GOVARDHAN ECO VILLAGE

NEWS LETTER

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The consumption of non-renewable sources of energy has caused more environmental damage than any other human activity in the last century. Over dependence on fossil fuels such as coal and crude oil, which have been used for electricity generation and other uses have led to high concentrations of harmful gases in the atmosphere that has resulted in ozone depletion and global warming. With fast depleting oil reserves, an energy crisis seems imminent. So, what is the solution to this imminent crisis? The best solution would be to revert back to the vedic life style, i.e. a life without electricity and many such modern amenities. But, it would be very difficult to make this sudden transition. The next best option is to opt for some other alternative sources of energy that can offset or at least reduce the problems caused by fossil fuels.

BIOGAS

The eco-alternative

Biomass is a renewable energy resource derived from the carbonaceous waste of various human and natural activities. It is derived from numerous sources, including the by-products from the timber industry, agricultural crops, cattle dung, raw material from the forest, major parts of household waste and wood. Biomass does not add carbon dioxide to the atmosphere as it utilizes the same amount of carbon in growing as it releases when consumed as a fuel. In the case of animal wastes and other bio-degradable wastes, it is environmentally more beneficial to convert them into biogas. This is because the biogas, when used for thermal or electricity applications, is converted into carbon di-oxide and released into atmosphere. The same bio degradable waste, when allowed to decompose naturally, would lead to release of methane, which is a much more damaging green house gas as compared to carbon di-oxide.

At present, biogas technology provides an alternative source of energy in rural India for cooking. It is particularly useful for village households that have their own cattle. Through a simple process cattle dung is used to produce a gas, which serves as fuel for cooking. The residual dung is used as manure. Apart from cattle dung, field crops may also be grown intentionally as an energy crop, and the remaining plant byproduct used as a fuel.

Biogas is produced from bio degradable wastes through a process called anaerobic digestion. During this process, some organic compounds are converted to methane (CH_4) and carbon dioxide (CO_2) gases. This mixture of gases is known as biogas. The composition of biogas is 50 to 75 per cent CH_4 and 25 to 45 per cent CO_2. Like natural gas, biogas can also be used as a fuel in power generators, engines, boilers and burners.

In practice, specially designed and insulated tanks are used to facilitate the anaerobic digestion process under a controlled atmosphere. These tanks are known as anaerobic digesters or bio digesters. The effluent coming out from the digester after the completion of the digestion process is known as digestate that has high nutrient value and can be used as manure. Digestate also has much less odour compared to stored manure. Some comonly used technologies used for biogas plats are Fixed dome, Floating dome and Bag type. A typical Biogas based Power Generation System comprises of Biogas Plant, Gas Cleaning System, Engine with alternator, Control Panel, Machine Room / Shed and Manure management system. For further technical details please visit www.ecovillage.org.in

BIOGAS @ GEV

Biogas based Power Generation Systems(BPGS) are an area of extensive focus and research at GEV. Biogas not only is an efficient renewable source of energy but also complements organic farming by providing nutrient rich manure. Being especially convient for small scale operations, it proves much cheaper and simpler than bio-fuels. With a regular infeed from the GEV Goshala, BPGS is a highly suitable means for decentralized power generation.

Currently operating with a 30 cu.m floating dome biogas plant and a 6 cu.m fixed dome biogas plant, a power of 30 units is generated using a 15 KVA/12 KW biogas generator. Biogas is also being used for varous cooking purposes. With plans of constructing a 100 cu.m plant the domestic power requirements at GEV are expected to be met completely by BPGS. In order to meet the in feed requirements, a 5-acre plot will be used for growing fuel crops like suagr beet. Sweet sorghum as an in feed is also being experiemented.

15 KVA/12KW Biogas Generator

GEV ACTIVITIES

On 20th and 21st of September, the GEV hosted the National Medicinal Plants Board(NMPB), who held a two day seminar on the importance and cultivation of medicinal plants. The seminar was attended by a host of dignitaries and local farmers. The seminar was well received and later on the members of NMPB planted a herbal garden in GEV campus.

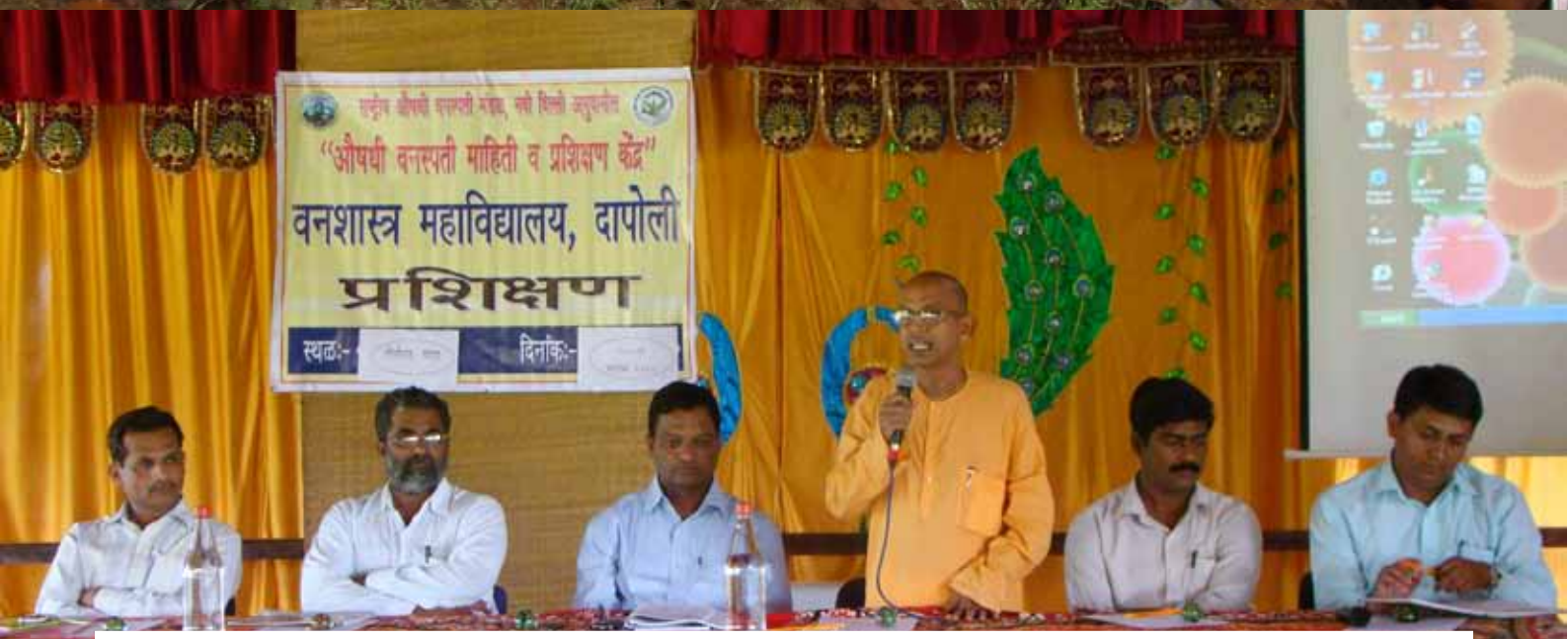
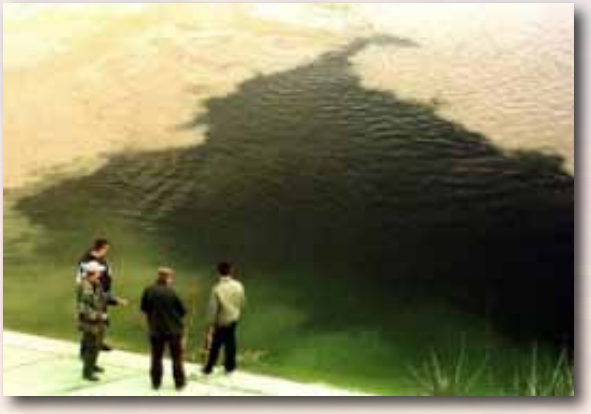


Photo from left to right: Taluka agriculture officer Mr. Nerkar, Krushi Bhushan progressive farmer Mr. Milind Patil, Sub Divisional Agriculture officer Mr. Kanwade, GEV representative Mr. Sanath Kumar Das , Proff. Kushare KVK, Kosbad and Dr. D.N.Mokat, Co PI and Assistant Professor, College of Forestry, Dapoli.

DISASTER STRIKES AGAIN



Even before the world has fully recovered from the BP oil crisis, another Eco-disaster has struck! A toxic spill of mining waste from an industrial plant in western Hungary, is causing panic waves all over central Europe. An estimated 1 million cubic metres of red-coloured sludge, mixture of water and mining waste including toxic heavy metals like lead, cadmium, arsenic and chromium, spilled from an Alumunia refinery, after a dam broke. This chemical sludge a byproduct of the refining of bauxite into alumina, is highly alkaline with a pH level of up to 13. The sludge has already spread into rivers with fears that heavy rains will see it reach the Danube River, sparking bad memories of the Baia Mare disaster in Romania, when cyanide polluted water was discharged from a gold mine reservoir poisoning water and wildlife through neighbouring Hungary, Serbia and Bulgaria. The trajedy has already killed 7 people and many more have suffered sever chemical burns. Many Hungarian villages, farmlands and towns near the plant are badly hit and worse affected is the Marcal river, where in all life has been “Extinguished”. Even as the clean up operations are under progress the plant officials have anounced resumption of operations arising fears of further contamination.

Peace and the survival of life on earth as we know it are threatened by human activities that lack a commitment to humanitarian values. Destruction of nature and natural resources results from ignorance, greed and lack of respect for the earth´s living things.

- H is H oliness Dalai Lama

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