

Echoes of Eco



February , 2011

Vivekananda Kendra- nardep Newsletter

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Learning to Experience Gaia



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Welcoming the Goddess of Dawn



***She has shone brightly like a young woman,
Stirring all organisms to life.
Now it is time to kindle the sacred Fire:
Dawn has made light and chased away the darkness.
-Rig Veda (Book IV: Hymn 7:77:1)***

To understand Gaia, we must let go of the mechanistic, compartmentalising conditioning imposed on us since childhood by our society. From an early age nearly all Westerners (and especially young scientists) are exposed to the concept that life has come about due to the operation of blind, meaningless laws of physics and chemistry, and that selfishness underpins the behaviour and evolution of all plants and animals. A child's mind becomes totally ensnared by this style of intellectuality, so that the intuitive, inspirational qualities of the mind are totally ignored.

The mind's intuitive ability to see each part of nature as a sub-whole within the greater wholes is destroyed by this sort of education. The result is a totally dry, merely intellectual ecology, not a genuine perception of the dynamic power, creativity and integration of nature.

A Gaian approach opens new doors of perception and opens up our vision of the inter-dependence of all things within the natural world. There is a symphonic quality to this interconnectedness

It is a quality which communicates an unspeakable magnificence. When you stand on a sea-cliff in winter, watching masses of grey cloud rolling in from the ocean, a Gaian view helps you understand the cloud in its global context. It has formed due to massive climatic forces and has manifested within a small part of the whole – the part you happen to be standing in. The water in the cloud is circling through the water cycle, from rain to river to sea to coccolithophore to cloud again.

As you experience this dynamic, ever-shifting reality, you may suddenly find yourself in a state of meditation, a state in which you lose your sense of separate identity, and become totally engrossed in the life process being contemplated. The contemplated and the contemplator become one. From this oneness there arises a deep appreciation of the reality of inter-dependence, and from this comes the urge to be involved in opposing all sorts of ecological abuses.

[**Stephan Harding**: Trained as a field ecologist, Stephan Harding collaborates with James Lovelock on Gaian computer modelling.]



Knowledge of the self is the mother of all knowledge. So it is incumbent on me to know my self, to know it completely, to know its minutiae, its characteristics, its subtleties, and its very atoms.

-Khalil Gibran



Sustainable Building Practices: Embodied energy as a measuring criterion-Part-2

This month...



Calculating Embedded Energy

Let us now make a sample calculation of Embedded energy or energy for building materials :

1 kg/cement => 4.5 MJoule
 1 cubic mtr of Morter 1:6 Requires
 300 kg of Ordinary Portland Cement
 0.97 CuM (say 1.00) of River Sand
 165 ltr of water
 1kwhr for mixing
 0.5 Man day of Labour

Thus the energy that goes in to 1 cum of Mortar

The same way we can calculate for Cement, Sand, Water-Mix&Labour as follows: $300 \times 4.5 + 1.0 \times 87.5 + 0.165 \times 50 + 5.0$ (LS)
 =1450 MJ/m³

Further 1 cum of Brick Masonry requires
 0.75 cum of bricks & 0.25 cum of Morter

The same way energy can be calculated for every construction activity.

The following tables show the embedded energy that is present in different components of building technology. Such embedded energy is often left out of conventional building calculations but they determine the sustainability of the technology.

Energy in mortars

Mortar type	Proportion (by vol.)			Energy per m ³ (MJ)
	Cement	Soil	Sand	
Cement mortar	1	0	6	1405
Cement mortar	1	0	8	1091
Cement-pozz. mortar	0.8:0.2	0	6	941
Cement-soil mortar	1	2	6	865
LP mortar	1 (1:2)	0	3	756

Energy in masonry materials

Type of unit	Size (mm)	Energy in 1 block or brick (MJ)	Energy per brick equiv. (MJ)
Size stone	180 X 180 x 180	0	0
Burnt clay brick	230 X 105 X 70	4.25	4.25 (100%)
Soil-cement block	230 X 190 X 100	2.60 (6% C)	1.00 (23.5%)
	230 X 190 X 100	3.50 (8% C)	1.35 (31.7%)
Hollow concrete block	400 X 200 X 200	12.30 (7% C)	1.32 (31.2%)
	400 X 200 X 200	15.00 (10% C)	1.62 (38.1%)
Steam cured block	230 X 190 x 100	6.70 (10% L)	2.58 (60.6%)

Energy in masonry

Type of masonry	Energy per m ³ (MJ)
1. Burnt brick masonry	2141 (100%)
2. Hollow concrete block masonry	819 (38.3%)
	971 (45.4%)
3. Soil-cement block masonry	646 (30.2%)
	810 (37.8%)

All these energies that are embedded in different components have to be taken into account and a optimal and least energy required method needs to be evolved. Needless to say that such a method automatically will vary from place to place, region to region and shall be determined by the use of local materials. The technologies thus evolved will have plural nature and the mono-culture nature of conventional building technology will not be applicable to such an evolved technology. [To be continued]

Green Health Home at Vivekananda Piram functioned for 4 days and treated 252 patients.

Ethno-medicines documentation was done by Vivekananda Kendra – NARDEP at the Padanthalumoodu Marthandam Madichal areas and also on Rajapalayam on 14th and 22nd of this month by the team of investigators under the guidance of Dr. Ganapathi. They collected details from the Vaidyars about the types of Kayathirumani thylam and preparation methods



Done with DST core support



Water and Sanitation

Towards Water Democracy VK-nardep along with Commune di pistoia and Water Right Foundation, Italy conducted the following workshops:

For SHG women was conducted at Vadiveeswaram village on 21st. 162 beneficiaries attended this workshop.

For College students was conducted at Gramodaya Park on 22nd. 82 college students attended the workshop

For school children was conducted at SMRV School, Vadasery on 21st. 60 students attended the workshop.

For school children was conducted at Govt. Hr.Sec. School Kottaram on 24th. 80 school students attended this.

For College students was conducted at anganapuram Village (Ammal Appa College students) on 24th. 45 college students attended the workshop. The resource persons for the above programmes were Shri. V .Ramakrishnan and Sis. .Saraswathi

For school children was conducted at Govt. Hr.Sec. School Kottaram on 26th. 75 school students attended this. The resource persons were Shri. C. Vijayaraghavan and Sis.V.Saraswathi

When things are investigated, knowledge is extended. When knowledge is extended, the will becomes sincere. When the will is sincere, the mind is correct. When the mind is correct, the self is cultivated.

- Confucius



Training Programme on Shakthi Surabhi in progress at TRC of VK-NARDEP



Workers of Lakshmi Seva Sangam, Gandhigram in a session at Green Health Home of VK-nardep



This month... Networking



The following study tours were made to the various departments of VK-nardep by students of educational establishment to study the technologies and activities:

On 2nd of February 35 students of the Zoology Dept. of Holy Cross College, Nagerkovil visited VK-nardep technology resource center at Kalluvilai, to study the technologies for Vermi-culture and Bio-fertilizers.

On 16th and also 20th and 24th workers of Lakshmi Seva Sangam, Gandhigram visited Vivekananda puram. They visited the Green Health Home to study our SHG activities.

On 17th 15 students of Master of Social work at S.T. Hindu College, Nagerkovil visited Gramodaya Park to study the Rural development programme



Networking activities here have been done with DST core support

Workshop on Azolla technology in progress at TRC of VK-NARDEP



Students of Holy Cross college learning vermin compost technology at VK-nardep,TRC , Kalluvillai



What is Biogas? How to install and maintain a Biogas plant? What are the practices for optimum biogas utilization? From the point of view of both an end-user and technician this manual has been written. For copies contact the Secretary Vivekananda Kendra-NARDEP Vivekananda Kendra, Kanyakumari-629702



Let your mind wander in simplicity, blend your spirit with the vastness, follow along with things the way they are, and make no room for personal views-then the world will be governed....Chuang-tzu



High Capacity Fixed Bio-Methanation plant Shakti Surabhi installed at PSG College of Technology (Coimbatore) by Vivekananda Kendra-nardep.



Happenings: This month for Sustainable Agriculture

Workshop on “Azolla bio-fertiliser and biofeed production technology” was organised by NABARD, Hyderabad and was conducted at the VK-nardep Technology Resource Center, at Kalluvillai on 31st January to 2nd February. 20 persons attended this workshop Dr.P.Kamalasanan Pillai and his team served as resource persons.

Exposure to sustainable agriculture technologies along with training was given to 182 persons in four groups from four districts. This workshop under the heading “Sustainable Agriculture” was organized by Agriculture Technology Management Agency, Govt. of Kerala and was held at TRC Kalluvillai, and training was given by VK-nardep resource persons. The workshops were held on February 20,21,22 and 23.

Workshop on “Azolla Cultivation” was held at VK-nardep, TRC, Kalluvilai on 26th February. The resource person was Smt.S.Premalatha

Renewable Energy This Month...



On 2nd of February at the Zero Waste Management Workshop organized by Nagercoil Municipality at Marshal Nesamony Building, Nagerkovil Shri.V.Ramakrishnan gave a talk on “Bio-methnation plant”. 53 officials and members of various voluntary organizations attended this meet

Training programme on Shakti Surabhi Bio-methanation plant was held under (RIF) NABARD, Chennai. It was held at TRC, Kalluvilai on 26th. 8 persons attended and the resource person was Shri.V.Ramakrishnan

‘Towards Water Democracy’ session for School students at Gyanadeepam School



A session on ‘Towards Water Democracy’ to college students in rural settings: Ammaippa Polytechnic students

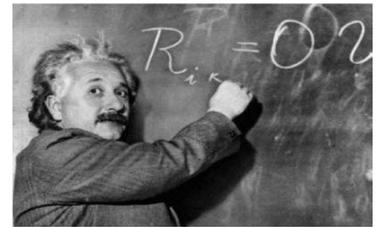
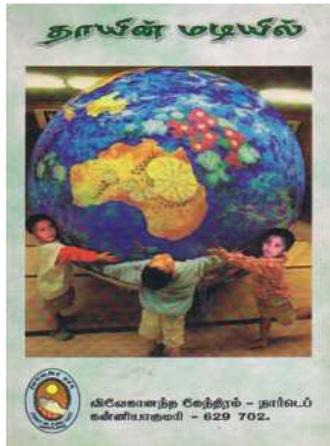
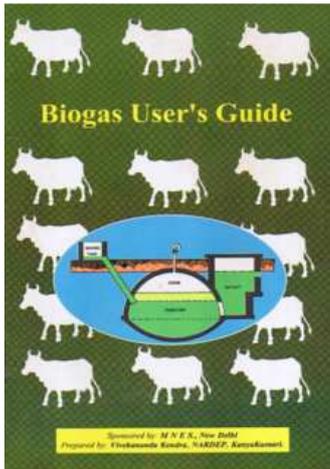


Water and Sanitation ...

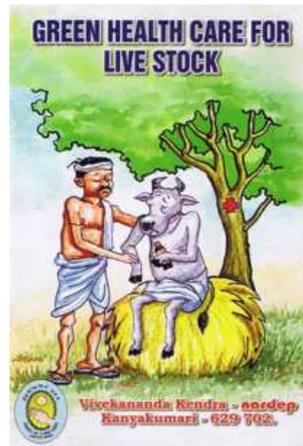
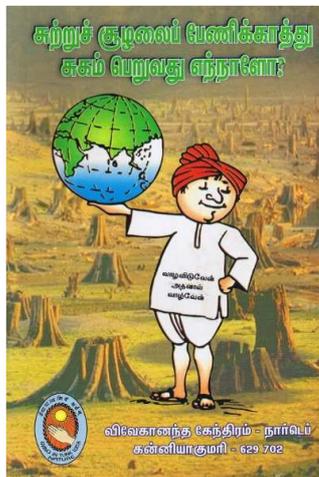
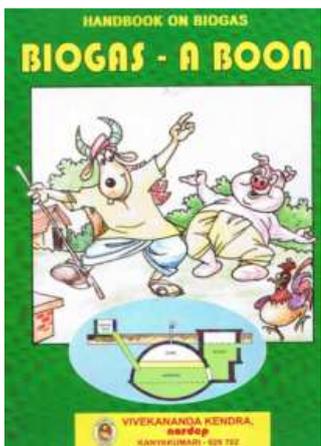
Tested water from 14 wells in Kanyakumari Dist – programme of Central Ground Water Board, Chennai



If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. – Rachel Carson



- In matters of truth and justice, there is no difference between large and small problems, for issues concerning the treatment of people are all the same.
- The pursuit of truth and beauty is a sphere of activity in which we are permitted to remain children all our lives.



How Shakti Surabhi tackles the waste-disposal problem in a multi-faceted way:

- Alternative fuel for cooking gas
- Waste disposal - very good for bio degradable waste management system
- Hygienic - no odor and flies
- Arrests green house gas
- Digested outlet slurry is good as organic manure

How to feed the future humanity?
 How to make development sustainable?
 Some of the best publications on the subject 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... Shakti Surabhi

5 Shakti Surabhi plants were commissioned this month under RIF scheme of NABARD, Chennai



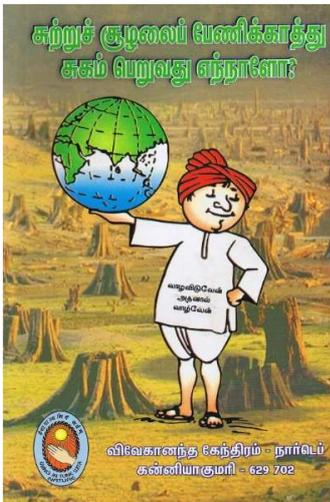
All love is expansion, all selfishness is contraction. Love is therefore the only law of life. He who loves lives, he who is selfish is dying. Therefore love for love's sake, because it is law of life, just as you breathe to live.
 – Swami Vivekananda

A man is rich in proportion to the number of things which he can afford to let alone.

--Henry David Thoreau



From Our Publications



The vision of teachers is important in firing the imagination of their students with a mission for the betterment of not just one's own life but the lives of others.

Creating awareness about the need for preserving the planet and the importance of environmental crisis that is engulfing the earth, is the duty of the teacher. But are our teachers themselves aware of these challenges? That is the question.

So Vivekananda Kendra – nardep collected essays about ecological awareness from the teachers of Vivekananda Kendra Vidhyalaya and published the best article as a book. This book is one such book which is written by a teacher and in a simple and effective way the book explores the different dimensions of preserving the well being of the planet.

The book is mainly addressed to children. It explains the Indic concept of creation as dynamic manifestation of five basic elemental forces,

Then it explains how plants are necessary for well being of humans and how simple herbs that can be grown at the backyard can help us to prevent major diseases and live a healthy and happy life.

Happiness is the measure of one's success in life. This is the underlying message of the book. If you love all life then happiness becomes part of your very living habit the book explains. The book shows through illustrations how all life is interconnected. It shows how farmer in his field is helped by the web of life.

Another chapter explains how the cultural components can be understood in an ecological context. Every temple has a Sthala Vriksha and every Deity in Indian culture has a specific tree or herb associated with Him/Her. If these are understood properly then the devotee will also develop a love for all life. The teacher also points out that the famous ten incarnations of Vishnu also shows that Godhead can manifest in all life forms and just not exclusively in human life alone. Hence we should develop a reverence for all life forms. The book also details what lessons and values of life can be learnt from other life forms and natural phenomenon.

The book is written by Vivekananda Kendra Vidhyalaya teacher Smt. Gauri Kalyani

Sutru Chuzhal Peni... (When shall we save the environment and shall live happily?)

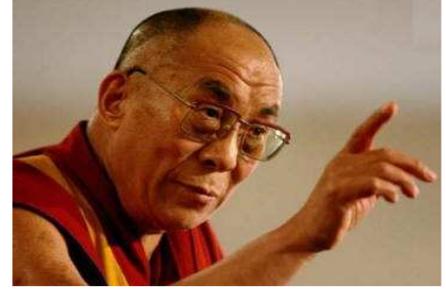
Pages: 48

Price: Rs 15/-(subject to change)

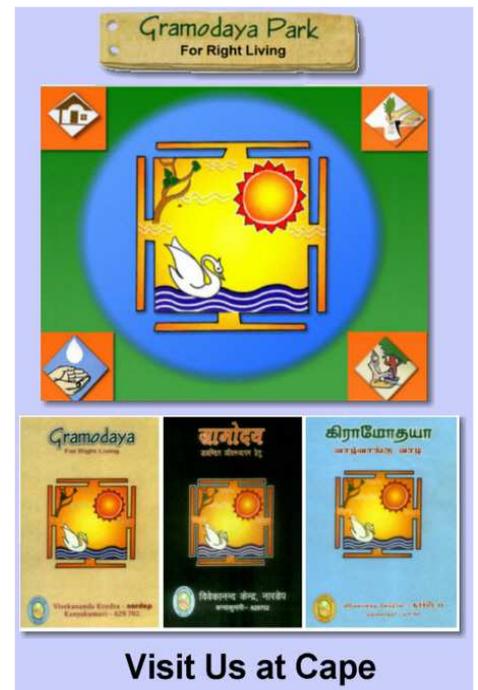
Secretary VK-NARDEP

Kanyakumari -629 702

Dalai Lama Says



- Happiness is not something ready-made. It comes from your own actions.
- Love and compassion are necessities, not luxuries. Without them humanity cannot survive.
- It is very important to generate a good attitude, a good heart, as much as possible. From this, happiness in both the short term and the long term for both yourself and others will come.
- Today, more than ever before, life must be characterized by a sense of Universal responsibility, not only nation to nation and human to human, but also human to other forms of life.



Visit Us at Cape

Dancing is surely the most basic and relevant of all forms of expression....In it the creator and the thing created, the artist and the expression, are one. Each participates completely in the other. There could be no better metaphor for an understanding of the mechanics of the cosmos.

– Lyall Watson (Biologist)



Human Organism

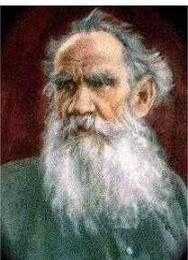
All mankind is an undying organism; men are the particles of that organism, and each one of them has his own special task for the service of others.

In the same manner, the cells united in an organism share among them the labor of fight for existence of the whole organism; they magnify the power of one capacity, and weaken another, and unite in one organ, in order the better to supply the requirements of the whole organism.

And exactly in the same manner as with gregarious animals,—ants or bees,—the separate individuals divide the labor among them. The queen lays the egg, the drone fructifies it; the bee works his whole life long. And precisely this thing takes place in mankind and in human societies. And therefore, in order to find the law of life for man, it is necessary to study the laws of the life and the development of organisms.

– *Leo Tolstoy*

Russian writer



Science and Religion

Once a man asked me, “I am an atheist. How can you explain God to me in such a way as to make me respect, or even listen to, what you are saying?” I replied, “Why don’t you try thinking of God as the highest potential you can imagine for yourself?” For a moment the man looked taken aback. He then commented somewhat grudgingly, “Well, yeah, I think I can live with that!”...

It doesn’t really matter whether or not God exists, any more than it matters how high a mountain slope rises above any low mists hanging overhead. True mysticism seeks to climb ever upward, until endlessness is achieved. Whereas true mysticism is motivated by upwardly aspiring ideals, materialistic science tries, instead, to keep man satisfied with objects he sees already on the hillside. ... Someday, true science and true religion together, in their desire for truth, will discover those eternal verities that alone possess the secret of unity in a single vision.

– *Swami Kriyananda*

Spiritual leader



Human Significance

At the scale of the Earth, humans are tiny things, like fleas on the back of an elephant. But these tiny creatures have begun quantifying and monitoring the subtle changes in the body temperature and the physical conditions of their host, seeking ways to mitigate, or adapt to, climatic changes. Indeed, the progression of global warming and the greenhouse effect have been tracked in this way ...

One unique aspect of human intelligence is its ability to apprehend conditions beyond our physical scale and see the larger picture. Today such global self-awareness is not limited to the halls of academia....

We have the power to be a cancer in the body of the Earth, or to be co-creators of a reflexive, ever more comprehensive living system. It’s time for us to imagine and to achieve our global brain as a concrete living system—time for us to co-create an evolution in which science and collective human consciousness embark on a common development.

– *Shin'ichi Takemura*

Anthropologist

