

Ecological design: If ecological design were widely adopted

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Friday, February 1st, 2002



If ecological design was widely adopted.

Recently we (Joanna Pearsall and Bryan Innes) have been thinking about and discussing what would it look like if the principles of permaculture were widely practiced.

What differences would we notice if we lived in a society that was indeed sustainable, that was consciously based on biological and ecological models?

We are definitely at a time when all kinds of assumptions, ideas and theories are up for reassessment; when businesses, science, manufacturing, governance even religions are all in a state of flux. The issues raised by genetic engineering are deep and far-reaching.

The picture we paint here is not intended to be an ideal, but something we can actually realise.

In future we may look back and see that apparently small changes will have profoundly affected the shape of our individual lives and our communities. We believe the shifts of most importance will be in the conceptual realms; in the way we think.

In future, it could be that:

Cities are quieter, greener and redesigned for pedestrians. Most buildings are topped by green houses or by gardens. On some, waste-water from the building is purified in reed beds and used for the roof top gardens. Each city has a network of green belts, through which weave foot and cycle paths. There are plenty of trees in these green belts, which provide food and fibre as well as habitat for birds. Kereru, Tui and Bellbird and other birdsong is heard over the city noise.

Most of the buildings have been retrofitted, so they are appropriately insulated for warmth in the winter and cooling in the summer. They have also been redesigned to suit the needs of those using the building. There is good quality daylight and air and areas where people can meet, children can play etc. Solar water heating is common. Many of the buildings are fitted with photo-voltaic panels, not only on the roof, but incorporated in other components of the buildings such as windows. Thus the building has become a power generator and the electricity fed into the national grid. Net metering is the usual system. (The building feeds excess power into the grid during the day, driving the meter backwards and draws from the grid during the night pushing the meter forwards again). No new power stations have been built, as energy conservation is accepted as more cost effective and environmentally friendly.

Storm water is harvested in a series of swales and ponds, recharging the water table with clean water and providing neighbourhoods with plenty of water for city food forests, including bamboo and other fibres.

Living systems are highly valued, not only for the resources they supply, but also for their services. (A healthy environment automatically supplies clean air, clean water,

water storage, flood management, rainfall, fertile soil, watershed resilience, waste re-processing, climate moderation and regeneration of the atmosphere). Therefore, large natural areas providing such services surround each city, town and village.

City forests are understood as an obviously sensible land use for food, fibre, timber production and wildlife habitat.

Sewage is collected, in each neighbourhood, into small bio-gas plants and the gas fed back to the that neighbourhood for cooking and water heating. The remaining fertilizer used for the city food production.

Roads are fewer and smaller. Shoulders have been reclaimed for green space. The public transport system is well developed, cheap and used by a majority of citizens. Private cars are smaller, lighter, fewer and vastly more efficient. Hydrogen fuel cells are the most usual motive power, which have only water as exhaust.

The air is a lot cleaner without fossil fuel car exhaust.

Food is growing everywhere in abundance, maintained by ecological methods. Community gardens are part of life, and those who do not wish to grow their own food have the benefit of joining a local co-op, either for purchase of food, or for making their front or backyard available as part of a city farm.

Clean water is highly valued and used sparingly and carefully. Riparian forests and grasslands line all streams and rivers. Dryer areas are planted in such a way that irrigation is not required. Grey water (the waste from showers, kitchen sinks and household laundry) is kept separate from black water and industrial wastes, and cleaned using biological processes.

There is a vast increase in the variety of recreational past-times, so large arenas are fewer, but there is a plethora of smaller sports parks catering for a great diversity of activities. The parks have many fruit and nut trees planted alongside native and other specimen trees.

The suburbs are retrofitted, so that each group of 40-50 families has community facilities available. There are meeting places, work nodes and educational opportunities for all ages. Developers and planners now support housing clusters, which include granny flats, where older people can live in close proximity to the rest of their families, remaining independent as long as they can.

The building code looks different too. It contains standards for passive solar design, maximum embodied energy limitation, electro-magnetism and energy efficiency.

Schools look very different with most learning happening in the home neighbourhood.

Travel is more for cultural and social activity and less for work and business.

Cultural life is rich, varied and inclusive. Festivals, street parties and concerts are an integral part of life for all whether urban or rural.

Marine reserves have flourished, providing rich breeding grounds, so that inshore fishing provides plenty of fresh fish for the family diet.

Rural re-population has occurred. Smaller provincial centres and villages are flourishing. They are focused on smaller, safe and culturally rich neighbourhoods. Much of the food needs of the population are grown in the town or closely surrounding it. Sewage provides bio-gas and fertilizer.

What was once steep and eroding bare land is now in permanent forest. Ecological farming is the norm. Farming birds (including emu, ostrich and possibly kereru) is common. Companies based in towns and cities have areas of forest as carbon sinks to balance their use of fossil fuels. Many companies have also developed relationships with rural communities, so that their workers can have a chance to relate more closely to nature and have time away from the city in pleasant surroundings. Waste management has become resource reallocation; energy efficiency is paramount. Landfills are a thing of the past (as they are already in many parts of the world) Wastes are seen as resources and materials are reused or recycled. Many jobs have been created in disassembly plants, where resources are claimed for future use. Capital consumer items (such as cars, washing machines and televisions etc.) are no longer owned by the individual, but leased from the manufacturer, who retains ownership and responsibility for the goods from manufacture to recycle, thus ensuring responsible use and reuse of the materials. (This is already happening. Ray Anderson, CEO of Interface, Inc. has launched the transition from selling carpet to leasing floor covering services.) Employment is now a choice for everyone as there is much work for people to do, maintaining the social fabric as well as earth repair. Education on how to maintain well-being, is now the main function of the public health system. The population is in better health due to lower stress levels, meaningful work for reasonable hours, good quality food, comfortable homes and less travel. People have time-rich and rewarding lives. There are many large areas of wilderness, where indigenous plants and animals are abundant. Our dominant pets are now kiwi, geckos and kereru, rather than cats, dogs or ferrets.

“We have lived by the assumption that what is good for us would be good for the world. We have been wrong. We must change our lives, so that it will be possible to live by contrary assumptions that what is good for the world will be good for us. And that requires we make the effort to know the world and what is good for it. We must learn to co-operate in its processes, and to yield to its limits. But even more important, we must learn to acknowledge that the creation is full of mystery; we will never clearly understand it. We must abandon arrogance and stand in awe. We must recover the sense of majesty of the creation, and the ability to be worshipful in its presence. For it is only on the condition of humility and reverence before the world that our species will be able to remain in it.” Wendell Berry, *Recollected Essays*.