"If it's not a product, it's waste!"

Waste is actually a very interesting word. As a noun it is a synonym of 'litter', 'trash', 'garbage', 'rubbish'. As an adjective it can be either 'leftover', 'excess', 'unused' or 'cultivated', 'barren', 'fallow'. And as a verb it could mean 'squander', 'misuse' or 'weaken', 'wither'. And yet most of us associate waste simply with the muck that stinks and overflows from the garbage trucks!

It was therefore most educative to sit through Dr R N Singh's hour-long C-MMACS Foundation Day Lecture last week. Dr Singh began by reviewing the changing definitions of waste: from 'uncultivated land' to 'not processed', 'unproductive' to 'waste product' ... he was in effect saying that "if it is not a product, it is waste". For the most part, Dr Singh talked of 'waste management', and the "philosophy, psychology and economics of waste". "Waste is growing alarmingly. This is going to become a very serious problem, if it isn't one already!", he said.

Dr Singh talked of the human propensity to create waste, and the human failure to contain this waste. "Our waste generation rises persistently ... even our ability to absorb waste is now being threatened". The solution was to adopt a low waste strategy and to look to nature as the guide ("nature recycles in closed loops, has integrated energy-material cycles and ensures that the waste of one process becomes the resource of another"). The guiding principle, Dr Singh explained, should be the 3 R's: reduce, reuse and recycle .."and only then worry about the final disposal". Such an 'eco-efficient' approach could immediately achieve a 1/5th reduction of the total waste.

Dr Singh also traced the approaches to waste management over time: "to start with, we worried more about pollution control, then we tried technological and transitional approaches to waste management .. and it is only now that we recognize that our approach must be multi-disciplinary (after all, it isn't much good having clean water if the process spoils the soil). Dr Singh cited examples of decarbonization ("use hydrogen instead of carbon") and dematerialization ("replace materials by information, e.g. using cellular phones instead of land lines") and ended his narrative by citing two remarkable projects undertaken by NEERI: to restore biodiversity in a mine dump and use filterable wastelands for sewage disposal.

The message therefore was: engineered solutions to waste management are simply not good enough; our ancient wisdom was always ecological and only industrial ecology holds the promise of providing the final solution. "Using the natural way for waste management can no longer remain a vision; it must become a reality".

Srinivas Bhogle