

Local and international examples of how sustainable communities can and do work

Morag Gamble

SEED International

Email: info@seedinternational.com.au

www.SEEDinternational.com.au

What is a sustainable neighbourhood? What does it look like? What are its features? How are local communities around the world making it a reality?

INTRODUCTION

For the first time in human history, more than half of the global population live in urban environments. To sustain urban habitats and their inhabitants, we must plan, design and think of cities as ecological systems, create healthy urban metabolisms and reconsider the relationship between cities and their hinterland.

Climate change, peaking oil supplies, increasing levels of pollution, scarcity of fresh water, biodiversity loss, toxic food scares, and escalating violence are just some of the reasons why new patterns of urban living need to be developed.

There is a great potential in urban areas to produce more, waste less and contribute to the ecological balance (restoration of the urban metabolism). Cities can become cyclers instead of sinks.

The settlements we live in affect the choices we make and the way we live, as well as the level of impact we have on the planet's finite resources. A radical shift is required in the current approach to the design of human settlements and the food systems that feed the populations.

WHAT IS A SUSTAINABLE COMMUNITY?

“Sustainable communities live in social, cultural and physical environments in which needs and aspirations can be satisfied without diminishing the chances of future generations. A sustainable human community is designed in such a way that its ways of life, businesses, economy, physical structures, and technologies do not interfere with nature’s inherent ability to sustain life. Sustainable communities evolve their patterns of living over time in continual interaction with other living systems, both human and non human”.

Fritjof Capra, *The Hidden Connections* 2002 p.230

The ecovillage concept is a response to the complex problem of how to transform human settlements into sustainable communities integrated with the natural environment. Ecovillage principles can be applied to villages, towns or cities, rural and urban settings, and to developed and developing countries.

Ecovillages and sustainable communities strive to create healthy human habitats that are in balance with the natural environment

Common aspirations among many of the pioneering sustainable neighbourhood initiatives are to:

- create human scale and compact settlements
- protect and restore biodiversity and catchments
- reduce water consumption, harvest rainwater and re-use wastewater
- reduce greenhouse gas emissions

- be energy efficient and use renewable energy sources
- implement zero-waste systems and cycle nutrients effectively
- meet needs from local and bioregional resources
- produce nutritionally-dense local food
- strengthen local economies, and generate local work and right livelihoods
- reconnect people with community, culture, place, food, and the natural environment
- cultivate renewed links between urban and rural communities
- create safe, accessible and supportive living environments
- support ecoliteracy, education, training and lifelong learning
- nurture creative expression and cultural diversity
- support healthy active lifestyles
- engage and empower individuals as active citizens.

WHOLE-SYSTEMS APPROACH

A sustainable community or neighbourhood is far more than a collection of ecological elements - eco-homes, energy efficiency, water harvesting and recycling, and so on. A sustainable neighbourhood facilitates beneficial relationships and connection between the elements and focusses as much on the interactions between people, and between people and the environment, as it does on the infrastructure.

The way in which we design settlements significantly affect the way we live, patterns of consumption and opportunities to connect.

NURTURING SUSTAINABLE BEHAVIOURS

Sustainable neighbourhoods nurture sustainable behaviours (making it easier to be green). For example, the design of the homes and settlements alone can reduce energy consumption by at least fifty percent. Couple with this the reconnection with place and community that sustainable community projects facilitate and the encouragement of a culture of sustainability further reductions can be made.

The Hockerton Housing Project (www.hhp.demon.co.uk) in England has reduced its energy consumption to just ten percent of that used by surrounding neighbourhoods. To meet this energy demand the community installed a wind generator - the surplus from which charges an electric vehicle which is shared by the residents. Further energy reductions are achieved by working from home offices (reduced commuter miles) and growing food in a community garden (reduced food miles). All wastewater is recycled on-site in a constructed wetland system, which adds to the habitat value and beauty of the settlement.

When the waste recycling is decentralised, the impact of our everyday actions becomes much clearer. For example, when wastewater from homes is recycled directly into the surrounding landscape, it becomes clear that washing toxins and chemicals down the sink will pollute our environment and make the gardens unsafe for children to play, and the food grown there unfit to eat.

Thoughtful and connected settlement design influences our relationships to place and to the everyday decisions and choices we make. A new form of planning and design is required.

PERMACULTURE: WHOLE SYSTEMS DESIGN

'Permaculture is a practical concept applicable from the balcony to the farm, from the city to the wilderness. \ It enables people to establish productive environments providing for food, energy, shelter, material and non-material needs, as well as the social and economic infrastructures that support them. Permaculture means thinking carefully about our environment, our use of resources and how we supply our needs. It aims to create systems that will sustain not only for the present, but for future generations.' definition from Permaculture International Journal

A useful and accessible design framework for developing sustainable neighbourhoods is permaculture. Permaculture is an Australian concept - a term derived from “*permanent culture*” and “*permanent agriculture*” to express the sustainability agenda. (the term was developed prior to the widespread use of the term “*sustainability*”). Originally developed by environmental scientist Bill Mollison and his graduate student David Holmgren in the 1970's , permaculture design and permaculture education has now spread to over 120 countries. As a community-based approach and form of community environmental education, permaculture has assisted thousands of communities to create their own sustainable projects and communities. Permaculture recognizes that we are all designers of the environments in which we live and helps people to design and live sustainably.

Permaculture is a whole-systems approach to ecological design of human settlements. This design system promotes the conscious design and maintenance of sustainable human settlements and agriculturally productive systems which have the diversity, stability, resilience and creativity of natural ecosystems.

Permaculture that takes into account food production, structures, technologies, energy, natural resources, landscape, animal systems, plant systems, and social and economic structures. It is applicable to both urban and rural contexts, and to any scale of design. A key goal is to work with, rather than against, nature - satisfying our needs in a way that sustains the earth, future generations, our community and ourselves.

A framework of environmental and social justice ethics is at the core of the permaculture design system and a set ecological design principles have been developed and refined over the past 30 years as a tool to guide the implementation of the ethical and ecological approach. Permaculture design is based on close observation of nature, attention to locally-specific detail and relationship to context rather than a set of techniques or a recipe for sustainability.

LOCAL FOOD

A central focus of permaculture is local food and it's associated environmental, social and economic benefits. Through a focus on food - a basic human need - it is possible to address many of the interconnected crises which face society - such as soil degradation, water pollution, air pollution, loss of biodiversity, poverty and hunger, ill-health, obesity, energy and fuel consumption and climate change.

Over one-third of the ecological footprint of each urban household is generated by the consumption of high embodied energy foods, transported long distances. It is possible for cities to reduce their collective ecological footprint and consumption of resources. One of the simplest ways is to create food-producing areas in and around the city to reduce the distance food travels to the kitchen table. Unfortunately, much of these areas are continue to be built over. It is vital good food-growing land is protected in urban and peri-urban areas.

The integration of food production in and around urban areas supports the restoration of the urban metabolism. These areas provide important services such as nutrient cycling (a place to reuse

biodegradable wastes to nourish the soil) and water recyclers (places to absorb and utilise a significant amount of the city's wastewater).

Hjortshøj, a cohousing development on the edge of the city of Aarhus in Denmark has been designed to retain a significant area of farmland within its boundaries. The 250 dwellings have been clustered more tightly to retain a twenty acre farm - the best agricultural land on the site. This farm is an embedded part of the development and supports the sustainability objectives of the community. Local residents receive a weekly box of organic produce from the farm at very affordable rates. If they wish, they can also help in the farm to reduce their food bill further. All food scraps and wastewater from the homes is recycled to the productive areas creating a close nutrient cycle. In addition, many of the homes have been designed to overlook the rural landscape increasing their amenity and value. Residents of Hjortshøj enjoy the benefits of both urban and rural lifestyles.

RE-VALUING FARMLAND CLOSE TO THE CITY

The services farmland provides to urban communities is vastly underestimated - its value extends far beyond the dollar value of the food produced. Amongst other things, sustainably managed farmland in and around cities also provides ecological services (habitat, flood control, groundwater recharge, carbon sequestration, waste and water recycling), amenity (views and green open space), health (clean fresh food), and security (long-term food security).

Society pays a high price for the loss of farmland - costs which are not being factored into development equations.

URBAN FARMLAND TRUSTS

Similar to bushland trusts to protect urban wild spaces, there is a need to create farmland trusts to protect the land that can feed us. As fuel costs escalate, food costs will also rise. Bringing food production closer to home creates long-term food security for urban communities. Even if this land is not used immediately for farming, the potential must remain for cities to feed themselves from their green spaces and hinterland. The global food trade and agricultural system as we know it now is particularly dependent on oil. If the availability of oil in the next 20-50 years is uncertain, so is our food. Wise city planning would protect any remaining areas of urban and peri-urban farmland to reduce its vulnerability, and find ways to restore degraded or abandoned land for agriculture potential.

URBAN AGRICULTURE

Food containing the nutrients from farmland soil (and artificial nutrients created) is consumed predominantly in urban areas. The waste is then typically sent to landfill or flushed away causing pollution and waste.

A sustainable neighbourhood captures this resource and returns it to the soil to nourish future crops. If urban and peri-urban agriculture zones exist, the recycling of such nutrients through community composting schemes can help to close the loop and prevent the depletion of rural lands, soil and the dependence on artificial fertilisers which require large amounts of fossil-fuel energy to produce.

There are many forms of sustainable local food production and distribution which have been successfully demonstrated locally and internationally. These community food systems support the production of food in and around the city and help to reconnect urban and rural communities (the city and its hinterland). Appendix 1 presents an overview of the common forms of community food systems as outlined below.

1. Food box systems
2. Subscription farms (Community Supported Agriculture - CSA)
3. Community food cooperatives
4. Farmers markets
5. Community gardens, allotment gardens and city farms
 - 5.1 Shared community gardens
 - 5.2 Allotments
 - 5.3 City farms
 - 5.4 Weekend/holiday farms
- 5.5 Backyard Gardens
6. Farm Land trusts

CONCLUSION

Pioneering projects: learning from their experience.

In order to work toward creating sustainable communities, it is necessary to have a clear vision of what such a society would look like and how it can work. Some quite radical changes will be needed to make this shift, but it will be a smoother transition if we choose to change, rather than be forced to.

Many successful examples of sustainable community projects are already well-established around the world - in urban, suburban and rural contexts. These innovative, and often experimental projects, provide valuable direction and offer real, practical, and accessible solutions for sustainable living. They are largely driven by communities who, understanding the global situation, seek to affect positive change in their local area and contribute to the health and well-being of society and the environment.

REFERENCES

Capra, F. (2002) *The Hidden Connections*, Penguin

Groh, T. & Mc Fadden, S. (1997) *Farms of Tomorrow Revisited: Community Supported Farms-Farm Supported Communities*, The Biodynamic Farming and Gardening Association

Henderson, E. & Van En, R. (1999) *Sharing the Harvest: A Guide to Community-Supported Agriculture* Chelsea Green, USA

Jackson, H. and. Svensson, K., (2002) *Ecovillage Living: Restoring the Earth and Her People* Green Books UK

Mollison, B (1988) *Permaculture: A Designer's Manual*, Tagari, NSW

Register, R and Peeks, B. (eds) (1997) *Village Wisdom: Future Cities.*, EcoCity Builders USA

Todd, J and Todd, N (1994) *From EcoCities to Living Machine: Principles of Ecological Design*, North Atlantic Books, USA

APPENDIX 1: COMMON FORMS OF COMMUNITY FOOD SYSTEMS

1. Food box systems

Food box systems provide members with a weekly box of seasonal vegetables and fruit, plus other locally produced food such as honey, preserves, bread, eggs and dairy products.

The most common and easiest system to manage is the standard box system, which offers a mix of season produce. Many people appreciate this as it helps them to understand the local growing cycle, to eat in season and also try some unusual foods and varieties. When there is a glut of one particular food or unusual items, the box system manager often includes interesting recipes. It is possible to order different sized boxes depending on household size.

Some larger and more complex groups offer an ordering service whereby the consumer can choose types of foods and quantities they prefer. This is a more consumer-oriented approach, whereas the standard box system is more farmer-oriented (consumers accepting what the farmer can produce). Some prefer the ordering system as it overcomes the unpredictability of meal planning that arises with the standard box system. It also avoids wastage of food when items arrive that no one in the household likes. Generally orders are placed (and paid) for the following week when the box arrives. Some groups now offer internet ordering.

Box systems support and encourage farmers to become more chemical free and polycultural. To generate the diversity required to meet consumer needs, often products are sourced from a number of local farmers.

Food box systems can be coordinated by an individual, a cooperative, or a farmer. The boxes are distributed weekly either directly to members or to a distribution node. Members can also arrange a roster to pick up the boxes directly from the farmer. This is one of the simplest community food systems to establish.

2. Subscription farms / CSA

Subscription farms are also commonly known as CSA (community supported agriculture) systems.

CSA is a partnership of mutual commitment between a farm (or cluster of farms) and a community of supporters. Consumers become subscribers to the farm and commit to supporting the farmer/s throughout the growing season. Subscribers make up-front payments (usually monthly or seasonally, sometimes annually) and in return, the farm provides a box of seasonal, fresh produce on a weekly basis - delivered either to the subscribers directly or to a distribution node. The core difference between CSA and the food box systems described above is that the consumers pay up front and share the financial responsibility of crop failure. The benefits and the risks are shared. In this system the farmer has a stable income and a guaranteed market for the crops. There is also reduced administration, marketing and packaging required. Some subscription farms have open days to allow members to see how the food is grown, to meet the farmers and to discuss food preferences for next season. Since essentially members have a share in the crops, the process of deciding what to grow is more participatory.

Other subscription farms develop eco-agricultural tourism facilities to enable members (and non-members) to holiday at the farm either as a working holiday or simply to relax in a rural environment.

Members can attend or organise educational workshops at the farm, and programs for schools are common.

Members can be called in to help on the farm at busy periods and in emergencies. Some offer discounts on the subscription fees in exchange for labour inputs. The economic commitment by members generates greater levels of commitment and responsibility for the success of the farm.

This system does require a high level of communication, commitment, cooperation and involvement from both producer and consumer, and if a crop fails it is the loss is shared by all. Such losses can be overcome by having funds set aside (perhaps from the sale of excess produce to non-members) to buy produce from other farms.

3. Community food cooperatives

Community food cooperatives can take many forms - cooperative farms, producer cooperatives, consumer cooperatives and cooperative shops. Community food systems cooperatives are operated according to the 7 international principles of cooperatives.

3.1 Cooperative Farms:

A local community cooperative buys a farm and farms/manages together, sharing the produce equitably in relation to member input of money or labour. The cooperative may also choose to employ a farm manager and farm labourers, and use member labour at busy times to reduce costs. (could form part of a CSA)

3.2 Producer Cooperatives:

local farmers form a cooperative to bulk purchase inputs they require and to coordinate the marketing and distribution of their produce. In a community food system this is usually through CSAs, urban cooperatives, box systems, farmers markets or local organic restaurants.

3.3 Consumer Cooperatives:

In the simplest form of consumer cooperatives, urban consumers work together to source and bulk-buy local chemical-free produce. Members take turns each week in collecting the produce and take turns for several months at being the organiser. At collection times, members come to the organiser's house, or a common meeting point to share out the food together. Many groups use this as an opportunity to have shared community meal and discussion forum.

3.4 cooperative shops:

Cooperative shops are owned and operated by a local community to meet local community need of fresh healthy food. Many cooperative shops include other items such as natural medicines, natural cleaning agents and locally made soaps, books, seeds and seedlings.

The cooperative sources organic foods from the region and sells to members while also being open to the public discount prices are offered to members who have bought shares and contributed to the capital needed to organise and maintain the cooperative. Further discounts are available to those who offer labour inputs.

When profits are generated, they are circulated back into community. Some cooperatives aim not to make a profit beyond that needed for the cooperative development fund in order to keep the prices of the local organic food affordable.

These shops become important community meeting places, display community notices and arrange educational events and farm tours.

4. Farmers markets

Fresh food from the local region is sold directly from farmers to the consumers. Farmers markets focus on fresh produce, but also include cheeses, herbs, honey, breads, eggs, meat, preserves and other value added products. Some include local arts and crafts and natural fibre clothing.

At the markets, farmers meet the people who eat their food and gain direct feedback. Consumers meet the people who grow their food and are able to find out more about it. This connection gives deeper meaning and satisfaction to both.

Farmers markets become social events - a weekly gathering of the community - including live music, street theatre, community and environmental stalls and street cafes. Some cities close central streets for this event, others have dedicated areas. The more centrally located the better.

Organic farmers markets are generally held once a week, although sometimes more often. Consumer preference is for more frequent markets however it is difficult for small farmers to manage more than one day a week at the market. To overcome this limitation some farmers have formed cooperatives to share the market time, but this reduces the directness of the connections that make farmers markets so valuable.

Farmers markets are one of the most popular forms of community food systems. There is a market renaissance happening around the world with a focus on establishing new organic markets and revitalising old markets that have existed continuously for hundreds of years but no longer sell local or chemical free produce.

5. Community gardens, allotment gardens and city farms

In these community food systems, the consumers are the producers. These systems bring food production much closer to home and actively engage urban neighbourhoods in the production of food. It is not often that all food needs can be met in these gardens, but a large proportion of fruits and fresh greens, herbs and vegetables needs are produced. Other forms of community food systems are regularly linked with, or organised from, these projects to supplement food needs. Many city farms and community gardens play important community and environmental education roles. The awareness raised by these groups supports the establishment of other regional community food systems.

In all of these systems, members of a local neighbourhood work together to create food gardens in public spaces - parkland, schools, railway easements and other vacant or open space. These gardens are best located in and around towns and cities, away from main vehicle thoroughfares but with easy pedestrian, bicycle and public transport access.

Most systems are initiated by the community in response to an identified need. Others are started and supported by local municipalities as a community health or community development initiative.

Food scraps from the members' homes and neighbourhood are processed in community composting and worm farming systems to be used as soil and natural fertiliser in the gardens.

Below is a brief description of each:

5.1 Shared Community Gardens

the community garden is maintained collectively by group and produce is shared equitably among members. Resources and funds required are sourced together.

5.2 Allotments

the community garden is divided into allotments that are each maintained separately by members and for which a nominal rent is paid. The individual members (or groups of friends) harvest and consume the produce they grow themselves. Trading often occurs between the allotment gardeners. In many European countries small cabins are constructed for weekend stays. Composting and orchards are usually managed together in shared spaces.

5.3 City Farms

When animals are included in these community gardening systems they are generally known as city farms. City farms are also more focused on education and demonstration of sustainable urban living and are therefore found in highly visible locations.

The elements generally found in city farms are: community managed gardens, allotment gardens, demonstration gardens, education programs, schools programs, plant nurseries, community seed banks and plant material exchange networks, animals – chickens, ducks, geese, sheep goats, cows, horses, baby animals - community recycling centres, shared tools, community composting, community food forests/orchards, community wood lots, picnic areas and/or community café, community festivals and markets, and playgrounds.

City farms provide a focal point, meeting place for local neighbourhoods. They often occupy larger areas than community gardens and hence members generally work together cooperatively achieving more than they could by working alone. This also provides opportunities for sharing skills and experience.

The social and educational aspect of city farms is what attracts most people to them. City farms have also provided contact with animals and a 'rural' environment for inner city children that have never before had such an experience. The integrated nature of city farms enables them to become platforms for positive change within a neighbourhood.

5.4 Weekend/Holiday Farms

This system is becoming increasingly popular in Asian cities where most people live in apartments and access to land is not available in the centre of the city, or is too polluted and contaminated. Farmers in close proximity to the city rent small plots of land to urban residents. Members come on the weekend to farm, relax and socialise with other gardeners. During the week the farmer waters the plots and prepares seedlings for the gardeners to plant to following week. The farmer also provides storage for tools, meeting and eating areas, educational workshops and school visits. The added income generated by this system enables small organic farmers to survive.

5.5 Backyard Gardens

Not traditionally viewed as a CFS, but there are many opportunities. Within a community street or neighbourhood, people can grow food in their own private gardens and exchange and trade surplus. In some neighbourhoods, residents have planned together what they will each grow in their own garden, so that there is a diversity of produce to be shared. In other areas fences are pulled down between lots to facilitate gardening together. Older residents sometimes offer their land to younger landless neighbourhood members to garden, and the produce is shared between the gardener and landowner. Growing as much as possible in private gardens increases the productivity of residential areas and reduces the need for transportation of food from elsewhere. What cannot be grown in ones backyard can be sourced from the other CFS in the region.

6. Farm Land trusts

An opportunity to conserve peri-urban agriculture for sustainability

A Farm Land Trust is a farm, near an urban area, that is held in trust by a charitable organisation established and managed by local community members. The land is leased to members or others from the region for variety of mutually beneficial enterprises - sustainable agriculture and related businesses (CSA, fruits, vegetables, herbs, livestock, forestry, teaching, crafts, dairy, etc).

Within the trust structure, some activities are conducted on leased, others utilise activity leases. Usually 10% of net profit of each lease activity is returned to the land trust's maintenance fund or a

revolving loan fund for the development of the site and new leases. Farm Land trusts are also developed as education centres or working-demonstration sites.

Land Trusts provide easier access to land for small businesses wishing to establish themselves and reduces cost through the sharing of marketing and administration. The collective nature of the group of enterprises makes it a more interesting, vibrant and viable venture than all working alone (although requires higher levels of communication, cooperation and organisation). It also facilitates the integration of activities where the waste from one becomes the inputs for another. The aim is for the whole project to operate like an ecological system.

Land trusts are able to protect and maintain agricultural land in growing urban areas. Too much of valuable agricultural land in Australia and around the world is being consumed by cities and towns. Agricultural production is being pushed to marginal lands and overseas. Small family farms are disappearing. Similar to a land trust that protects areas of significant biodiversity, Farm Land trusts can protect productive peri-urban farms from the pressures of urban growth and development - to maintain productivity within the urban context.

The cost of farmland in peri-urban areas is restrictive and becoming financially unviable. If the public can purchase such farmland, farmers can farm without the mortgage burden and maintain the benefits above on behalf of the wider community.

A Farm Land Trust can be established through government support and community donations. Farmland could also be bequeathed or donated to a farmland trust to ensure that it remains in production in perpetuity.

ABOUT THE PRESENTER

Morag Gamble has facilitated and supported the development of sustainable neighbourhood initiatives in over 20 countries through her work as a sustainability consultant to local communities. This presentation is based on her personal experience.

Morag will take an in-depth look at what makes community sustainability projects work and will share insights from established projects around the world (and right here in SEQ). The examples will demonstrate successful community-based approaches to sustainability in urban, suburban and regional contexts, and show how local communities address issues of economic, social and ecological sustainability.

Morag is based at the UN World Habitat Award-winning ecovillage, Crystal Waters, near Maleny, where she is Program Director of Crystal Waters College - an independent ecological design college, Manager of SEED International (Sustainability Education and Ecological Design) and a Director of the Crystal Waters Community Cooperative.

She leads regular ecological design and sustainable living courses and workshops locally and internationally. Her programs attract a wide range of people - professionals, academics, educators, land managers, farmers, tradespeople, and community organisation representatives - who have travelled from over 40 countries to attend.

Morag is also Member of the Ministerial Regional Community Forum, Sunshine Coast (QLD Department of Communities), Director of Permaculture International Ltd., Urban Agriculture Consultant (Brisbane City Council), Permaculture Consultant (Ethos Centre, Beechmont), Co-ordinator of the Australian City Farms and Community Gardens Network (Qld), and co-initiator of Northey Street City Farm.