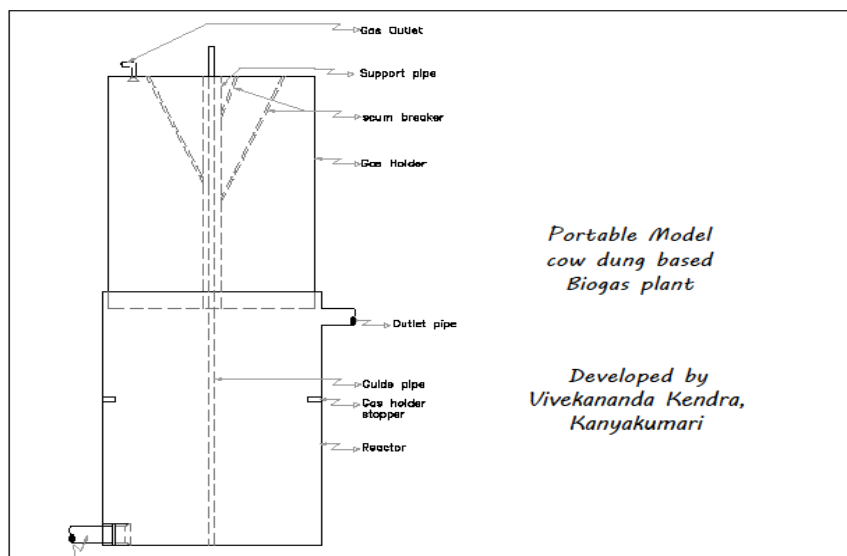


Addition of Two new models to Shakti Surbahi (Portable Biogas plant for Cow dung and for Biomass)



i. Portable Biogas plant based on cow dung

At present, there is no portable plant for Cow dung based Biogas. Fortunately, since last few years, more and more people are trying to have cattle in their house and so the need for easily available portable model.



ii. Portable Biogas plant based on Biomass

There is immense potential to have Biogas from Biomass from various crops such as (i) Napier (ii) Prosopis juliflora (iii) Water hyacinth (iv) Non-edible oil seed cakes (v) Waste grains etc. However, the design and working of such plant is tricky as physio-chemical properties vary from crop to crop. However, VK-Nardep found out a technique to get optimum results.



*Napier grass
(CO-4) is ideal
for Biogas
production. It is
chopped and
then powdered
for better
results.*





Case studies - New and Renewable Energy Sources





Networking - Relief work for COVID-19



S.N	Date	Description of Items	Value (Rs.)
1.	April, 2020	Financial help for very poor families across tamilnadu - 24 nos. @ Rs.5000/-	120000.00
2.	24 th to 30 th April 2020	8 days meals for impoverish and mentally sick persons at Kanyakumari .	12000.00
3.	07.05.2020	Provision purchased for Bharat Sewasram Sangh, Kanyakumari (50 pilgrims who could not go back to home because of lockdown staying at ashram)	15000.00
4.	01.05.2020	Rice 5kgs bag. - Kalluvilai Village - 80 houses distributed	15520.00
5.	06.05.2020	Rice 5kgs bag - Valukkamparai - 25 houses	4625.00
6.	06.05.2020	Rice 5kgs bag - Lakshimipuram & Madavapuram- 45 houses	8200.00
7.	06.05.2020	Rice 5kgs bag - Puviyur village - 80 houses	4500.00
8.	06.05.2020	Rice 5kgs bag - Panchalingapuram village - 25 houses	16000.00
9.	09.05.2020	Rice 5kgs bag - Swaminathapuram = 30 houses	5550.00
10.	09.05.2020	Rice 5kgs bag - Peruselvilai village - 30 houses	5400.00
11.	09.05.2020	Rice 5kgs bag - Leepuram village - 80 houses	10800.00
12.	10.05.2020	Rice 5kgs bag - Pujapuravilai, Agasteeswaram - 30 houses -	5400.00
		Total	222995.00





Networking - Relief work for COVID-19





Networking - Relief work for COVID-19



Webinars to connect the unconnected

To connect the unconnected, we have organized the following free webinars so far

Date	Topic	Language
20 April 2020	Building Immunity to fight Corona by Dr.V.Ganapathy, Director, Varma Research Centre, Vivekananda Kendra	Tamil
21 April 2020	Productive usage of time for wellbeing by Shri.Krishnamoorthi, Senior Life Worker, Vivekananda Kendra, Kanyakumari	Tamil
27 April 2020	Building Immunity to fight Corona by Dr.V.Ganapathy, Director, Varma Research Centre, Vivekananda Kendra	Tamil
28 April 2020	Mind Development in Indian Culture by Shri.Krishnamoorthi, Senior Life Worker, Vivekananda Kendra, Kanyakumari	Tamil
5 th May 2020	Importance of family in the present contexts by Shri.Krishnamoorthi	Tamil
6 th May 2020	How to improve immunity in daily life by Dr.V.Ganapathy	Tamil
9 th May 2020	Building immunity with Beta-Carotene by Dr.Vasant Savangikar, Nasik	English
11 th May 2020	De-toxifying the body to improve the immunity by Dr.V.Ganapathy	Tamil
12 th May 2020	Role of Rituals, Puranas and Tattvas in regulating the humans by Shri.Krishnamoorthi	Tamil
16 th May 2020	Dr.Mahadevan - COVID 19 and Ayurveda	English
18 th May 2020	Dr.V.Ganapathy - Kayakalpa herbs	Tamil
19 th May 2020	Shri.N.Krishnamurthi - Raga - Dwesha - Viveka	Tamil
23 rd May 2020	Dr.Uma Maheswari - Naturopathy and Yoga for COVID-19	English
25 th May 2020	Dr.V.Ganapathy - Home herbal remedies	Tamil
26 th May 2020	Shri.Krishnamurthi - Yam and Niyam for self and society	Tamil

Participants were from different parts of India as well as from Singapore and Sri Lanka. More than the lecture, question and answer sessions after the lecture were interesting.





Networking - Relief work for COVID-19



Help to the Families - 24 nos - Rs.5000/- each. A few case studies given below:



I am Bhanu. VK-Nardep is helping me in educating my elder daughter. During COVID-19 pandemic, I went for delivery in a Govt. Hospital at Tiruvarur with a meager amount of Rs.2000/- in my purse. I spent that money for hospital expenses. Fortunately, VK-NARDEP sent timely help by sending Rs.5000/- which I used after reaching home for naming ceremony and other medical expenditure.

I am Buvaneswari, a widow from Mayiladuthurai. My husband passed away 8 years back. VK-NARDEP is partly helping my three daughters in education. They all are studying and staying in an Ashram. However, because of lockdown, they all are with me and wanted me to prepare some dishes which I could do because of timely help from Vivekananda Kendra - NARDEP.



I am Ananthi, a widow from Jeyamkondam having two daughters. VK-NARDEP is giving some help for my daughter's education. My livelihood is selling readymade Idli and Dosa maavu (Batter - fermented mixture). However, because of lockdown I have no business. To my surprise, Kendra remembered me like a family member and without asking sent me Rs.5000/-. God is great!



Networking - Relief work for COVID-19



I am Ramesh tea seller at Kanyakumari. VK-Nardep is helping every year by giving some amount for the education of my children. Normally April - May is a real season for me for earning money as many pilgrims visit Kanyakumari during holidays. However, this time because of lockdown, I became penniless. Luckily VK-NARDEP came to my rescue and when I got the information that relief amount has been deposited in the bank. I rushed to ATM. Thanks for the timely help.

Ananthi from Swaminathapuram, Kanyakumari district has two daughters. Her husband passed away after a prolonged illness of cancer. He passed away in the first week of April during the lockdown. VK-NARDEP gave timely help to the bereaved family.

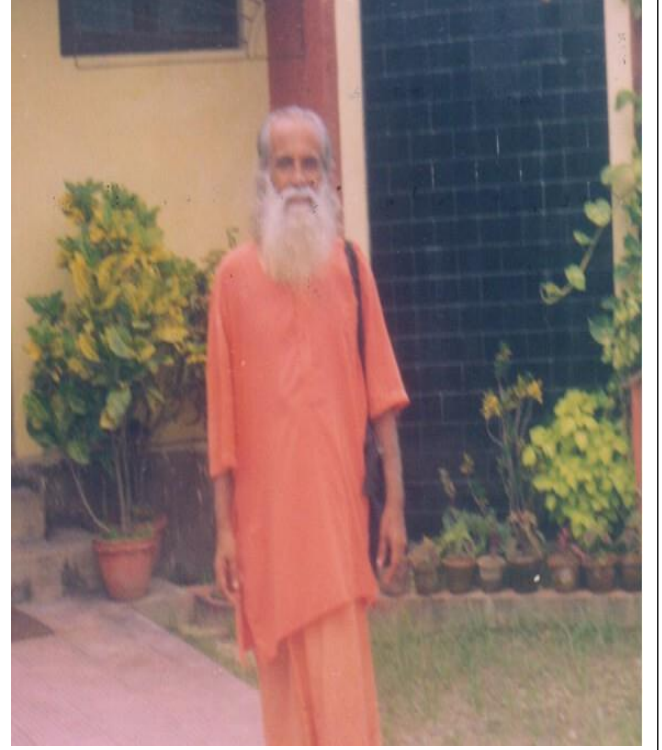


Shraddhanjali to Swami Krishnananda

Earlier Office Incharge of Vivekananda Kendra - Nardep



With regret we record the Mahasamadhi (passing away) of Swami Krishnananda, a full time worker of the Vivekananda Kendra, Kanyakumari. Swamiji was ill with breath related problems for the last couple of years. On the Tamil new year day, 14.04.2020, he was admitted to the Nagercoil Hospital and the end came at 5.15 a.m. on Wednesday 15.04.2020. A prayer meeting Rama Nam / Gita chanting was held in Kendra on the 15th morning. The body was cremated at the electric Crematorium Nagercoil. On 16.04.2020 the ashes were collected and brought to Vivekanandapuram for immersion in the Vivekanandapuram beach. Swami Krishnananda (30.04.1937 - 15.04.2020) was born in Bangalore. He did his M.Sc (Agriculture) from the Govt. Agri. College, Poona in 1965. He was an ordained monk of Krishna Pranami Sampradaya, Nepal and was well read in Hindu scriptures including yoga texts.



He worked in Kendra's Main office, Vivekananda Kendra, Kallabalu and Vivekananda Kendra - Nardep for more than 10 years, before old age and sickness forced him to retire in the year 2009. He was a voracious reader and used to contribute articles to Yuva Bharati. Our Shraddhanjali!

