

# Echoes of Eco



January, 2011

Vivekananda Kendra- nardip Newsletter

Vol:2 No:11

## Mutual Aid in Nature: Peter Kropotkin



“Darwinism” is now-a-days made to answer for every sort of outrage, is the explanation of every villainy, as, for example in our recent treatment of the Matabele, whose extinction is justified on the plea that “black men must go,” “it seems cruel, but it is their inevitable destiny,” and other equally “scientific” assertions. But Darwin does not teach this. He proves that there is a struggle for existence, in order to put a check on the inordinate increase of species. But this “struggle” is not to be understood in a crude and exclusive sense; there is a law of competition, but there is also what is still more important — a law of mutual aid, and as soon as the scientist leaves his laboratory and comes out into the open woods and meadows, he sees the importance of this law. Only those animals who are mutually helpful are really fitted to survive; it is not the strong, but the co-operative species that endure. Instances of mutual aid, of which any number might be quoted, may be seen even in the less developed forms of life. Land-crabs migrate in columns from sea to land; I have watched

an overturned king-crab at the Brighton Aquarium laboriously set on its feet again by the repeated efforts of its companions.

The good will of ants is signified by a free gift of food from full crop to empty crop, and this pact of friendship is not confined to individuals but extends to whole nests, thus showing that the Stomach exists not for individuals only but for the community. Natural Selection comes to aid those species that are social....The process of Mutual Aid has been developed from the first, through countless ages, among animals, and its application to Man is only a continuance of the same law. Let us note the lesson of Nature. In times of scarcity, how do animals and birds act? They migrate; or, like the ants, take concerted measures to provide themselves with food. Yet Man, the highest of the animals, thinks he has no option but to rob his fellow, as Englishmen have robbed and spoiled the Matabele! There is no need of any extraneous or supernatural help or admonition. All the elements of morality are inherent in Nature, if we would but study them.

[Peter Kropotkin a Russian biologist and philosopher was a major influence on Sister Nivideita. Kropotkin understood evolution holistically. This lecture was given on 1897.]

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### Hymn for light and long life for all



*Him who shines crest by crest  
equally on all,  
The God of what moves and what  
stands still,  
May that Divine Arising Bless us.  
May we see a hundred autumns. May  
we live a hundred autumns.*

*-Rig Veda (Book VII: Hymn 66:15-16)*



*Service to humanity is the highest form of worship – Swami Vivekananda*

The child's desire of seeing and hearing, touching and handling, of smelling and tasting are all true and healthy hungers, and it can hardly be too strongly insisted that good teaching begins neither with knowledge nor discipline, but through delight. – Patrick Geddes

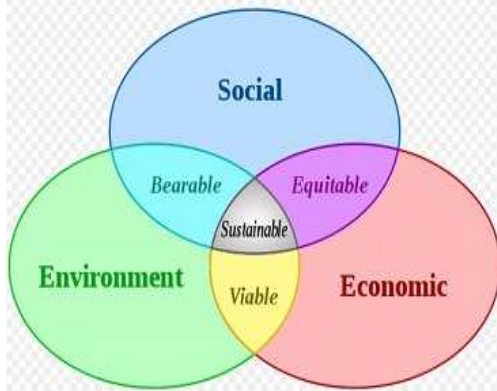


## Sustainable Building Practices: Embodied energy as a measuring criterion

This month...



### Let us define Sustainability



[Three pillars of sustainability]

We talk of sustainable technologies. How do we classify one system as sustainable and another as not or less sustainable? How to evaluate the sustainability of any practice? How do we compare two systems?

Let us take the building technology. Every human being needs a house to live. Every community needs community buildings – from civil halls to public toilets. What resource usage and what building technologies can make building a sustainable venture?

Creation of employment, using local socio-cultural practices, improving local skills etc. can be the social aspects to be seen while the return on investments, net investment, maintenance cost etc. can determine the economic aspect. Of the environmental factors, the important ones are the following: embedded energy, SPM emissions, Material Movement, Water Management, Renewable energy, Soil conservation and green coverage

### Let us define embedded energy:

Of these we shall take up embodied energy. It is the energy embedded in each and every building component. The table that follows show the embedded energy in building components.

MATERIAL	EMBODIED ENERGY	
	MJ/kg	MJ/m <sup>3</sup>
Aggregate	0.10	150
Straw bale	0.24	31
Soil-cement	0.42	819
Stone (local)	0.79	2030
Concrete block	0.94	2350
Concrete (30 Mpa)	1.3	3180
Concrete precast	2.0	2780
Lumber	2.5	1380
Brick	2.5	5170
Cellulose insulation	3.3	112
Gypsum wallboard	6.1	5890
Particle board	8.0	4400
Aluminum (recycled)	8.1	21870
Steel (recycled)	8.9	37210
Shingles (asphalt)	9.0	4930
Plywood	10.4	5720
Mineral wool insulation	14.6	139
Glass	15.9	37550
Fiberglass insulation	30.3	970
Steel	32.0	251200
Zinc	51.0	371280
Brass	62.0	519560
PVC	70.0	93620
Copper	70.6	631164
Paint	93.3	117500
Linoleum	116	150930
Polystyrene Insulation	117	3770
Carpet (synthetic)	148	84900
Aluminum	227	515700

**NOTE:** Embodied energy values based on several international sources - local values may vary.

So what is embedded energy and how is it calculated? The available energy that is necessary for an entire lifecycle of a product is its embedded energy. Lifecycle includes raw material extraction, transport, manufacture, assembly, installation, disassembly, and deconstruction.

Though there is no accepted consensus to measure the embedded energy in each component, pioneering attempts have been made. Today we have a general idea as to what aspects of energy consumption should be considered in the calculation. A kilogram of cement takes in 4.5 Mega Joules (MJ) of energy. A kilogram of lime takes 5.6 MJ and so on. (continued)

Green Health Home at Vivekananda Puram functioned for 7 days and treated 123 patients.

On 29<sup>th</sup> of January a Guest lecture was given by Dr.V.Ganapathi at Sharada college, Thirunelveli. The topic was "Importance of home remedies and its applications for common ailments". 130 persons, including students and staff, attended the lecture.



### Water and Sanitation ...

- Tested water from 14 wells in Kanyakumari Dist – programme of Central Ground Water Board, Chennai

In the Earth, there are innumerable particles and in each particle there is a world of the same earth principle. Just as the body is conceptually envisioned by consciousness, consciousness is articulated by the body. When carefully considered these are not two.

-Sri Narayana Guru



We should be constantly aware of our primary being and allow that being to flow into and fill our functions. Then, those functions will achieve new and significant dimension, new quanta of energy and grace.

-Swami Ranganathananda

As in all true progress, we must not only comprehend and transform the environment without but develop our life within. –Patrick Geddes



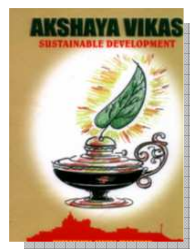
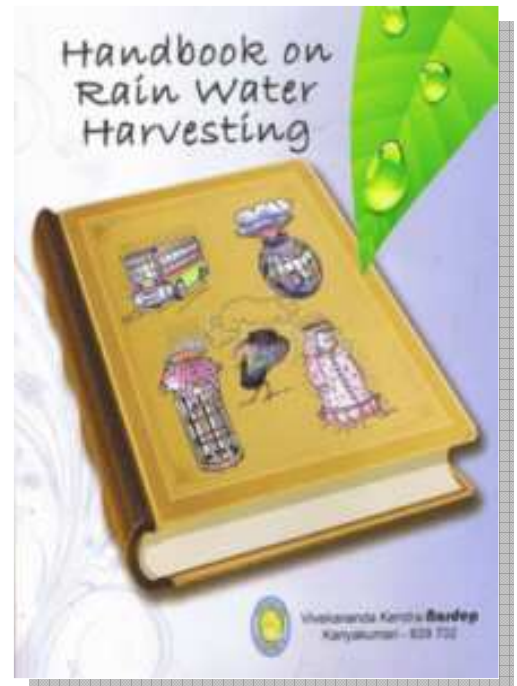
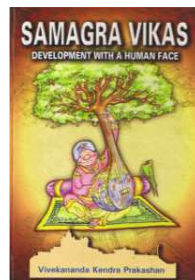
**Varma-Siddha Workshop: Live demo of therapeutic techniques for ailments using Varma points by traditional physicians**



At TRC of VK-NARDEP Shakthi Surabhi Bio-Methanation plant training programme: (RIF, NABARD)



**Hands-on-Training for Andhra Pradesh trainees at Kanyakumari: Azolla backyard cultivation**



## This month... Networking



Rashtriya Urja Jana-Jagriti Abhiyan (12<sup>th</sup> to 27<sup>th</sup>) was conducted by Vijnana Bharati, Cochin at Gandhi Mandapam, Kanyakumari. On 12<sup>th</sup> Shri.G.Vasudeo attended the inauguration of Rashtriya Urja Jana-Jadriti Abhiyan.

Tamilnadu Consumer Protection magazine gave a good write up on the motivation camp conducted by Vivekananda Kendra – NARDEP for Tamilnadu Civil Supplies Staff in the month of December 2010.



Networking activities here have been Done with DST core support

**Water Wars are coming. From streets to states, water which we took for granted is going to become as essential as blood. Save Water and you can save the future of humanity. How? This book is an eye-opener. For copies contact the Secretary Vivekananda Kendra-NARDEP Vivekananda Kendra, Kanyakumari-629702**

All things are parts of one single system, which is called Nature; the individual life is good when it is in harmony with Nature. ... Virtue consists in a will which is in agreement with Nature.

-Zeno (4<sup>th</sup> century BCE)



A multi-media session on Azolla backyard cultivation



### Happenings: This month for Sustainable Agriculture

- Workshop on “Azolla Technology” was held at Technology Resource Center, Kalluvillai on 22<sup>nd</sup>. The resource person was Dr.Kamalasannan Pillai.
- Workshop on “Azolla bio-fertiliser and biofeed production technology” (organized by, NABARD, Hyderabad) was held at Technology Resource Center, Kalluvillai, from 27<sup>th</sup> to 29<sup>th</sup> of January. 33 persons attended and benefitted. The resource persons were: Dr.P.Kamalasanan Pillai and his team

### Renewable Energy This Month...



On 14<sup>th</sup> January, 2011 Er.V.Ramakrishnan gave a talk on “Bio-methanation plant” at Sree Krishna Polytechnic, Kalliancaud, Kanyakumari Dist. Perumselvavillai. It was attended by 200 students. It was part of a students workshop on “Waste Management Techniques”.

In an Exhibition on New and Renewable Energy organized by TEDA (Tamilnadu Energy Development Agency) at Nanthampakkam, Chennai (14th to 16th January), VK-**nardep** exhibited Shakti Surabhi Bio-methanation plant.

Training programme on Shakti Surabhi Bio-methanation plant was held through the RIF of NABARD, Chennai. The training was conducted at TRC, Kalluvillai on 22<sup>nd</sup>. Ten persons attended and benefitted. The resource persons were Shri.G.Vasudeo and Er.V.Ramakrishnan

### A live Varma-Siddha technique demonstrated to the audience at the workshop



Trainees from Andhra Pradesh having a live-explanation about backyard Azolla cultivation.

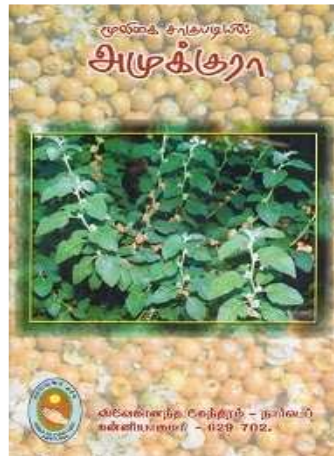
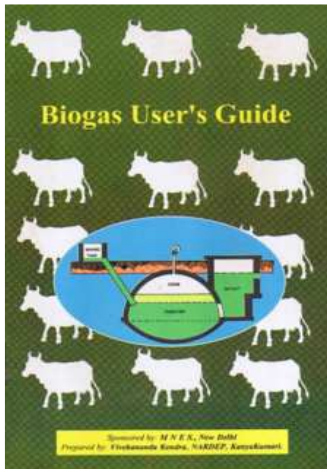
On Jan-25<sup>th</sup>, A Siddha – Varma Workshop on “Pakkavatham (Hemiplegia)” Vivekananda Kendra – **nardep**, Vivekanandapuram. The workshop was attended by 199 participants including traditional physicians and also Siddha students.

### A section of audience at the workshop (Below)





**Whatsoever is contrary to nature is contrary to reason, and whatsoever is contrary to reason is absurd. – Baruch Spinoza**

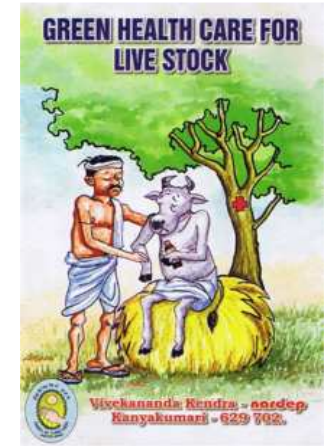
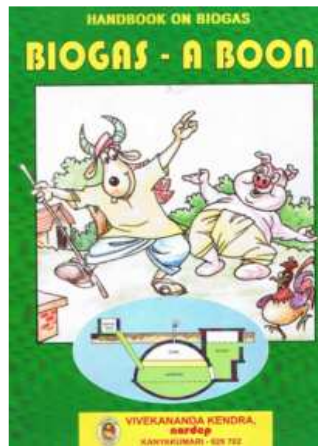
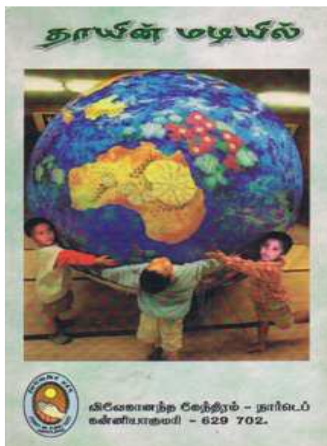


**Little squirrels discover a Mother**



In the roof of the Old Hall, squirrels would build nests. Once, some new-born squirrels dropped on Bhagavan Ramana's sofa. Their eyes remained yet unopened and the size of each baby may not have been more than an inch; they were very red in color with fresh flesh, absolutely tender to touch. The mother squirrel ignored them. Now what to do? How to feed and attend to such tender things?

The baby squirrels were in the palm of Bhagavan. Bhagavan's face glowed with love and affection for them. While there was a question mark in the faces of those who surrounded Bhagavan, He Himself was happy and cheerful. He asked for some cotton to be brought. He made a soft bed for them. He also took a bit of cotton and squeezed it to such a tiny end, the end portion looked like a sharp pin. He dipped it in milk and squeezed milk into the tiny mouths. At regular intervals, Bhagavan repeated this act of compassion. He tended them with great care and love till they grew up and ran around. They did not run away, only ran around their 'Mother'. Far kinder than their own mother!



**Do you want to give a gift that can cater to generations – literally? For the children and for the parents...**

**Some of the best publications on the subject of environment for layman and professionals alike are from VK-nardep.**

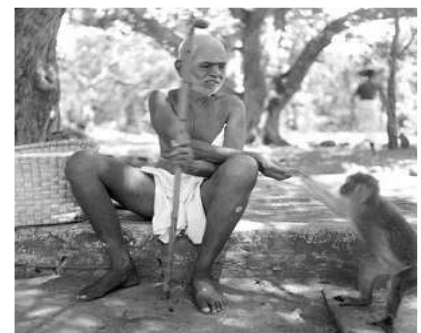
**Contact: The Secretary, Vivekananda Kendra-NARDEP  
Vivekananda Kendra, Kanyakumari-629702  
Tamil Nadu**

**Phone: 04652-246296 Email: vknardep@gmail.com**

**This month... Shakthi Surabhi**



One 100 cubic metre Bio-Methanation plant was commissioned this month at PSG College of Technology Coimbatore.



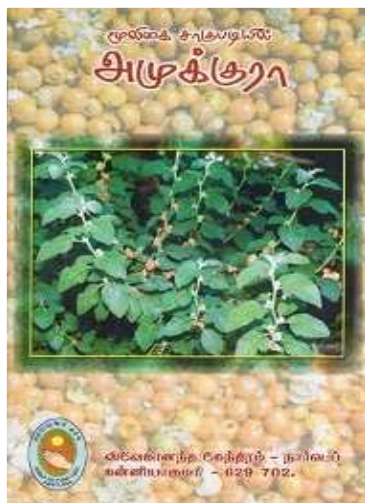
**All love is expansion, all selfishness is contraction. Love is therefore the only law of life. He who loves lives, he who is selfish is dying. Therefore love for love's sake, because it is law of life, just as you breathe to live.  
– Swami Vivekananda**



*What is experimented in action and practiced in life should alone be preached. Action and not preaching is essential. – Sri Narayana Guru*



### From Our Publications



It is called Indian Jinseng. It is a herbal plant that has a great market potential. Its Sanskrit name is Aswagandha and Tamil name is Amukkura. Its botanical name is *Vitania sominifera*.

This herbal plant has varied uses in indigenous medicines. There is a good market for this plant throughout the year. Hence cultivating this plant can fetch money. It can also be used for preparing medicines.

For example, if the tuber of the plant is mixed with palm sugar and taken two times a day then it improves immunity and eliminates nervous weakness. The book lists many such easy home medicinal solutions from different parts of the plant. The book also gives a detailed description of the biochemical components of medicinal value present in the plant.

The book details the agronomic practices for the cultivation of the plant. Optimal production practices, the crop cycle in tune with the climate conditions are also given. Soil condition conducive for the growth of the plant is also mentioned.

The different local varieties of the plant, seed care, plant protection means are also explained. The harvesting and storage is explained in another chapter. How to use each part and what are their medicinal properties are also explained in separate chapters.

The book has different multi-color plates. The explanations are simple. It inspires the common reader to take up home cultivation as well as commercial cultivation of this plant. The book also gives technique to use this plant as mixed crop with other crops.

This book is written by well-known Siddha doctor Sri. Ganapathi. This is yet another important addition to VK-nardep efforts to conserve the indigenous medicinal system.



[Amukkura:Indian Jinseng Root]

**Amukkura (Tamil)**  
**Pages: 30**  
**Price: Rs 25/-(subject to change)**  
**Secretary VK-NARDEP**  
**Kanyakumari -629 702**  
**Year: 2002**

Foreign delegates visiting the VK-nardep stall at Exhibition on New and Renewable Energy organized by TEDA (Tamilnadu Energy Development Agency)



100 Cubic metre Bio-Methanation plant commissioned at PSG college, Coimbatore



Bio-Methanation plant intensive training session : Multimedia session by Er.Ramakrishnan.



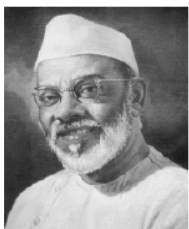
Are you growing spiritually? Can you love others? Can you feel oneness with others? Have you attained peace within yourself? And do you radiate it around you? That is called spiritual growth, which is stimulated by meditation inwardly, and by work done in a spirit of service outwardly.  
 –Swami Ranganathananda



### Dharmic Economy

If there is anything that characterises Gandhiji's life, it is his devotion to Truth and Non-violence. Any economy that is associated with his name, should therefore, answer to these fundamental principles. ... In studying human institutions we should never lose sight of that great teacher, mother Nature. Anything that we may devise, if it is contrary to her ways, then she will ruthlessly annihilate sooner or later. Everything in nature seems to follow a cyclic movement. Water from the sea rises as vapour and falls on land in refreshing showers and returns back to the sea again ... A nation that forgets or ignores this fundamental process in forming its institutions will disintegrate. ... To lead to any degree of permanence, the standard of value itself must be based on something apart from the person valuing, who is after all perishable. Such a basis, detached and independent of personal feelings, controlled by ideals which have their roots in the permanent order of things, are objective and so are true and reliable guides.

– *J.C. Kumarappa*  
 Gandhian Economist



### Intuitive Science

.... I was filled with awe at this stupendous generalization; and it was with great hope that I announced my results before the Royal Society, - results demonstrated by experiments. But the physiologists present advised me, after my address, to confine myself to physical investigations in which my success had been assured, rather than encroach on their preserve. I had thus unwittingly strayed into the domain of a new and unfamiliar caste system and so offended its etiquette. It is forgotten that He, who surrounds us with this ever – evolving mystery of creation, the ineffable wonder that lies hidden in the microcosm of the dust particle, enclosing within the intricacies of its atomic form all the mystery of the cosmos, has also implanted in us the desire to question and understand. To the theological bias was added the misgivings about the inherent bent of the Indian mind towards mysticism and unchecked imagination... But in India this burning imagination which can extract new order out of a mass of apparently contradictory facts, is also held in check by the habit of meditation. It is this restraint which confers the power to hold the mind in pursuit of truth, in infinite patience, to wait, and reconsider, to experimentally test and repeatedly verify.

– *J.C. Bose*  
 Physicist



### Cosmic Vision

The discovery that there is order in the universe, that there are laws of nature, is the foundation on which science is built on today. Our conception of the cosmos -- all of modern science and technology --is traced back to questions raised by the stars. Yet, even 400 years ago we had still no idea of our place in the universe. The long journey to that understanding required both an unflinching respect for the facts and a delight in the natural world.

... It is the birthright of every child to encounter the cosmos anew in every culture in every age. When this happens to us, we experience a deep sense of wonder. The most fortunate among us are guided by teachers who channel this exhilaration. We are born to delight in the world; we are taught to distinguish our preconceptions from the truth. Then, new worlds are discovered as we decipher the mysteries of the cosmos.... Our loyalties are to the species and to the planet. We speak for earth. Our obligation to survive and flourish is owed not just to ourselves but also to that cosmos ancient and vast from which we spring!

– *Carl Sagan*  
 Astro-Physicist

