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Beyond Sustainability

A submission to the House of Representatives
 Standing committee on Environment and Heritage

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HOUSE OF REPRESENTATIVES
 STANDING COMMITTEE ON
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This paper addresses the House of Representatives Standing Committee on Environment and Heritage Discussion Paper issue 4:

Manage and minimise domestic and Industrial Waste.

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Introduction

A fundamental social change required in all aspects of Australian life is the need to view all human relationships with the environment as a single entity.

The concept of 'environmental problems' is just that- it is a concept. The Environment does not have any problems. It is humanities relationship to the environment that is the problem.

The 18th century attitude that the environment needs to be defeated to serve humanity is a base flaw in our human systems.

We need to perceive all of our activities from the perspective of 'Systems Design Thinking' where the process is predicated on the outcome.

We need to perceive the required outcome and then work toward it through appropriate systems design in all areas relating to the built environment.

Identifying the need for change

The myriad difficult issues of industrial society are soundly based on the treatment of symptoms.

We expend vast resources pursuing solutions to problems that could have been avoided through the application of better management and design in the first instance.

From our treatment of human illness to our handling of wastes - all attempt to provide solutions at the end of the pipe- all are based on solving the problem after it has been created.

Many cultures around the world had found in past millennia that the principal and most effective method of dealing with problems was to prevent them happening. Yet our 'developed' societies actively pursue our problems after they have been fully developed.

We treat the body after the illness has started to demonstrate symptoms.

We pay for goals rather than develop effective crime prevention.

We insulate and save energy in homes after these homes have been poorly designed and constructed

We talk of recycling programs after the generation of waste.

This is true of almost every field of endeavour in industrialised societies. We find the answer to every social issue at the bottom of a cliff. We send in another ambulance at the bottom, when what we should be doing is building a fence at the top.

There is an obvious need on a resource and land-limited planet to address the issue of sustainability not for the perspective of a single generation but from the dual notions of 'survivability' and of multiple generations.

More than any other corrosive social issue our survivability is threatened by our attitude toward resource use and the cancerous economic attitude that drives it. It is difficult to believe that any sensible person in this world can think that we can have an ever-expanding economy on a resource-limited planet.

Our guilt-ridden response of partial recycling as a panacea for the wastage ills that beset our societies is yet another ambulance. It is simply an excuse for lack of positive action and a distraction from the real activities required to make this world sustainable and in generational terms, survivable.

Focussing on a different solution

We do need efficient and effective recycling and reuse programs. But they must be designed in such a way as to continually move all things in use from one level of use to another, or to ensure that all materials are used to their best environmental benefit – at all times. In nature, all things are in constant use, either actively or passively. We must learn to build a replica of this system into our social structures.

To address the real issues of continued occupation of this planet by humanity we need to go back to the top of the cliff and redesign our products, our processes, our systems, our economics and our education programs, with the cycles of nature in mind.

We need to reinvent our industrial processes to work with nature, to fit with nature, to mimic nature, to be part of nature. If we are to have expanding economies, they must expand by cooperating with nature, not externalising their negative impacts to it.

The very first step in this process is to see all the outputs of any activity as yet another resource for inclusion in yet another cycle. We must begin to move from thinking of outputs as waste to thinking of outputs as inputs.

This not the destination of our journey, but the leaving point.

As we move along this new road, systems for continual resource streaming will be put in place. These systems will react and respond positively to any input supporting the natural system. They will reward good behaviour and penalise bad.

All human activity is conducted within social and cultural systems that direct our behaviour. Unacceptable social behaviour brings admonition, reprimand and penalty.

Waste, pollution and environmental damage are a threat to our very survival on Earth and need to be managed within a system that sees them as unacceptable social behaviour.

Waste management systems which have negative impacts on resource use and sustainability, must be replaced with systems for resource recovery and management which support and reward good behaviour and penalise bad.

Engaging the community

Resource recovery systems must reflect the optimum benefit back to the community. They need to be people based and people focussed. They need to link the population back to its resource base.

Our systems need to connect the community back to the land. It is the land which is our food provider. It is the land which sustains us.

Of all the environmental problems confronting humanity today, it is this degradation of our farmland that is both one of the greatest threats and one of the most easily addressed.

Farming should be viewed as a mineral extractive industry, which progressively removes from the soil not only the organic fraction, but also minerals and trace elements.

All of this material is exported from the farm in plants and animals and carried into the cities where it is processed through people and after passing through a waste management system, ends up in either our landfill or our sewage treatment works.

How did this negative, linear process come to be the basis of our food production?

How did we become trapped in such a downward spiral?

Plants cannot make minerals and trace elements and these important structures in healthy plant growth are not put into our soils through the application of fertiliser.

It takes anywhere between 60 to 90 minerals, nutrients and trace elements to grow and build a plant. Yet our fertiliser applications in the main return only three elements to the soil, nitrogen, phosphorus and potassium.

The process of degradation of our soils costs us millions of dollars per year as a nation, while at the same time chemical fertiliser is constantly rising in cost, both to the farmer and to the broader community.

Our farm gate national fertiliser bill is in excess of \$4 billion in Australia every year.

Much of this degradation and structure loss in soils is caused through falling levels of soil carbon and micronutrients. These in turn cause reduced microbial activity in the soil – the very activity that releases nutrient to the plant.

Research in 1997 by Anthony Ringrose-Voase of the CSIRO clearly demonstrated that the falls in the levels of organic material in soil are directly attributable to decreases in the value of both crops and farm land.

Depletion of soil quality is a problem that hits the headlines in newspapers around the world every day. A science report from Britain recently stated that in excess of 30% of farm soils in the UK were deficient in organic material. Another report to the World Wildlife Fund stated that three quarters of Southern European agricultural soils have 2% or less organic carbon.

The quality of these soils decrease further with every crop removed from the farm in every country around the world.

Yet, at the very same time, the greatest contaminant in our landfills is organic material. It is the moisture from organic material, which leaches through the landfill to create further problems of contamination and pollution.

If this same organic material could be returned to the food chain through farmland application, we could eliminate forever the problems of landfill, create local employment programs, go some way to relieving the destruction of our soils through the overuse of chemical fertiliser, grow higher quality produce and save money all at the same time!

If chemical fertiliser continues to destroy our agricultural lands, landfill will be the graveyard of sustainability, and desolation and deprivation the legacy of our grandchildren.

There is a constant cry from compost manufacturers that there is no market for their products. At the same time our soils cry out for the application of organic materials, micronutrients and microbial activity, which is compacted into our landfills every day.

We have an urgent need for national programs which are focussed on the removal of organic materials from the waste stream and the processing of this material into a viable, safe, balanced organic product for use on farms.

There is not a farmer in this world who wants to leave their children acres of desolation and destruction. But the farmer is given no choice.

The farmer is the keeper of the nation's soil. It is the farmer's activities, the farmer's sustainability, and survivability that will determine the long-term viability of our agricultural base.

It should not be expected that a farmer whose business is open to flood, famine, fire and drought should be driven to using methods which, while keeping up production, destroy the soil. Yet they seem to have no choice, nobody else will pay the farmer's mortgage while he changes to more 'organic' practices.

Who will provide the financial breathing space to allow for the luxury of change?

Who will provide the farmer with a viable, productive alternative to the constant use of chemical fertiliser responsible for the degradation of our soils and the reduction in food value of the crops produced on them?

How can we support the fertiliser companies in their distribution of this new range of products?

Protein levels are falling in produce from many farming areas. Even the seemingly indestructible deep rich soils of the Queensland Darling Downs are producing crops with falling protein levels.

Everything we do, everything we export, relies on the quality of our soil and its ability to produce. In the state of New South Wales, 70% of the land is affected by at least one form of land degradation; almost 30% is severely to very severely affected.

In the massive watercourse that constitutes the Murray-Darling River basin we are losing up to \$700 million worth of agricultural land every year to degradation in its various forms.

This is a national issue - the responsibility of all Australians. We must find a National solution.

The juggernaut of global trade has forgotten that it cannot exist without the soil.

It is the soils of all lands, which feed and clothe the workforce, which makes the goods for export. Indeed in many cases it is the soils themselves, which grow the goods for export.

The nation of Japan relies on many millions of hectares of land, outside its own landmass to maintain its inputs for production. Six million hectares of this land are in Australia, which, unless some profound change takes place, will not be able to maintain its current level of exports in several generations.

The same is true for all nations. It is the soil, which fills the nations belly and enables it to work.

We are led to believe that the genetic modification of plants will provide a solution to increase our food outputs when it is designed for nothing more than to increase profit outputs.

This cynical commercial approach to agricultural production will do nothing to address the principal agricultural crisis confronting the world today

The True cost of landfill

The actual cost of disposal of waste is never reflected in the gate fee paid for disposal of waste. However, in many parts of Australia costs of disposal are far more realistic than they have been.

The gate fee for disposing of one tonne of waste from North Sydney into the new landfill site at Tarago, on the NSW Southern tablelands will be \$127 per tonne.

Research in the ACT recently showed the 'true cost' of disposing of waste to landfill was \$105 per tonne, if you include some replacement costs and a small margin for externalised costs such as social and environmental consequences. This was later modified to \$65 per tonne to suit the 'economic realities' of the ACT Treasury.

A 'true cost' evaluation conducted at Young Shire demonstrated that the cost of disposal excluding environmental and social cost was \$77 per tonne.

All of these costs are conservative, in that they do not include the externalised costs of environmental and social damage. However given these conservative figures, what could we achieve if we used this money in a different way?

Looking at the competitive market, it is difficult for a recycling process to compete given that its principal competition in the marketplace, landfill, is 100% subsidised by the public sector. It is a playing field tipped decidedly in favour of landfill.

All costs associated with collection, transportation and disposal of domestic wastes are subsidised by the ratepayer through waste management fees. The commercial sector only partially meets the cost of disposal by gate fees. Neither of these disposal avenues pays anything like the actual cost of disposal.

Given again the example in Young Shire, of \$77 per tonne in disposal fees and we look at alternatives, we know that the cost of producing a tonne of compost to Australian standard AS4454 is around \$35 per tonne with a small profit. For an additional \$15 per tonne that compost could be delivered to a farm gate within a 100 km radius. So for a total of \$50 per tonne we have composted, transported and delivered a tonne of compost for \$27 less than the conservative costs of disposal to landfill.

In fact we could give the saved \$27 to the local landfill manager to manage the vacant airspace.

If the farmer paid a royalty of \$15 per tonne to Landcare for receiving the product – we could have a total solution for our organics stream, a permanent income for Landcare – and a step along the road to agricultural sustainability.

Implementing the solution

The returns we receive from any investment we make as a community are predicated on what we want for our investment. At the moment our investment in waste management provides us with an 'away' process which takes the waste from our door.

What we can have however, if we focus on the best possible outcome we can achieve, is additional employment, sustainable agriculture and a permanent Landcare all within the provision of an 'away' process for our waste.

As I have said earlier, to achieve this we need to apply Systems Design Thinking to our waste disposal processes.

We need to stop applying recycling solutions like bandaids to the ulcer of landfill.

We need to redesign our entire waste handling system with a focus on positive outcomes for the National community, farmer and city dweller alike.

Conclusion

We have been led to believe that the complexity of the issues involved in the management of waste require complex solutions and vast financial resources. Yet at the same time the solutions, which have been applied to this perceived complexity, have taken us further down the road to oblivion.

We need to find a means of transition from depositing all of our money for waste management into a hole in the ground to depositing all of money into alternatives.

This first step is not the totality of solutions, but it can be a key – it will provide the finance to commence working toward a solution for the cause and not at the symptom.

In the recent Wentworth report, produced by Australia's leading scientists, it was stated that two thirds of our landholders report that their property values will decline by 25% over the next three to five years.

It is true that as a nation we live by the surf and the sea – we see ourselves as in youth, on the golden lands of our beaches and it is true that this icon of vitality and health gives us identity. But we must for some short time turn our back on the sea and look to the land – for without the soil we have no food and without the farmer we have no future.

The return of organic material to the soil to maintain fertility is as old as agriculture itself.

At least half of the \$3 billion we waste putting resources into holes in the ground could be redirected into supporting the soil which feeds and clothes us and provides us with revenue from exports.

We must make this system change quickly if we are to provide a safe and sustainable future for our grandchildren.



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