A Permaculture Approach to County and Regional Planning

Michael Pilarski

Applying permaculture design to cities, counties and regions is a fascinating topic which I always discuss at my permaculture design courses. However, when I sat down to write this article for The Weekly I realized that I can only lay my hands on a number of case studies, some of which I review in this article. Permaculture design at the regional level is still in its infancy, nonetheless I believe it holds a lot of promise for today's crisis-ridden world. This article also touches briefly on decentralized economic and governance systems. It was written with Whatcom County in mind but has broader relevance. This is just a taste of what permaculture is and how it is being applied around the world.

Most people when they hear the word permaculture think of food gardens, sheet mulching or back-yard food forests. But permaculture is so much more than this. Permaculture is integrated system design of the natural environment (gardens, farms, forests, wild areas); the human-built environment (buildings, energy systems, transportation, waste management) as well as economic and social systems. Permaculture design is most commonly applied at the garden, homestead or farm scale, however permaculture design can be applied at any scale - to any size of property or region. In this case we will take a look at how permaculture would approach designing all of Whatcom county. This necessitates looking at things from the micro to macro level from single yard designs, to blocks, neighborhoods, small towns, the city of Bellingham, rural settled areas, farmland, forests, foothills and whole watersheds.

At this point in history we need an intense search for, and discussion of, decentralized, democratic, people-caring governance systems, both current examples and past. There is much to learn from tribal and indigenous people's traditional systems as well as from people's movements of today and the recent past. The current paradigm encourages apathy, discourages discussion and represses grass-roots innovation. The internet can enable a fast sifting through, synthesis, and dissemination of the knowledge of decentralized governance. Decentralized, people-caring governance would use non-violent communication and at least some level of concensus

It is glaringly obvious that groups of concerned citizens with a sustainability mindset can come up with far better policies then current governments. Banding together to create our own planning processes is an evolution of participatory democracy. If we put out cohesive and well-thought out plans for sustainability, just governance, etc, more and more people are ready to listen. Let's not wait any longer. What steps can we take in our own lives? What steps can be taken by banding together with other local people? Start moving forward, prepare and promulgate better visions and better plans then the current powers that be.

Localization is one of the key concepts in permaculture. This is easiest to see in the move towards localization of food production. "Buy local" food campaigns are springing up across the US. In a place like Whatcom County, it is easy to see how we could produce the majority of our food needs from within the county. It is a lot harder to see how we could accomplish this with manufactured goods, electronic technology and many other things we take for granted. We need local think tanks to look carefully at how many of our needs could be produced at the county level.

Permaculture has a set of ethics, several sets of principles and a design methodology. Permaculture design flows from our four ethics: 1) care of people, 2) care of planet, 3) limits to consumption and population, and 4) dispersal of surplus. Permaculture design emphacizes co-generation opportunities, closing loops, and turning wastes to resources - outputs of one part of the system becoming inputs for another part. We study interconnections and flows. Soils and ecosystems get richer. Two of the permaculture principles are that every element has multiple functions and every function should be served by multiple elements.

The following lists are a few ideas of policies and goals that I believe would lead to a more sustainable Whatcom county. I would like to acknowledge that many of these things are already happening in Whatcom county.

FOOD
* Increase home gardening by a large factor.
* Community gardens within walking distance for everyone who wants to garden.
* Inventory government land to assess availability and suitability for community gardens.
* Assist elderly and disabled to have food gardens.
* More educational opportunities in food production. A local example is the conversion of the Fairhaven Rose Garden property to the Center for Local Self Reliance to teach gardening and self-reliance skills.
* Encourage the start up of hundreds of new, small-scale farms to fill food needs not currently being produced in the county.
* Goal is to grow as wide a diversity of food needs as can be grown locally for local consumption. Increase the percentage every year. Aim for 80% self-sufficiency.
* Assist existing farms to make their operations more ecological, financially viable and for more of their production to flow to local markets.
* Diversification of food and non-food crops grown in the county, one example being oilcrops.
* Legal facilities for slaughtering and butchering, including mobile processing unit.
* More farmers markets, roadside farmstands, and CSA farms.
* Increased production of locally-adapted seeds and nursery stock.
* Distribution and marketing hubs for small growers.
* Certified kitchen facilities for rent around the county.
* More public freezer lockers and food storage.
* Increased use of local foods by institutions such as schools, hospitals, jails, assisted living.
* Farm link programs to help young farmers get established and farm intern program.
* Local food grocery stores.
* More grain growing for human food and livestock feed.
* Annual Food Festival.
* Agriculture planning summit.
* These are just a few beginning points.

Of course these developments are only economically feasible if consumers switch their food buying from imported food to local food. Whatcom county can easily feed itself. Whatcom is already a major producer of milk, berries, and meat and the above developments could go in tandem with maintaining and diversifying food exports. Agriculture could be an even larger component of the county's economy.

ENERGY
* The goal is to reduce overall energy use and to produce a higher % of energy needs in the county. Many small scale systems rather than centralized large scale systems. Two permaculture principles are: 1) Catch and store energy and 2) Use small and slow solutions.
* Energy audit of all homes, buildings, businesses and agencies. Close the leaks. Conservation measures, insulation,
* Install home energy production with passive solar, solar hot water, solar panels, wind, biomass, etc.
* Research and install capacity to produce liquid fuels for public transport and agriculture. This can include alcohol, vegetable oil crops and pyrolysis. Farms can produce part or all of their fuel needs.
* Energy use reduction and conservation is at least as important as new forms of energy production.

TRANSPORTATION
* Zoning to create walkable communities with work, shopping, recreation, etc within walking distance.
* Keep improving the bus system.
* Keep improving the biking system.
* Encourage vehicle co-ops.

BUILDINGS
* Input/output analysis for households, businesses and agencies. More integrated thinking of how buildings fit into their environment.
* Research and design plantings of trees, shrubs and vines to improve natural heating and cooling of buildings making them more livable, less energy demanding and greening up the city.
* Do maintenance and repair of all buildings. Demolition is a last resort. This would provide a lot of

employment and is a good investment. Renters with the appropriate skills should be encouraged to do house (and yard) improvements in lieu of rent.
* Use local building materials inasmuch as possible.
* Use building materials that are the least toxic to produce, least toxic to recycle and least toxic to the inhabitants. Healthy homes.
* Integrate buildings into the natural environment. Rooftops can be sources of water.
* The book "A Pattern Language" by Christopher Alexander is a wealth of ideas for sustainability and livability of buildings as well as city design.

WASTE MANAGEMENT/RECYCLING
* One permaculture principle is that wastes from one part of the system should be used as inputs in other parts of the system. Aim for zero waste. Cradle to grave consumer goods.
* Compost all organic waste if not utilized in other ways. Highest and best use analysis of waste stream.
* Recycle building materials. Buildings slated for demolition/remodeling should have as much salvage done as possible. ReSources is already a national model of this. Scale up.

WATER
* Capture urban runoff to infiltrate into aquifers and irrigate plantings.
* Reduce water pollution inasmuch as possible, both point and non-point sources, marine and fresh water.
* Stabilize erosion areas caused by logging, contruction, etc.
* Do ecosystem restoration in riverine systems, lakes and shorelines.
* Develop and encourage safe utilization of household greywater in landscaping.
* Replace failing septic systems including the option of composting toilets.
* Assess the current state of the art of composting toilets and make information available about the most appropriate and safe types for our climate.
* Sewage plant outflows should be used to irrigate woodlots rather than being discharged into waterways.

ECONOMY
* Allow and encourage every person to be productive and a part of the economy. I use the word economy here broadly to mean all productive work and includes the informal economy as well as formal sector employment. The more an individual or household is able to grow their own food, produce their own needs, build and repair goods, and so forth, the less they need outside cash flow.
* Encourage neighborhood and cooperative endeavors. Symbiotic relationships.
* Barter of goods and services at the local level becomes a major means of exchange.
* Local currencies. Fourth Corner Exchange is a local model.
* Micro-loans and revolving loan funds to enable more small-scale, entrepeneur businessinesses to start.
* Encourage local production for local consumption to the fullest possible extent.
* Encourage self-employment, small businesses and worker-owned cooperatives. The Mondragon Cooperative in Spain has demonstrated how to scale up worker-owned cooperatives into large manufacturing industries.
* Encourage the marketing of goods by locally-owned stores.

SOCIAL SYSTEMS
* Permaculture is not only about how to make symbiotic relationships between flora and fauna; permaculture is also about making symbiotic relationships between people. How can people cooperate to their mutual benefit?
* Increase participatory democracy.
* More neighborhood and town squares for cultural interaction.
* More festivals and community events.

Here are some examples of grass-roots planning processes informed by permaculture and focusing on decentralization and sustainability. Permaculture has only been around for 40 years, but it has spread around the world with hundreds of thousands of permaculture design course graduates practicing in many cultures and ecosystems. Permaculture is just beginning to hit its stride.

Transition Towns. The Transitions Towns movement started in England but is spreading internationally

with over 100 transition town initiatives so far. The Transition Towns movement is based on permaculture to a large degree and it's founder, Rob Hopkins, is a permaculturist.
A Transition Initiative includes taking the following steps in the community:
* awareness raising around peak oil, climate change and the need to undertake a community led process to rebuild resilience and reduce carbon
* connecting with existing groups in the community
* building bridges to local government
* connecting with other transition initiatives
* forming groups to look at all the key areas of life (food, energy, transport, health, heart & soul, economics & livelihoods, etc)
* kicking off projects aimed at building people's understanding of resilience and carbon issues and community engagement
* eventually launching a community defined, community implemented "Energy Descent Action Plan" over a 15 to 20 year timescale.
Transition Whatcom is co-sponoring Pilarski's January 24 workshop. http://transitionwhatcom.ning.com/ http://transitiontowns.or

Willits Economic Localization (California)
The Relocalization Network was created in 2003 and grew to be composed of over 200 local groups from all over the world working to prepare their communities for an energy constrained future. Willits put together one of the most comprehensive relocalization plans. A lot of the relocalization groups have been incorporated into the Transition town movement. http://www.relocalize.net/groups/willits

Transition Sunshine Coast, Queensland, Australia
This group started out as the Sunshine Coast Energy Action Centre. They have developed a well-thought out Energy Descent Action Plan over the last several years. "We saw the need for a permaculture driven Energy Descent Action Plan (EDAP) in every council area led by permaculture trained people but inclusive of all key stakeholders – using the cooperation not competition principle. http://www.seac.net.au

Ravalli County, Montana
Bitterrooot Valley Food System Community Food Project.
www.bitterrootvalleyfood.info/

Gallatin Grassroots Forum, Gallatin County, Montana
"A grassroots approach to empowering the Citizens of the Gallatin Valley toward making informed decisions in shaping the future of their Community". http://sites.google.com/site/gallatingrassrootsforum/

Cuba's Popular Gardens: Sustainable Urban Agriculture
Many people are aware of the story of Cuba's phenomenal "Huertos Populares" urban gardening movement. Less people are aware that a group of permaculturists from Melbourne, Australia were instrumental at the beginning phases for bringing in the sustainable gardening methods. Australian Organization Permaculture International (the Green Team). http://sustainablecities.dk/en/city-projects/cases/havana-feeding-the-city-on-urban-agriculture

Kauai, one of the Hawaiian Islands, has a land mass of 353,000 acres and a population of 65,000. Being 2,500 miles from the nearest continental land mass, it is particularly vulnerable to disruptions in the supply of outside inputs. Currently it imports over 90% of its food needs as well as most of its fuel, building materials, etc. On April 4, 2009, 250 people came together in Lihue on Kauai to update Kauai county's master agricultural plan. The Kauai Agricultural Forum brought together a wide range of farmers and agriculture stakeholders including agencies and local government. The unique thing about this planning process was that permaculturists had a major role in planning and directing the event. Michael Pilarski gave the keynote address and was one of the main facilitators. About one-fifth of the participants were permaculture design course graduates. The mission for the day was to collaboratively plan the future of agriculture in Kauai. The plan developed at the Forum strongly reflected a permaculture outlook. To my knowledge this is the first county-wide, agricultural planning event co-directed by the permaculture community. www.kauaiagriculturalforum.org

North American Bioregional Congress (NABC). It has had several title changes over the years and is now known as the Continental Bioregional Congress. NABC I was held in 1984. The 10th CBC was held in 2009. Permaculture has always been a strong component of all the bioregional congresses. I experienced a taste of citizen-led, planning processes from participating in NABC I and III. NABC I was held near Kansas City, Missouri. I was on the forestry committee which met periodically during the congress to produce a set of recommendations to the people of the United States. In a sense we became the defacto heads of the US Forest Service. We set policy. After we made our preliminary recommendations these were presented to the whole congress plenary for questions and feedback. We than met to refine the recommendations and brought them back to the plenary congress. Our final statement had to be ratified by concensus vote of the whole plenary. This process was also being gone through by the farming committee, the energy committee, water, etc, etc. The end result was a very impressive list of recommendations reached by concensus. It felt to us like we were making a new declaration of independence. We outlined a new way of running the US. The whole process was extremely empowering. There have been several dozen small bioregional congresses around the county, some of which are still ongoing. I am recommending that we set up microcosms of this NABC process in regions, counties, and cities all around the country. http://biocongress.org/2009congress/ Great links page.

Permaculture: A Designers' Manual. By Bill Mollison. 1988, Tagari Press. 165,000 copies in print as of April, 2009. 575 pages. This book, written by permaculture's originator, is currently the most far-ranging book on the topic. Chapter 14, "Strategies of an Alternative Global Nation" is especially noteworthy in regard to outlining permaculture's proposals for economic, social and governance systems.

The Pentref Concept, France

Permaculture France has developed some very useful concepts for regional planning and governance which can be adapted to other countries. See Steve Read's article: "Same Planet – Different World: Designing and Building a Better World, Starting at Home." http://steveread.free.fr/downloads/same%20planet%20different%20world.pdf

Permaculturist, Steve Read (SR) in France has done some good thinking on localization in governance. He outlines a system where most decision making power is at the level of neighborhoods and small areas with populations of 500 to 1000 people. "Local areas of decision making are never more than 2 hours walk from anyone who would be affected by the decisions." [SR]. Small enough that a lot of people can know each other and be informed. Local production of foods, goods and services are done within the area as much as possible. Localization of production, services and governance. Read calls these areas "Pentrefs".

"500 to 1000 people means a very active local economy where most needs can be produced and most skills and crafts will be represented. More than this and we have a certain anonymity that sets in, it becomes harder to know everyone and we get more crime and disorder." [SR]. The next level up is the Bioregion, which is made up of neighboring Pentrefs and follows natural boundaries such as large watersheds. Next above that is the language region which incorporates all the bioregions where the people speak a common language (or in some places, a group of languages). This is not meant as an excuse for ethnic cleansings and this idea cannot be followed slavishly as some languages are spoken by a very small number of people and others (like English and Spanish) are the dominant language in dozens of countries. This would of course change many of today's national boundaries. Language groups having autonomy would greatly reduce civil wars, separatist movements, etc. Kurdistan, Burma, Sudan and Palestine come to mind.

"For a long time the cry has often been "give me a job, any job" as people try to pay off their debts or rent and get some food, . . . Here we're talking about us freeing up our imagination and natural creativity and transitioning to something new, good work that builds and makes things that are really useful, well made and help make this world a bit better. As soon as we get rid of personal debt, all this becomes easier and easier."

"One of the outstanding benefits of the systems you have installed is that life is much less expensive, food is high quality and cheap or free, energy is locally supplied and so again either very cheap or free, no car and with good design no debt. Little by little people can slow down to a human pace, a healthy rhythm,

become calmer and increasingly able to find what it is that they are creative at and become more and more a part of abundant living."

What would a system of Pentrefs and bioregions look like in Whatcom county with its population of 196,529? (75,750 of them in Bellingham) (2008: U.S. Census Bureau). Whatcom county would have at least 200 Pentrefs if they ranged between 500 and 1000 people each, neighborhoods, small towns and rural areas. The Nooksack River watershed is an easily identifiable bioregion with the Skagit River watershed being the bioregion to the south and the Fraser River Delta being the bioregion to the north.

"The new frontier is just in front of us and the future has started, its time to design and build a better human world, to create an Evolution, a conscious evolution where we put behind all those things that have failed us in the past, which have caused destruction, pain and fear and replace them with all that is the best of us, the best of you." (SR)

Michael Pilarski will be facilitating a workshop in Bellingham on January 24, Sunday. A Permaculture Approach to a Sustainable Whatcom County. Come join us for an experience in citizen-led planning. Squalicum Yacht Club. 2633 South Harbor Loop. 9:00 – 5:00. Contact Paul Kearsley, 360.312-3928, kearsleydesign@gmail.com

Michael Pilarski has been involved in the permaculture movement since 1981 and is one of the Northwest's leading permaculture teachers. He has lived in Whatcom County off and on since 1991. www.friendsofthetrees.net