

ENERGY CONSERVATION THROUGH RECYCLING OF BUILDING MATERIALS

AR. B. H. Sutar

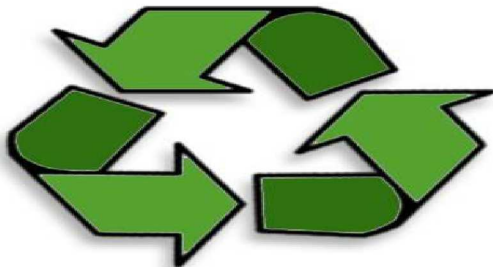
Prof. Bharati Vidyapeeth, Deemed University College of Architecture, Pune

INTRODUCTION

Environment protection is one of the serious global issues of the millennium as the government of India in year 2001 has enforced such environmental protection act. What are the elements, which are threatening to environment? Nothing but the man made environment.

Building waste disposal & management is a global environmental problem. Construction is one of the prime activities identified to receive recycled waste materials in various ways. Building industry generates @ 20% of industrial waste, 40% of final disposal & 90% of illegal dumping.

Resource Recycling Residential technology is based on the three arrows on the symbol represent different components of the recycling process.- Reduce, Reuse & Recycle



The **top arrow** of the symbol represents the collection of **recyclable materials** (e.g. an aluminum can, a piece of white office paper, a plastic)

The **second arrow** (bottom right) represents the **recyclables being processed into recycled products** (e.g. a new aluminum can from an old aluminum can, a park bench from recycled plastic milk jugs).

The **third arrow** represents when the consumer actually buys a product with **recycled** content. This is the most important step as it closes the recycling loop.

CONCEPT

Building waste material generated from the waste may be consumed or put to use whereas some industrial wastes are recycled to be used as a product for building. It is based on main two factors namely : community & built environment..

One of the basic needs of human is housing. Due to industrialization & urbanization the housing problem has become critical day by day. For construction of house we innovated and developed various materials and technologies. Conventional building materials impact the environment. Environ-

ment pollution like air, water & soil pollution are the present days problems that have to be overcome.

A material can have an impact on the environment even at the end of its life cycle. Building material that cannot be recycled becomes waste. Therefore the need for recycling of this material or using environment friendly material comes into existence. Most common material for recycling is steel. Various rolling mills re-role the waste / scrap steel into reinforcement bars or binding wires which is again used in the building industry.

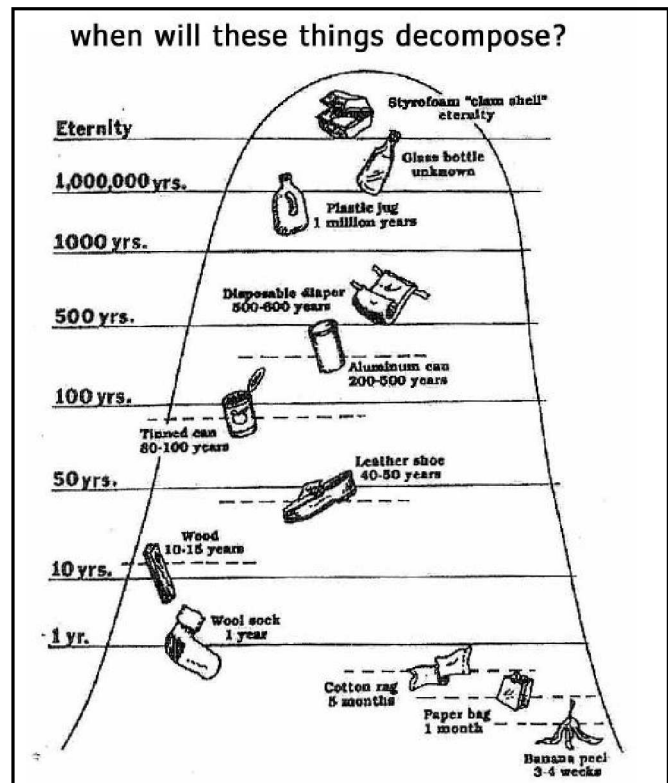
Recycled aluminum saves 95% energy vs. virgin aluminum;

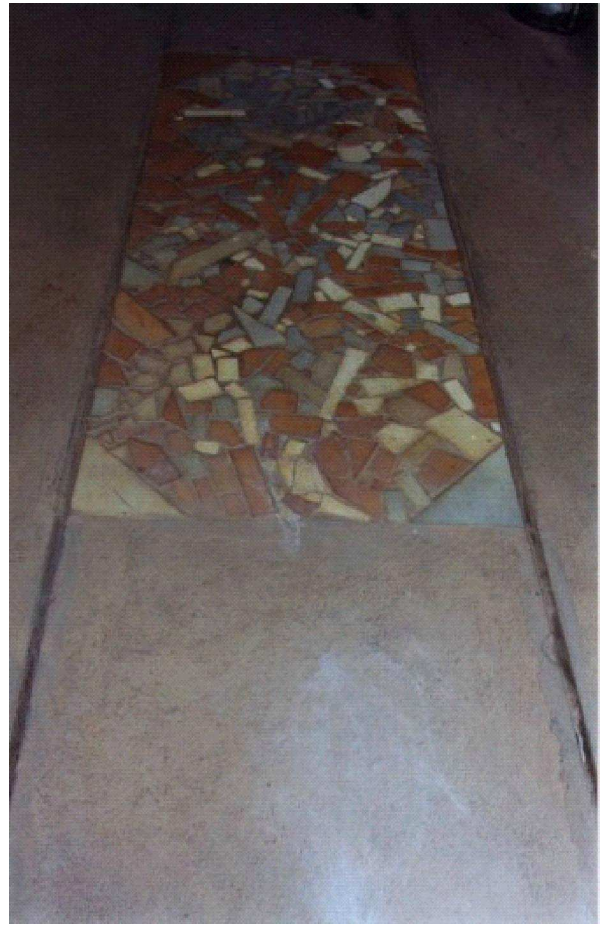
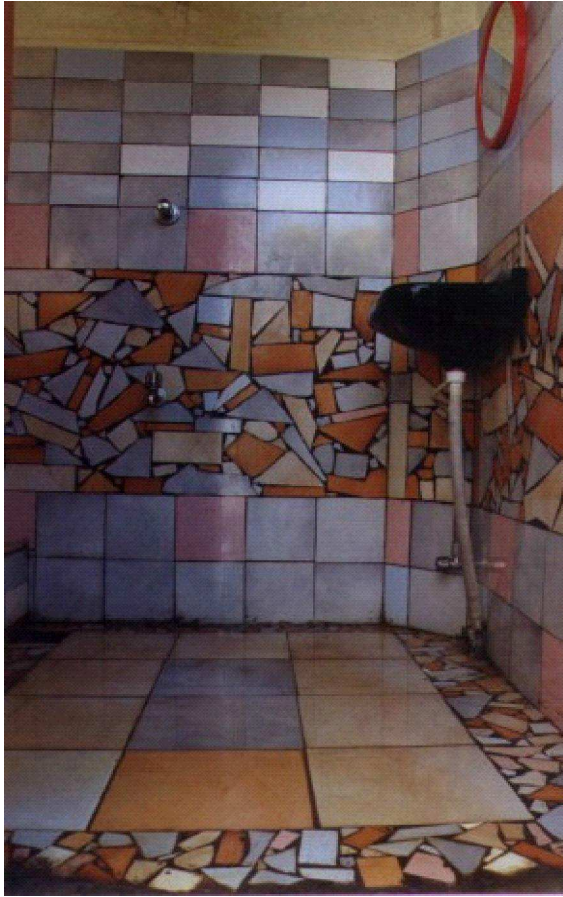
Recycled glass saves 50% energy vs. virgin glass

Recycled paper saves 60% energy vs. virgin paper

If we recycled every plastic bottle we used, we would keep 2 billion tons of plastic out of landfills .Fly ash is used with clay for preparation of building bricks.

Similarly various waste products of the construction process itself can be reused within the same building. Broken, waste bricks used for brick bat coba. Waste glazed tiled are used for making waterproof top floor flooring, Cut stone slabs are used to avoid R.C.C. plinth beams.





USE OF WASTE CERAMIC TILES



USE OF PEBBLES FOR FLOORING



Facts! Facts!!

To construct a home for normal family, we require about 50,000 bricks-To make these bricks we require about 120 tones of raw earth. For total need of bricks for urban homes we need about 300 crores tones of earth.

In Himarchal Pradesh till recently, to make apple crate boxes 1.4 lakhs trees were cut annually.

For every 1000 sqft home – 10 trees (35 yrs old) are cut for joineries

To make 50,000 bricks (to fire) 5 trees (35 yrs old-Tamarind tree) are cut to use as fire-wood. It takes about 625 sqft of vegetation to produce the daily Oxygen required by one person.

One single polystyrene cup contains 1 billion molecules of CFC's- a single CFC atom may remain in the atmosphere for up to 100 yrs before it becomes harmless.

CONCLUSION

In this way we can recycle & put to use a lot of waste material from construction & other industry for replacement of new materials. Intelligent use of available resources can make energy conservation & save the global environment

So let us join together to share and care to make our mother Earth live longer. We can reduce, reuse and recycle everything that we take from Mother Earth. Start today. Because tomorrow, We may not have a planet left to save.

REFERENCES:

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- * Sun wind & light, Givoni.

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