

How Resource-Cheaply could we Live Well?

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Abstract

There is now a very strong case that global sustainability cannot be achieved unless there is large scale degrowth in rich-world economies, but there is little understanding of the magnitude of the reductions required. Reasons are given supporting the claim that rich world per capita resource consumption levels would need to be cut to a small fraction of present levels. This cannot be achieved by attempting to “decouple” GDP growth from resource and environmental impacts. It can only be done by transition to far simpler lifestyles and systems, and therefore to radically different economies. The general alternative social forms required are sketched. The main purpose of the article is to show that quite large reductions in per capita consumption are feasible without jeopardizing the quality of life. This is done by detailing aspects of the way of life on a selected homestead site proceeding according to Simpler Way principles. It is explained that a general transition to these kinds of lifestyles and systems would not jeopardise the maintenance of socially-useful modern technology. The conclusion is that the large scale degrowth required for sustainable, just and satisfactory lifestyles and systems is achievable but only if there is transition to some kind of Simpler Way.

Introduction

Most of the discussion of the global sustainability predicament focuses on the search for ways of enabling continuation of present rich world lifestyles and systems, but doing so with reduced resource demands and environmental impact. Relatively little attention is given to sustainability strategies focused on shifting to lifestyles and systems which do not involve high resource and ecological costs. There is now a very strong case that technical advance and effort to improve efficiency and productivity are not going to enable growth in GDP while resource and ecological impacts are brought down to sustainable levels. Extensive reviews involving hundreds of studies show that such a goal is not being achieved and is not likely to be. (See below.)

This means that solutions to the global sustainability and equity/justice predicament must be sought in terms of shifting to lifestyles and systems which dramatically reduce resource demands and environmental impacts. The first section of the following discussion indicates the reasons for believing that the reductions must be much larger than is commonly imagined, actually in the region of 90%. If this is so, radical challenges are set for conventional and indeed for most alternative economic thinking, including within the Eco-socialist camp. (Trainer, 2020.)

These considerations set the context for the main issue to be discussed in this study, which is how resource-cheaply it might be possible to live in these new simpler ways while enabling a good quality of life. Reference will be made to Lockyer’s study (2017) of a Missouri ecovillage, and the theoretical study of a Sydney suburb (Trainer 2019) which find that reductions in per capita consumption rates of the required order can be made without reducing the quality of life. However the focus in this article is to report numerical evidence on the ways practiced in a particular homestead within an illustrative

sustainability education venture which seeks to proceed according Simpler Way principles and functions.

However it is first necessary to make clear the context for this discussion.

The magnitude of the required reductions

It is not commonly understood how large the reductions would have to be to enable a society that is globally sustainable and just. The World Wildlife Foundation's Footprint measure (2018) estimates the average Australian per capita use of productive land at 6–8 ha. Thus, if the 9–10 billion people expected to be on earth by 2050 were to live as Australians do now, up to 80 billion ha of productive land would be needed. But there are only about 12 billion ha of productive land on the planet. If one third of it is set aside for nature then each Australian would be living in a way that would require about 10 times as much productive land as all people could ever have. Some other measures taking into account factors such as materials consumption (Wiedmann et al., 2015) indicate higher multiples.

To this must be added the implications of growth. If the Australian GDP rises by 3% pa and by 2050 all 9–10 billion people rise to the “living standards” Australians would then have, each year the global economy would be producing and consuming about 18 times as much as it does now. Yet the present amounts are unsustainable; the WWF estimates that the global footprint is now 70% higher than the planet could sustain. This indicates that the 2050 global resource and ecological impact would be in the region of 30 times a sustainable level. (For a detailed derivation of these multiples see Trainer 2021a.)

The common assumption that technical advance can solve the resource and ecological problems without impacting on affluent living standards and economic growth has now been contradicted by a large amount of evidence. Many studies show that despite constant effort to improve productivity and efficiency the growth of GDP continues to be accompanied by growth in resource use. See for instance recent extensive refutations of the “decoupling” thesis by Hickel and Kallis, (2019), [Parrique et al., \(2019\)](#), and Haberl et al. (2021) reporting on several hundred papers. This evidence would seem to decisively contradict the faith of the “tech-fix”, “Green Growth” and Ecomodernist believers.

The above multiples have profound implications for thinking about sustainability and desirable social forms. The Simpler Way perspective is that solutions to the global predicament cannot be found on the supply side but must be sought in terms of lifestyles and systems involving far less demand. Needs must be met via far less production and consumption in radically different systems, as distinct from in terms of improved efficiency and technical advance. In other words, the focal issue should be what alternatives to conventional goals and means must be adopted to achieve sustainability with a high quality of life? It is now necessary to indicate the kind of lifestyles and systems that could enable this.

What social form might enable such large per capita reductions?

The Simper Way perspective (TSW, 2017) is that the foregoing context determines that a sustainable and just world cannot be achieved unless the basic form of social organisation has the following characteristics:

- Most people live in small, highly self-sufficient and self-governing local communities in control of their zero growth local economies.

- Strong cooperative and collectivist values and arrangements (e.g., commons, committees and working bees), ensuring for example that there is no unemployment and all have a valued livelihood.
- A minimal role for market forces. A needs-driven economy rather than a profit-driven economy; i.e., basic production, distribution and development decisions made by town assemblies focussed on maximising the welfare of all.
- Community self-government via thoroughly participatory processes such as town meetings and referenda.
- Above all, a culture of willing sufficiency, collectivism and especially frugality, in which life satisfactions derived from non-material pursuits.

These ways do not imply that there could be no cities, professional services and training, universities, high tech research or modern health care, or mass production of basic necessities etc. (For the detail see TSW 2017, and TSW.2021b.)

The dramatic reduction in resource and other costs is enabled by the smallness of scale, the integration and proximity within small settlements and the spontaneous action of familiar citizens. There can easily be intensive recycling, overlapping functions (e.g., “wastes” become garden fertilizer), reductions in overheads (such as offices, packaging, transport), and synergism. These effects are illustrated by a study of egg supply discussed below. (Trainer, Malik and Lenzen, 2019.) This and the [Remaking Settlements](#) study (Trainer 2019) show how the agribusiness system for providing food can be replaced by localised systems based on home gardens, collectives, commons, “edible landscapes” and small farms. (Smaje explains how Britain could feed 80 million with 15% of the workforce on small farms: 2020.) Similarly the egg supply example shows how most sewer and garbage disposal systems could be eliminated and replaced by closed nutrient loops whereby all animal, garden and human “wastes” are recycled to nearby soils, also eliminating the need for artificial fertilizers.

Attention needs to be drawn to the synergistic, “knock-on” or feedback effects within integrated systems. In conventional economies adding one new product adds dollar, resource and ecological costs of many kinds. More trucks need to be used to distribute it, meaning more road wear and accidents, more emergency wards and insurance offices and legal costs etc. However as the egg supply example illustrates, shifting to local supply paths can not only reduce or eliminate costs in many areas, such as less road accidents, but also generate benefits such as providing fertilizer. This reflects the Permaculture principle of designing systems to maximise the number of automatic and overlapping functions each element performs.

These brief indications of the Simpler Way approach set the context for the following case study of how extremely low per capita resource costs might be in viable and attractive communities. It is not being assumed that all people would need to live as is described; some people would need more elaborate and resource-expensive provisions, some would specialize in professions and some would live in cities. The intent is to show that in general remarkably large reductions are possible.

Evidence from Pigface Point homestead.

Since the mid 1980s Pigface Point has been developed as a non-profit educational site in the Sydney region introducing visitors to Simpler Way ideas and practices. It is an isolated homestead plus caretaker's cottage within 100 ha of bushland, rather than a community although at times around ten people have lived in the two households. It is not connected to normal power, water, sewage, garbage or postal services. The following per capita evidence refers to the practices and consumption levels of the main long term residents. In a few instances costs are estimated assuming circumstances that do not exist at the site but which could do so if the surrounding locality took the form being advocated, e.g., if neighbourhood workshops and community orchards were close by. In these cases reference is made to findings from the [Remaking Settlements](#) study (Trainer, 2019) which explores how an outer Sydney suburb might be restructured to maximise self-sufficiency and minimize per capita dollar and resource costs for individual households.

The findings describe what at first sight most would probably regard as unrealistically austere lifestyles. However no deprivation or hardship is involved. It is a matter of finding alternative ways of providing what is needed for a quite satisfying life via practices, pastimes and values that do not involve conventional resource-intensive activities or supply paths. Obviously the extent to which most people in consumer society could be persuaded to adopt these ways and to find them satisfying is problematic since they involve levels of consumption, travel and possessions that would be regarded as unacceptable in present consumer societies. The prospects for transition towards these ways depends on whether a very significant cultural change reversing the present obsession with growth and affluence can be achieved. But that is not the concern in the following discussion. (It is addressed in Trainer 2020b.) The intent here is to show the potential for achieving very low material resource consumption rates through action on the demand side.

Food

Although vegetable gardens, orchards and poultry meet some of the site's food demand these sources have not been maximized due to time that has to go into conducting the educational tours. They have been developed as indicators of what is possible, just as the site has several small examples of earth building to point to alternatives in this domain. It is therefore more meaningful to discuss the food sector in terms of the potential which the Remaking Settlements study derived, with some reference to practices at this site.

The study found that if the nearby outer Sydney suburb was designed on Simpler Way principles almost all food could conceivably come from within its boundaries, via home gardens, community gardens, neighbourhood commons. Edmondson, (2020) found that there is sufficient land within the city of Sheffield to meet its fruit and vegetable needs. However suburbs and towns should be surrounded by nearby small farms as Smaje details in [Small Farm Future](#). (2020.) The book shows how a UK population of 80 million could be fed by only 15% of the workforce on small farms. Small farms have the highest yields and the most efficient performance, and many social and ecological benefits not captured by conventional economic measures. Some would be community-owned cooperatives. Little food would need to be exported from most regions or imported into them.

Following are some of the ways whereby resource and dollar costs of localized agriculture would be far lower than those associated with the agribusiness-supermarket path. Several of these are practiced at the Pigface Point site.

All household "wastes", including from kitchens, gardens, flush or composting toilets and animal pens would be recycled to gardens via fish ponds, compost heaps and methane digesters producing useful gas. This could completely eliminate the need for artificial fertilizers. Fish would be produced in small cement tanks and local ponds, linked to aquaculture, hydroponics and gardens taking the nutrient-rich waste water. Poultry can free-range clearing and fertilizing orchards and gardens.

Within settlements there can be many community owned and run "commons", e.g., orchards, nut groves, olives, herb patches, bamboo clumps, woodlots and forests, ponds, dams and tanks. Many of these would be developed where roads had been dug up, given the greatly reduced need for transport. (See below.) Committees could organise the maintenance of the commons, and working bees would do the "work". These public spaces could contain many forest gardens and "edible landscapes", providing free mulch, fuel wood, timber, honey, nuts and fruits.

The commons would also produce various materials as inputs to local small firms and hobby and craft production, including timber, reeds, leaf oils (e.g., lavender, eucalyptus) and other plant-based chemicals, vines and rushes for baskets, creosote from wood fires, and clay and earth for pottery and building. They would also provide grazing areas within orchards. The community would build and operate cooperative fish tanks, ponds, processing and storage sheds, and greenhouses to enable some production of bananas, winter tomatoes etc.

Produce would go to kitchens with almost no packaging, preserving, marketing, fertilizer, transport, energy or waste removal and treatment costs and with no advertising or marketing cost. Almost all transport could be via hand baskets, bicycles, and horse and cart. There would be little need for energy intensive storage such as refrigeration, because fresh food would mostly go directly from the gardens to the kitchen when needed. Neighbourhood freezers might be used, meaning that not every house would need a refrigerator.

A significant amount of grain and dairy products might have to be imported, ideally from farms within only a few kilometres. Permaculture principles, such as intensive use of permanent and tree crops, would almost eliminate the need for ploughing, possibly enabling horses and donkeys to do most of the cultivating and carting needed (given the short distances), as well as being leisure resources.

Ideally far less meat would be eaten, greatly reducing the land areas, infrastructure and resource costs. Meat could mostly come from small animals such as rabbits, fish and poultry, living within settlements and benefiting from free-range conditions.

These practices would mean that there might be very little need for energy inputs into the food producing sector of the economy. For the home garden, commons and edible landscape sectors there would hardly be any dollar and energy costs. The small farm sector would be where items such as shared tractors would involve relatively low costs.

In the conventional US food supply system energy costs per person are high, around 26 GJ/person p.a. (not including the 20% of food production exported.) (The Choose Energy Team, 2019.) Half this energy cost is incurred beyond the farm gate. If the energy costs embodied in trucks, silos, ports, fertilizer and chemical factories etc. were added the figure would be increased significantly. In addition there are large ecological costs associated with the agribusiness path whereas the local alternative improves soils while yielding co-products such as methane, fertilizers and pest control along with social benefits such as community cooperation, interaction and cohesion.

The Remaking Settlements study estimated that the total running energy cost plus embodied energy cost for a localised agriculture might be 192 MJ/person/y, in the region of 0.5% of the agribusiness path, and again the percentage would be lower if embodied energy costs were included in the estimates for the conventional path.

The study of egg supply by Trainer, Malik and Lenzen, (2019) makes clear magnitude of the resource and dollar cost reduction potential and the reasons for these. It was found that both these costs per egg were in the region of 1-2% of those for agribusiness-supermarket path. The supermarket egg has a vast and complex global input supply chain involving fishing fleets, agribusiness, steel mills, coal mining, power stations, shipping and trucking transport, silos, warehousing, chemicals, infrastructures, supermarkets, storage, packaging, marketing, the finance, advertising and insurance industries, waste removal and dumping, computers, a commuting workforce, and highly trained managers and technicians. It also involves the damage to ecosystems and soils associated with agribusiness, including non-return of nutrients to soils, acidification and toxicity from use of artificial fertilizers and pesticides, and carbon emissions.

However eggs supplied via backyards and community cooperatives can avoid almost all of these costs, while enabling immediate use of all “wastes”. Recycling of kitchen scraps along with free ranging can meet total poultry nutrient needs. Poultry and other animal manures, including human, can be directly fed into compost heaps, methane digesters, algae and fish ponds, thereby eliminating the need for inputs to village food production from the fertilizer industry. No transport, packaging, chemicals, feed mills, marketing or expert personnel or waste removal need be involved. Management, care and maintenance of systems can be largely informal, via spontaneous discussion and action. No dollar costs for labour need be involved. In addition cooperative care of animals adds to amenity and leisure resources and facilitates community bonding.

These effects are enabled by the smallness of scale, the proximity of functions (e.g., gardens close to animal pens), design for overlapping functions (free ranging fertilizes orchards and reduces fruit fly lava), and cooperative social organization. These concepts can apply to many other domains, including other food items, dwelling construction, clothing supply, many services, and especially to provisions for leisure, entertainment and education.

Water

Within-house use of potable water at Pigface Point is around 8 litres/pp/d, from rainwater tanks, and another 65 litres/pp/d is used for toilet flushing and irrigation pumped from a wetland. The potable figure is around 4% of the US and Australian household averages. (Water Footprint Calculator, 2020, National Poly, 2018, Indoor Water Use at Home, (2020.)

By far the most important issue regarding water is not household use but the demand generated by the conventional agribusiness system. Australian farm water use (ABS, 2021a) corresponds to 820 litres per person per day, even when exported food is excluded. This is around 16 times the Pigface Point figure, although the latter does not include all food consumed at the site.

In a localized food supply system water demand would be greatly reduced by use of many permanent crops, especially trees, mulching, recycling of water from households to gardens, and much reduced meat consumption. (Blazey, 2020) estimates that it can take 2,000 times as much water to produce a kilo of meat as it does to produce a kilo of vegetables. There would therefore be large reduction in need

for big dams, mains, large pumping stations, and the bureaucracies to run them. Windmills and small electric pumps would do most of the pumping of fresh and waste water.

Settlements would be landscaped to retain rainfall through use of earthen bunds, swales and ponds, eliminating the need for concrete sewer and storm water drains and pipes. Storm runoff would be channeled above ground to ponds and soak-in areas where fruit trees were planted. Few if any underground pipes, mains or concrete works would be needed. Above ground systems are easily monitored and repaired, unlike underground systems.

All water used on the Pigface Point site is collected there, so no water rates are paid.

Garbage and Wastes

Apart from packaging from purchased food items almost no non-biodegradable garbage is generated at the site. All kitchen and garden "wastes" go to compost heaps etc. Almost all clothing and footwear is old and patched/repared, and eventually becomes cleaning rags and is then composted. Worn out devices are dismantled and components placed in the workshop storage racks. In a sensibly designed settlement household and animal pen "sewage" would be piped to productive ponds and methane digesters for recycling of all nutrients. Thus, there would be very little need to transport garbage to dumps or to deal with solid waste, and none for dealing with sewage. No water, sewage or garbage rates are paid this site although occasionally a small amount of material is taken to the local tip.

Clothing

All "work" at the site, both physical and at a desk, involves no travel so tough old and threadbare clothing items are suitable and therefore expenditure on clothing and footwear is negligible. A pair of trousers might be worn every day for a month or more. Approximately one pair of sandals per person is purchased each year. Slippers and sandals are homemade and repairing, darning and patching are winter fire-side hobbies. Total clothing and footwear costs are in the vicinity of 30 c/pp/d. The national average is \$2.5/pp/day. (A.B.S. 2017) and the national average purchase of new clothing has been estimated at a remarkable 27 kg p.a. (Pepper, 2017.)

Housing and buildings

The main house built in 1946 is a modified army storage igloo, now of fairly normal house appearance. The conventional "fibro" caretaker's cottage was home built in around 1970. The site uses small animal shelters to illustrate forms of low cost alternative earth building.

Dwellings, storage sheds, community buildings and small business premises can be built from local earth, stone, wood, or straw bales, at very low dollar and resource cost, and with lifetimes of hundreds of years. Floors can be made from rammed earth surfaced, e.g., with turpentine and beeswax. Some roofing can be earth (sod) over a waterproof membrane on timber supports, or domes and vaults from mud bricks requiring no reinforcement or scaffolding. These are widespread in the Middle east. (For illustrative images and techniques see Rodriguez, 2014.) Weather proofing can be provided by a thin layer of cement over chicken wire reinforcing. Most roofing might eventually be ceramic tiles made from local clay and wood-fueled kilns. Research would go into the production of durable sealers and paints

from local plant, earth and animal sources. For example earth walls can be sealed with the traditional whitewash made from lime and milk.

In the alternative local economies envisaged people would have much more time for home-making, and therefore for cooking on wood stoves equipped with hot water jackets and tanks. A more vegetable based diet would reduce the amount of cooking needed. Rugs mostly made from wool could replace most carpets, eliminating the need for vacuum cleaning. Matting, seating and screens as well as baskets and hats can be woven from local reeds, rushes and willows.

Following are costings for a quite small dwelling constructed according to these kinds of principles and practices, illustrated by a model at Pigface Point. This is a fairly conventional house with rammed earth walls and floors and corrugated iron roofing, with a floor area of approximately 65 square metres. Walls and the ground floor would be made from rammed earth taken from what would become an underground cement-lined water tank with a volume of 23 m³. Corrugated iron roofing is assumed but might be replaced eventually by tiles from a local wood-fired pottery. To be built today paying retail prices for new materials the construction cost would be around \$7,000, or 9.6 cents/pp/d assuming a 100 year life time and two occupants. This does not include labour as building could be carried out by the owners with the assistance of friends and an expert builder who could be paid by working on his other projects.

This construction cost compares with \$155,000 for the low end of the range for Australian houses, and \$450,000 for the high end, (Home Guide, 2021.) The average conventional house area is 186 m², 2.9 times as large as this model, with a cost of construction per square metre of \$1,393 (Delahunty, 2020), compared with \$108 for the alternative, a ratio of around 13/1. (The average new Australian dwelling being built is around 245 m².)

It is important to recognize the effect of bank loans and tax. If building a medium sized conventional house costing \$250,000 involves a loan of \$160,000 then \$240,000 or more might have to eventually be paid back to cover interest. To be able to do this might require \$320,000 to be earned because about 30% of income will have to be paid in tax. The total to be earned to pay for the house, including the \$90,000 from savings, the tax on income, the bank loan plus interest, and the tax on that amount of income would therefore be around \$440,000. The foregoing cost of the alternative house is so low that a loan is unlikely to be necessary, and for very low income earners negligible tax would be levied on income. Thus the amount needing to be earned to obtain an average conventional dwelling could be around 63 times that for the alternative. For houses of equal area the ratio would be 23/1.

Ten years ago Milne (2013) estimated the embodied energy cost of materials for the average conventional house at 1000 GJ, (i.e., not including the energy cost of construction) so it is likely to be significantly higher now. The above alternative described above has an estimated energy cost of 40 GJ, or about 11% of the cost per square metre of a conventional house. Two thirds of this cost is due to the corrugated iron roofing. This could be completely avoided by use of domes and vaults made from mud bricks. These dwellings and community buildings can be large and apart from doors, windows and the fitting out of interiors, and if home built would involve almost no dollar or energy cost. (Rodriguez, 2014.)

Premises for most local firms, shops and community facilities such as libraries and community stores, workshops and meeting centres, could be built following these sorts of principles; mostly quite small, simple, built from mud, straw bale or rammed earth etc. plus locally grown and milled timber. Many such structures are still in use in Europe, especially the UK, although constructed several hundred years ago. These houses can be beautiful, decorated in a wide variety of styles, making the landscape unique and

interesting. For many people, designing and building their own home at a relaxed pace would be one of life's most satisfying adventures.

In present affluent-consumer societies many would not opt for the kind of alternative housing described above but it should be considered in relation to the context of severely limited planetary resources, and the enormous unmet need for housing in rich and poor countries. What kind of house might the planet be able to provide for 10 billion people? Even in Australia in 2019 there were 148,500 families on the waiting lists for public housing. (Institute of Health and Welfare, 2020), large numbers who will never be able to afford a conventional house, and 120,000 homeless on any given night, including about 18,000 children under 10 years of age (Sheltered by Grace, 2021.) Yet as noted above, the average new house being built in the country has the biggest floor area in the world, around 245 square metres. (ABS, 2021b.)

Tools, appliances, hardware and materials

The site's workshop has a 12 volt bench drill, grinder and lathe, all homemade and solar powered, but no other power tools. Most work is by hand tools, many of them around 80 years old. The gas stove is about the same vintage. The fridge and the gas water heater are the only other appliances, apart from the home-made open fire and washing machine.

Because most new buildings could be made from earth, straw bales, stone, bamboo and wood there would be little use of energy-intensive metals and plastics. There would be research into plant sources for chemicals, adhesives, medicines, paints, lubricants, fibres and fabrics. Most of the questionable synthetic chemicals in use today would not be necessary. Design would focus on minimizing problematic materials. For instance, furniture and sheds can be made without metal fasteners, by use of wedge and dowel-peg joints. (Mikey77, Undated).

Some materials would be produced in bulk in large regional or national factories, such as fabrics, light steel, irrigation pipe and chemicals, and distributed to many small factories, hardware stores and workshops. Demand for paper would be greatly reduced and might be met from local forests and recycling. Eventually roofing iron could be slowly replaced by ceramic tiles made from local clay.

Transport and travel

These very significant energy and dollar items could be greatly reduced in the alternative lifestyles and systems envisaged. There would be little need for transport to move people to work places because much less work in offices and factories would need to be done, and most work places would be localised and accessible by bicycle or on foot. The few large factories would be close to towns and railway stations. Fewer goods would need transporting and distances would be shorter. Neighbourhoods and their surrounding regions would be leisure-rich, reducing long distance travel for holidays and tourism. (See below.) The vehicles in most use would be bicycles, with some but relatively little use of buses and trains. Horses could be used for some transport, especially carting food from farms to towns and returning nutrients to the farms. Horses consume no oil, can refuel themselves, reproduce themselves and do not need spare parts or expensive roads. Most urban roads and freeways would be dug up and the space used for gardens and other commons.

The typical Pigface Point travel distances are 1-3 km to local shops by foot, bicycle, car or train each week plus an infrequent 20 km train trip to the city. For households within bicycling distance of towns

in the new settlements there might be almost no transport energy or dollar costs. The Australian per capita expenditure on transport by members of the average household has been estimated at about \$14 /pp/d by the ABS (2017) and \$19 by Beck and Newman (2016), which corresponds to approximately \$6,020/pp/y.

IT

The way of life being described has little need for information technology, although at this site about half of each day is spent at a desk writing, emailing, browsing and maintaining a minimal website. No use is made of electronic media for leisure purposes. According to McCrindle Research (2018) Australians average ten hours and nineteen minutes each day at work and in leisure time attending to electronic media. Jacobo (2019) reports that Australian teens spend more than 7 hours a day watching screens, not including school work. This means that in the Remaking Settlements suburb over 40,000 person-hours a week are being devoted to watching soap operas and playing electronic games when they could be being put into community activities.

IT would have an important role in running small firms and farms and keeping community records, and at the wider level of larger regional factories, hospitals, railways, universities and research establishments etc. Electronic media would be important information sources, especially locally run radio. But ideally the currently vast amount of time, talent and resources going into providing and consuming trivial electronic entertainment would be dramatically reduced, because most people would have more important and rewarding things to do. There would be hobbies, arts, crafts, community issues to discuss, working bees and committee meetings, activities in the community workshop to engage in or watch, mini-cafes and common rooms nearby, many friends within a few metres, the drama and poetry etc. groups, and the many sources and activities organized by the leisure committee.

Leisure

Leisure and entertainment are major cost items in consumer society, and major sources of savings in the alternative. The field has been partly dealt with above, in terms of developing leisure-rich communities and the need for far less time to be given to paid work, enabling much more time to pursue leisure interests. At present leisure time is mostly spent in the passive consumption of fleeting entertainment produced by corporations or professionals, especially via TV and IT, in travel and in purchasing and consuming goods and services. The quality of most electronic entertainment material is “spiritually” miniscule if not negative, evident in TV content, game shows and especially the violent and destructive nature of computer “games”. In addition much leisure time and expenditure at present goes into purchasing; shopping is a major form of entertainment. These phenomena are due in large part to the existence of dormitory suburbs which are “leisure deserts”, also lacking arrangements such as committees and working bees that would provide leisure opportunities.

Simpler Way lifestyles, settlements and nearby regions would be leisure-rich. The community itself would be a spontaneous leisure resource. A walk around a typical eco-village involves one in conversation, observations of activities in familiar firms and farms, and the enjoyment of an enthusiastically gardened landscape. In the new towns the leisure committee would organize events such as public facilities, festivals, celebrations, concerts, dances, visits, field days and local holiday options. Locally focused and operated media, especially radio, could further enhance leisure resources. The many local artists and crafts people would be keen to display and teach their skills. Thus the leisure

and cultural committee would be one of the most important in the town or suburb. For these reasons it is likely that there would be far less desire than there is now to purchase leisure and entertainment, or to travel for leisure, let alone to travel overseas.

At present any town or suburb includes many talented musicians, singers, storytellers, actors, comedians and playwrights, unable to do much performing because the globalised entertainment industry only needs a few super-stars. These people would have several days a week to practice their skills and would be appreciated for their (largely unpaid) contributions to the many local gatherings, concerts and festivals. Much of the time spent in productive activities such as gardening, making things and arts and crafts will be enjoyable, as would involvement in working bees.

This is the context in which the leisure and holiday situation at Pigface Point is to be understood. The main resident does not leave the homestead for holidays or watch TV and hardly ever goes to a restaurant or theatre. He has not boarded an aircraft in several decades, and has never done so for leisure. There is no distinction between work and leisure on the site; all repairs and construction are enjoyable creative activities. The site is isolated without any connections to surrounding settlements, so if it was linked to a local community with an energetic leisure committee then leisure options would be even more abundant. Consequently there is almost no expenditure on leisure, although the above occasional travel to the city might be regarded as partly leisure activity. In 2016 the average person in Australia spent \$63 each week on "recreation". (ABS, 2017.) About 6.3 million Australians travelled abroad in 2019 for leisure purposes, at an average expenditure of \$4,750 per person. (Budget Direct, 2020.)

It should be stressed that these large scale reductions in expenditure do not involve any sense of burden, deprivation or sacrifice in order to save the planet. They are consequences of ways that are chosen for their quality of life benefits. Further, costs and quality of life benefits could be significantly improved if the site was close to a thriving local economy.

Energy

In Simpler Way communities energy demand would be greatly reduced, primarily because far less would be being produced and consumed, proximity reduces travel and because systems would be much simpler.

Most of the wood cutting, pumping, washing, grinding, electric welding and freezer boosting would be carried out when the sun or wind was high. The many small local dams might enable most of the (much reduced) electricity storage required. Hydrogen and biomass might meet the small need for fuels for transport and storage. However some dependence on national renewable energy sources coming into the town via the old grid is likely to continue.

A more vegetable based diet would reduce the need for cooking and enable use of efficient wood stoves. These could be fitted with water jackets to contribute to space and water heating. All biological wastes would go to methane digesters providing energy. Communal earth ovens would be used for regular community baking parties. Earth buildings are well insulated and therefore cut space heating demand. Fridges and freezers are energy-costly, accounting for 15% of Australian household demand, but a diet based more on vegetables fresh from gardens would cut the need for them. Community fridges might be located nearby enabling many households to function without their own fridge.

At Pigface Point use of electricity is about 0.065 kWh/pp/day, delivered by solar panels. No energy goes into ironing, vacuuming or floor polishing, TV, air conditioning, fans, dish washers, clothes dryers or

other appliances. The small electric fridge uses about 0.43 kWh/pp/d. Washing is via a 70 W car fan motor driving a homemade device. Australian household per capita average electricity consumption is around 7.6 kWh per day, 117 times as high as for the homestead. (Ryan and Parvia, 2016, ABS, 2019, 2021, Living Energy, 2018, ABS 2019,2020.) Note that the national figure does not include the major energy use at the homestead which is water pumping, making up 43% of electricity used. The Australian household expenditure on electricity is around \$2500/y. The Pigface Point expenditure assuming PV panels, batteries etc. and associated lifetimes and replacements, is in the region of \$160/y, that is, around 6% of the national figure.

Fuel for the home-made open fire burning wood collected on the property accounts for around 0.5 kWh/pp/day (burnt in winter but here averaged over the year). Cooking and shower heating account for about 1kWh/pp/d of gas. No heating is used for dish and clothes washing. There would be almost no net carbon emissions, given that if left in the woodland the space-heating firewood would decompose and release as much carbon as the fire releases, to be taken up by subsequent biomass growth. Total household energy use per person equates to 0.994 kWh/pp/d. The Australian total household energy consumption equates to 11 kWh/pp/d, a ratio of 11/1.

Beyond the household: the local economy

Many of the above low per capita resource consumption rates could be achieved only if unconventional arrangements were in place beyond the household level. For instance very low leisure and holiday expenditures are made possible by development of leisure rich communities, travel to work is reduced by localizing production of goods and services, the need to build and run sewer systems is eliminated by recycling nutrients to nearby soils, which also reduces the national need to produce fertilizers. International trade and internal national transport would be dramatically reduced. Thus the most significant considerations for sustainable development are to do with the design of settlements and regional and economic systems, as distinct from reduced personal lifestyle consumption. These implications are discussed at length in [The Simpler Way](#) (Alexander and Rutherford, 2019.) Following are some other central themes.

As noted above, settlements must mostly be small in scale, highly self-sufficient and self-governing, basically cooperative and collectivist and geared to achieving a high quality of life for all despite frugal resource use. Most goods and services must come from within the town or the nearby region. The local economy must have undergone significant degrowth to be steady-state and to be needs-driven, not profit-driven, although a role for the market and private enterprise could remain. (The elimination of all private means of production, as advocated by socialists, is not necessary; see TSW: [The New Economy](#).) Control of economic and social affairs must be largely in the hands of the community, not centralized state agencies, although there would be a role for these in national coordinating and facilitating etc., focused on enabling thriving local communities. Thus there would be relatively little international trade, industrialization, centralization, urbanization, travel and transport or need for mass production or for the finance industry.

The primary role of the small remnant "state" organisations would be to facilitate and serve the local communities and regions, for instance ensuring that all towns have small industries enabling export into the national economy of some of the items towns cannot provide for themselves. States would provide national systems such as railways, communications and legal systems, but would have little power as all final decisions would be taken at the level of the town assembly. (The Simper Way exemplifies anarchist goals and means. See Trainer 2020c.)

These system simplifications would add to the powerful negative multiplier effects on resource and ecological impacts. As noted, at present each new cosmetic put on the market adds to road wear, road accidents, the need for hospital emergency wards, rubbish disposal etc. Thus reducing consumption via simpler lifestyles and systems has a negative multiplier effect eliminating many hidden costs. At the same time the alternative system arrangements bring many benefits, such as eliminating fertilizer, sewage and garbage treatment costs, along with many social benefits such as increased familiarity, cohesion and support.

These kinds of systems constitute no threat to the provision of socially-necessary high tech, modern health care, universities or R and D etc. When the present vast quantity of wasteful, luxurious, unnecessary production is phased out (\$550 billion spent p.a. on advertising alone), it will be possible to greatly increase research into improving technologies and systems that enhance welfare. Because far fewer goods and services will need to be produced far less time and talent will need to go into preparing technocrats and managers, enabling schools and universities to switch from mere training to Educating. (Needless to say many current systems work well and might require little or no change.)

Although not central to this discussion reference might be made to some other savings that could be made by radical change to the economy. At present the resource and dollar costs of almost all goods and services are increased by the profits that flow out to “shareholders”. If most production was via small local family farms, firms and co-ops within stable economies these sectors would involve few if any costs of that kind. Such operations would be seen as providing comfortable secure incomes, not as devices enabling accumulation of investable surpluses. There can be no interest paid in a zero growth economy (if more is to be paid back at the end of the year than was borrowed at the start, then in that year the economy must grow), and this would eliminate most of the bloated and parasitic finance industry. It would make sense for most if not all large and complex firms such as steel works, pharmaceuticals and railways to be publicly owned since in a steady state economy they could not accumulate surpluses, and society not investors should be making the decisions. However, it is possible that many large operations could be run by private co-operatives, as in Mondragon, provided that they function according to strict guidelines and monitoring in the interests of the public good.

Thus shifting to radically simpler lifestyles and systems need not raise any significant impediments to the provision of sophisticated and technically complex goods and services.

From the perspective of The Simpler Way, the required structures and functions show that a satisfactory and sustainable society could not be a capitalist society.

A note should be added on another issue not central to the present discussion; i.e., the plausibility of transition to the ways outlined. For instance, how could this decentralized, localised “rural” vision be realized in a world where most people now live in gigantic cities, where luxurious affluent ways are idolized, and where capitalism is deeply entrenched in minds as well as systems. Above all, does not Degrowth mean very large numbers must cease working for wages producing things? This “conundrum” does not even seem to be recognized within the Degrowth community. Trainer (2020c) argues at some length that our society is not capable of solving its biophysical or social problems and that we are accelerating towards a major global breakdown which might be terminal. However, this is opening the way for the emergence of the alternative envisioned above. The crucial point to be emphasized here is that the increasing failure of existing systems to provide will force people towards recognizing that they must try to build local communities based on principles of self-sufficiency, self-government, cooperation and frugality.

Conclusion

The per capita dollar and resource cost reductions indicated above are remarkably large. Compared with national averages they are in the range of, for food expenditure in general potentially 1/30+, household water use volume 1/25, clothing 1/8, housing 1/23 and household energy use 1/11. Travel expenditure is reduced from \$17/pp/d to almost zero, and for IT and leisure expenses the reduction is similar.

It is not being assumed that the frugal ways evident at Pigface Point would be regarded as acceptable in the near future. They might be more “austere” than will become necessary. The point of the foregoing analysis has been to show firstly that very significant reductions on the demand side are necessary for sustainability to be achieved, and secondly that these can be achieved without hardship or abandonment of high tech, by shifting towards the kind of lifestyles and systems evident at Pigface Point and to settlements designed according to Simpler Way principles. It hardly needs to be pointed out that these ways could not be adopted without extreme cultural change from currently predominant world views and values. However it is likely that the increasing difficulties affluent-consumer-capitalist society is running into will be powerfully conducive to such a shift. Hopefully the foregoing discussion has shown that it could be less problematic than might at first be imagined.

It can be argued that the conditions for a high quality of life require little in the way of material consumption. Consider, having adequate food, shelter and clothing, having good health, good family and friends and a pleasant environment, being secure from poverty and violence, living in a supportive community, being free from oppression, struggle and stress, having worthwhile and valued work, having meaning, interests and purpose, being appreciated and respected, having a sense of place or home, and some degree of peace of mind. With the possible exception of health none of these requires more than quite low levels of incomes or material wealth. Many in tribal and peasant societies and in intentional communities live well on very low levels of consumption.

This discussion strengthens the case for seeking solutions to the global predicament in terms of less resource intensive ways, rather than in terms of technical fixes for the damaging consequences of pursuing increasing levels of affluence and economic output. In other words, given the goal of sustainable and just societies, the most likely way to achieve these goals involves recognizing that they must be redefined in terms of simpler lifestyles and systems. Hopefully the foregoing discussion strengthens the case that this path is more feasible than might have been assumed.

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