

Appropriate, Clean Technology: For Better Environment

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Abstract: *Appropriate Technology can help achieve ‘sustainability in the changing climate and global economic melt-down. Extreme efficiency, war on waste and value maximization is the solution of the today’s burning problems. That means getting ‘more from less, for more’. It is essential for better environment locally & globally. This will ensure better future to our future generations.*

Appropriate Technology stems from two of the profound statements that Mahatma Gandhi had made - “Earth provides enough to satisfy every man’s need, but not every man’s greed”. Appropriate Technology means getting “more from less”! It is a concept intended to convey deep frugality and a willingness to apply conventional wisdom to engineering, technological innovation and new product development.

It means "Getting more (services) from less (resources) for more (people)" in the most economical manner possible, with least damage to nature. Indians and South Asians are known for Appropriate Technology. But this oriental wisdom, now giving way to wasteful Western Technology.

1. INTRODUCTION

Appropriate Technology - Achieves ‘sustainability in the changing climate, Global economic melt-down. Today, extreme efficiency, war on waste and value maximization is the solution. That means getting ‘more from less, for more’. It is essential for better environment locally (in Rajasthan) & globally. This will ensure better future to our future generations.

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2. NEED OF THE HOUR

As examples of radical Appropriate Technology, we would prize every invention of science made for the benefit for all”. This means getting it for “more and more people”! The marketing and business aspect of Appropriate Technology is to provide modern products with essential features to tap the bottom of the pyramid. Many Indian engineers are trying to achieve more with fewer resources. But many more yet need to appreciate Appropriate Technology.

Expanding the theory about Appropriate Technology and the significant role it would play in the 21st Century, we say that “get maximum from minimum, for most of the people”. This means the design and development of products and services with more performance, from less material, less cost, less time, less environmental pollution and for benefit of not privileged few but for more and more people on this planet; in fact all 7.1 billion people, whose income levels are less than two dollars a day.

Corporates so far worked hard to get more (productivity) from less resource (human, physical, financial capital) for more (profit, share holder value). But now they must also embrace Appropriate Technology by getting more (performance) for less (cost) for more and more (people). Corporates need to do a lot more to serve their motherland.

As of now, when it came to products and services, “high price – high performance” was reserved for the rich. Low price – low performance was, of course, for the resource-poor. Can we change this price-performance envelope to say that we will build “low price – high performance” for the resource poor? Yes, we can. But for this, we require Appropriate Technology. Here is an example.

There was a time, when a mainframe computer occupied the size of the room. Today a laptop sits in our lap and has a power that is far more than those old computers. However, the laptop costs \$ 2000. Can we make it for less. Indeed it can be done.

As Encore’s Vinay Deshpande has demonstrated in CSIR’s New Millennium Indian Technology Leadership Initiative. He has designed Mobilis, a mobile PC, which costs around \$ 100. Can we make it for less than \$ 100 with reasonable features ?

Indian examples of 'Appropriate Technology' abound – whether it is the international quality hepatitis-B vaccine at one tenth of the international price or a highly super-absorbing two cent diaper that a housemaid can afford.

The wait for the world's cheapest tablet is finally over! The \$35 tablet nicknamed Aakash has been launched is available at retail stores. Smokeless Chulha, Solar Cooker, Solar Torch and a host of community technologies in India and elsewhere are examples of 'Appropriate Technology'.

3. CLIMATE CHANGE

The answer is again getting more (performance) from less (carbon dioxide emissions and therefore, global warming) so that we can save the planet for more (generations to come). This is essential to avoid Kawas (Barmer), Kedarnath and Kashmir -like Disasters.

There are several examples of 'Appropriate, Clean Technology' for different sectors, strata, scale and scope. It will also describe innovative approaches of organization and funding of research to achieve 'more from less, for more'. Access to cheap, solar-based LED technology can light the homes of millions.

It highlights as to how the survival of the civilian society in this century will depend on how creatively 'Appropriate, Clean Technology' is used in shaping our lives, both in the developing part of the world as well as the developed part of the world.

Fumes from indoor cooking fires kill more than 2 million children a year in the developing world. Smokeless Chulha is a tool for turning farm waste into clean-burning fuel. Great idea, more intelligent design. With more ideas like this we can help improve health conditions of many people.

Although there are many other great obstacles to overcome, baby steps are necessary until then. Solutions to burning charcoal, cow manure, whatever are abundant. Solutions are only as effective as the cultural reformation of rituals, habits, and supporting societal network(s).

We just wanted to ask if the idea of solar ovens was considered and if so what disadvantages led to its abandonment as a means to cook and boil water. It seems like a method that could be adopted locally and cheaply helping the poor move up and away from poverty, as though promoting fiscal wealth is the only means to solve the consequences of poverty--starvation, a lack of health care etc. and perhaps within the realm of today's economically driven societies this is true.

However, if upward momentum is the only solution to poverty, poverty will never be solved; as people will continue

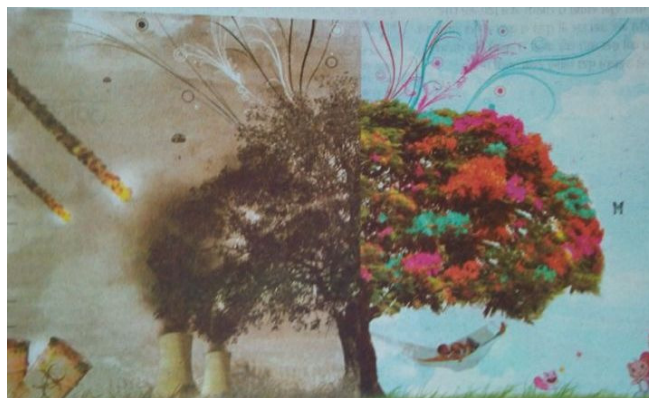
to scramble for the top, endlessly, stepping on the backs of those below them to get there, instead perhaps it's worth considering merely addressing the ability of all people to meet their basic needs, equally.

However, the problem lies in insulating the oven effectively enough to reach searing and grilling temperatures. The production of insulating material could be locally created with some of the methods. Some solar oven designs, add the use of light reflectors (or concentrators) for which aluminum can be used. Aluminum sheets can be found in old printing press plates.

We may teach individuals how to make small solar ovens to cook rice and beans for school lunches. What amazed us about the human mind (any human, not just those living with limited resources) is how un-innovative we are. Even though the sun has been around forever, even though fuel for the cooking fire grows ever scarcer, the idea of solar cooking seems to be forever new.

We want to say is that we humans are very much dependent on one another for information and ideas. For this reason, whether or not a visible difference is made, We support the effort of individuals who are going into resource-limited communities and sharing what they have to offer.

Gobar gas plant is an opportunity to make use of the cow dung / animal waste that is otherwise lost in the chulha for cooking and water-boiling and producing compost as byproduct for soil for new growth of food and trees - a net carbon-negative process.



Other examples of 'Appropriate, Clean Technology' are :

1. Solar Steam Cooking Systems
2. Using Green Building Concepts
3. Green Curriculum, Green Engineers
4. Making jobs more green
5. Rain-water harvesting
6. Low-cost, environment-friendly housing

‘Appropriate, Clean Technology’ requires to change our materialistic, destructive life- styles and work-styles for a better earth for our future generations.

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