

green by design

YOUR GUIDE TO ECO FRIENDLY LIVING

INDIA'S 1ST PLATINUM RATED HOME

Clever equipping and weatherising of a house makes it eligible for a LEED platinum rating by the IGBC

+
A BIO-DIVERSE HOT SPOT IN THE DRAB PORT AREA OF MUMBAI

A LOOK AT THE REVIVAL OF COOLING TOWERS

US PRESIDENT OBAMA'S GREEN INITIATIVE



July Contents 2009



EDITOR'S NOTE

'Seize every opportunity' seems to be the order of the day. That is every chance to be as eco friendly and environment conscious in our day to day life as possible. Every aspect of living should

be premeditated and in total reverence to the well being of planet earth and therefore its climate.

Forecasts for global temps grow increasingly dire; a 5 deg spike by 2100, a brief instant in geologic time would almost certainly prove to be a disaster for civilization. The key is to free ourselves at every level of the energy chain.

We should build smart grid highways, better insulated buildings, cultivate higher yielding crops closer home and preferably from recycled organic waste. A dedicated team of employees at the Mumbai port trust's central kitchen very ably elucidates this idea.

Where architecture in present times is concerned, the majority of builders follow the tenet of don't do any more or build any better than you have to'. Now it looks like builders might actually have to build better, as building codes move beyond health and safety and get serious about energy efficiency.

A few responsible builders whose works we showcase here have already set out on the path of sustainable and environment preserving construction e.g. Sudhir Reddy in Hyderabad, Biome Environmental Solutions Pvt. Ltd. in Bangalore, Hiren Patel and Abhikram in Ahmedabad and Stup Design Consultants in Delhi.

Everybody loves to talk about increasing the efficiency of cars, but buildings are kept on the back burner. Even though experts tell us that buildings are responsible for almost half of our energy consumption and greenhouse gas emissions, and over three quarters of our electricity consumption, radical and significant measures have not been taken yet.

The search for a silver bullet for energy is wrong on many levels; the real reform has to take place in our mind-set and approach.

Mala Bajaj

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NARI'S AWARD WINNING LANTERN

In a tough competition with five prominent nominees the Indian research institute NARI (Nimbkar Agricultural Research Institute), won the Globe Sustainability Research Award 2009.

TEXT BY SHEETAL M PHOTOGRAPHS COURTESY NARI

SUSTAINABILITY if practised from the heart and soul can certainly fetch results in a positive and appreciable way and that is exactly how NARI (Nimbkar Agricultural Research Institute) won the Globe Sustainability Research Award 2009 for its lantern cum stove called the Lanstove. This honour was awarded to NARI's representative director Anil Rajvanshi, by H.R.H crown princess Victoria of Sweden, at a ceremony in the winter garden of the Grand Hotel in Stockholm on June 3rd 2009.

The award winning Lanstove is an extremely efficient dual purpose system. It is a pressurised lantern with rare-earth mantle lighting which also doubles up as a cooking stove. This unique lantern which not only illuminates but also acts as a cooking device runs on a low concentration [50% (w/w)] ethanol-water mixture. The 50% ethanol-water mixture is less flammable than pure ethanol, making it safe to handle and hence ideal for household cooking purposes. It burns very cleanly and therefore is environmental friendly as well.

The Globe Award originated in 2007 in Sweden and was founded by the interna-



Mr. Anil Kumar
Rajvanshi
(Director, NARI)



tional business network and marketplace Globe Forum with the aim to support and encourage successful and innovative CSR (Corporate Social Responsibility) work. The Globe Award 2009 acknowledges prominent researchers, innovators, cities and companies from all parts of the world within four categories, Sustainability Research, Sustainability Innovation, Sustainable City and Sustainability Reporting.

The goal of the Globe Sustainability Research Award, this year was to discover and encourage researchers and research institutes prominent in sustainability research. The jury for the Sustainability Research Award was chaired by Mohan Munasinghe, Nobel Peace Prize Laureate 2007 and Vice Chairman of the UN Intergovernmental Panel on Climate Change. Jury members were Dr. Mona Makram-Ebeld, former member of the Egyptian Parliament and Professor of political science at the American University, Cairo Egypt; Frederick C. Dubee, Senior Adviser, United Nations Global Compact Program, working extensively in China and Asia, and Tommy Borglund, Head of CSR services at Hallvarsson & Halvarsson Sweden.

"The Globe Sustainability Research Award jury analyses and judges several criteria, including originality, practicality, and contributions to humanity through economic gains, social development and environmental protection," said, Mr. Mohan Munasinghe, Chairman of the Globe Sustainability Research Award jury. Talking more about NARI Mr. Mohan said, "The Nimbkar Agricultural Research Institute (NARI) project on development of a low grade ethanol filled cylinder, which provides energy to produce a high quality light output in lanterns, as well as clean fuel for cooking systems, was the outstanding example of sustainability research, based on these criteria."

On receiving the prestigious award Mr. Rajvanshi said, "We are delighted to receive this prestigious international award at the hands of HRH Crown Princess Victoria. This award recognises and confirms NARI's philosophy that high tech solutions based on local resources can be developed appropriately by a rural organization to solve the basic problems of the people residing in such areas of the world."

NARI, (www.nariphaltan.org) is an NGO and a non-profit research and development institute. It was established in 1968 by Mr. B.V. Nimbkar who remained its first president till 1990. Since then Dr. Nandini Nimbkar is the permanent president. The institute undertakes research and development in agriculture, renewable energy, animal

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The lantern,
winner of the Globe
Sustainability
Research Award
2009

THIS PAGE RIGHT
An electronic
rickshaw by NARI - A
sustainable trans-
port option.



husbandry and sustainable development. It is situated in the rural town of Phaltan in Maharashtra state, Phaltan is about 100 km from Pune and 300 km south-east of Mumbai. The Institute actively collaborates with researchers in other organizations and institutes such as NFCL, NCL, BARC, TIFR and BAIF, UF (USA) and UNE (Australia).

One of the main categories in the product portfolio of NARI is renewable energy in which they have talked about their sustainable products and systems. Its solar powered ethanol distillation plant which was set up in 1980s at their campus was capable of distilling 50 l/day of 94% (v/v) ethanol from NARI's Madhura sweet sorghum hybrid. The solar collector area was 38 sq. m. About 70% of the energy for distillation came from solar energy. A solar detoxification pilot plant was also set up to treat distillery effluent at the NARI campus. It could clean 200 litres of diluted distillery waste in two days. The photo catalyst chemical used could be recycled and the waste water had 90% transmittance and hence was fit for discharge in waterways. Additionally, NARI has developed a biomass gasifier for loose agricultural residues like sugarcane leaves which are the major pollutants of air.

NARI has also developed technologies for a green, pollution free sustainable transport system for developing countries. The institute has manufactured pedal rickshaws, motor assisted pedal rickshaws and electric rickshaws; all of which have been exported to Europe and America. NARI can transfer their technologies under license to any interested party.

Mr. Rajvanshi the director of NARI and the originator of the Lanstove concept has over 30 years of experience in the field of renewable energy, r&d and rural development. He has a B.Tech degree in mechanical engineering from IIT Kanpur and has a Ph.D. from the University of Florida, USA. He left a very lucrative career in the US to come back and settle down in rural India. He is the author of the national policy on Energy Self Sufficient Talukas, which was run by MNES, New Delhi. In 1998, he was inducted in the U.S. based Solar Hall of Fame. He was also awarded the prestigious Jannalal Bajaj Award for rural development in 2001. In 2004 his work on the electric cycle rickshaw was awarded the Energy Globe Award (also called the Oscars of Energy). He has authored and co-authored 135 publications in various national and international journals including 35 editorial articles on sustainable development and spirituality in some of the major newspapers and magazines of India.

Contact:

Nimbkar Agricultural Research Institute (NARI)

Tambhal, Phaltan-Lonand Road

P.O.Box 44

Phaltan-415523, Maharashtra, India

tel: (02166) 222396/220945

email:nariphaltan@gmail.com/ anilrajvanshi@gmail.com

web: www.nariphaltan.org

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The solar detox pilot plant located at the NARI Institute.

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The institute is situated in the rural town of Phaltan, Maharashtra.