Sustainability, a Paradigm for Community Development

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The idea of *sustainable* development grew out of the 1960's environmental movement (Dixon and Fallon) as a necessary response to escalating environmental problems and social malaise. The concept became an active part of community development discussions in the early part of the 1980's. Despite the attempt to resolve some of the grave environmental side effects of development strategies by applying the term sustainability, outcomes and even the meaning of the term itself has remained ambiguous. Although there is widespread agreement that something needs to change within development policies to reconcile human needs with the environment, exactly what should be done and how has remained extremely contentious. Partly there is an ideological schism between large multi-lateral lending institutions and global economic policy makers with the global civil society and particularly the poor and disenfranchised in terms of what should be the outcome of development.

This paper discusses how developing a vision for sustainability is paramount to resolving some of the ambiguity about the term. The paper attempts to distinguish an ideological difference between development-as-project versus development-as-process. I argue that by adopting a comprehensive approach to design and decision-making related to development policies or programs, sustainability becomes the vision rather than the project. But more importantly, because sustainability addresses the question of how we develop, the only way to

evolve sustainably is to change the way we think about living and what development means. It is not enough to weigh environmental factors in economic development - we must include education, spirituality, how people recreate and how they work. Importantly, development must be focused on humanity's intangible heritage, the *meaningsphere* that gives human beings a purposeful and vitalizing sense of identity. As a process, I argue that sustainable development is most effectively enacted at the local community level, where people experience social, political, and environmental changes to the greatest degree. Necessarily this impacts how development programs from housing to parks and recreation or economic development schemes are conceived.

How do we move our thinking from sustainability being a kind of teleological project to a way of living? I have developed a conceptual paradigm based on general systems for community building and development that I describe in the second half of the paper. This model addresses one of the fundamental problems in conventional development schemes, i.e., compartmentalization; for example, the economy remains independent of culture, which remains independent of the environment. Housing supply and demand is thought of separate from energy supply and demand, which is thought of separately from biogenetic engineering and agricultural supply and demand. These are examples of development as project. However, if we fully comprehend the nature of development, than we have to assume a conceptual paradigm that is process (or system) oriented. This, of course makes sense because human beings are living systems that have a beginning, middle and end – for development to be truly human-scaled, it also has to relate to the natural biology of living systems rather than imposing non-changing institutional infrastructure. In order to integrate fully the needs of the environment and human

cultures, we need a radically different way of envisioning ourselves as part of a greater whole when we think about our needs, choices, and the way that we will live.

Conceptually, how is thinking about sustainability engendering a reorganization of economic and social structures and relationships in local communities; and what are some of the possible outcomes? What types of decision-making processes are necessary for sustainable community? One of the stumbling blocks to create a scientific basis for sustainable development has been a pattern established by conventional development that seeks modular or mechanized approaches to problem solving. Certainly this is easier to manage and control from an institutional perspective, but it is a pattern contrary to natural systems development and therefore perpetuates incongruent relationships between human communities and the natural world. This observation may explain why there are no consistently satisfactory models for sustainable development; yet there are scientific systems like permaculture design or industrial ecology that can elicit sustainable development processes.

The ideological challenge to creating a vision for sustainable human development lies in the nature of the global capitalist economy, which relies on sustaining itself using a vision of unlimited growth and economic expansion. There is so much physical inertia perpetuating this system that it seems unwieldy to expressly try to change or alter that paradigm. On the other hand, it is precisely this vision of humanity as an enterprise for economic growth that engendered the problems recognized in the middle of the 20th century that ultimately led to the need for a "sustainable development." Within the capitalistic system, sustainable development is that which promotes economic expansion. Development, however, is not just the process of growth. The word was originally used to describe the natural process of a biological organism, which grows from seeds, is born travels through adolescence into adult maturity before it withers and

dies. In other words, development is inherently cyclical. There is no force on Earth that just grows and expands. On the other end of the scale, to indigenous peoples in Mesoamerica like the Zapatistas, sustainable development is the right to pursue cultural traditions. As long as development continues within the same framework of unlimited growth and expansion there are no projects that can be identified as sustainable. The core failing of the sustainability dialectic up to now has been that it is response rather than vision driven.

The modern concept of sustainability grew out of the environmental movement and literary works by authors such as Aldo Leopold, Rachel Carson, and E.F. Schumacher. At the same time there was mounting global awareness of third world famine, world population growth, and widespread industrial pollution. The oil crisis in the early 1970's demonstrated the dangers of resource dependency. By the early 1980's sustainability became a part of the geopolitical dialogue. The World Conservation Strategy published in 1980 (IUCN) followed by The Brundtland Report, published in 1987 by the World Commission on Environment and Development, brought the concept of sustainable development into mainstream political thought-particularly in organizational planning for developing countries. Sustainable development was the focus of the 1992 United Nations Conference on the Environment and Development in Brazil. In the 1990's the President's Council on Sustainable Development was convened to explore sustainable development in the United States. They concluded that "[s]ystemic thought is required so that economic, environmental, and social problems are recognized as integrated and actions to address them are coordinated" (1996). Increasingly municipalities and regional planning agencies are looking at how they can make their areas more sustainable through thoughtful coordination of department and agency.

Part 1

There is a "flea market of ideas" and definitions of sustainability (Nixon, 1995). A World Bank Environmental Paper, for example, lists 55 different definitions (Pezzey, 1992). The volume of ideas indicates the subjective nature of the concept and to the varying degrees sustainability can be applied practically and philosophically. Sustainability conveys a set of values grounded in the pursuit of human (and non-human) well being and the quality of life. In this sense it verges drastically from mainstream development that is now focused on material well being of human communities. In this light, some of the more interesting points this raises is how globally do we ensure the sustainability of human cultures in the process of ensuring material well being. The idea of civilization and development is an outgrowth of the Victorian Era when European cultures were actively trying to mitigate the plight of the world's savages. This form of development is predicated on classical economics stemming from the days of Adam Smith. Yet today, we have a very active global civil society and organized voices of many indigenous groups arguing for a quality of life and material well being that is sometimes very different from the West.

Development reflects cultural values. Choosing to be sustainable means that we must recognize our relationship to natural resources as well to other cultures. It is a moral issue because true sustainability will require total restructuring of the present social and economic cosmology as we reexamine our own development patterns and make new kinds of choices. Being sustainable will force us to ask what values we will allow to guide the natural processes of unfolding within our homes and cities? Resources (natural and cultural) would have to be redistributed more equitably, less energy would be used, and consumption of material goods

would decrease. So that, as Blower (1993) observes, the luxury "needs" of the rich and the basic survival needs of the poor are not at either end of the moral spectrum. Assigning criteria, or simply defining sustainability is inherently problematic. The "sustainable future" as Pezzey notes (1992) has multiple possibilities. For one group to pick the "optimal" future over another is an unjust imposition of a worldview. Furthermore, the earth tends toward diversity at every level. Human cultures are also diverse for this reason and our development in order to be sustainable must support and enhance our ability to be diverse thereby bringing more to the whole.

Human survival is a central theme in sustainable development as well environmental health, ethics, future generations, responsibility, resource access, and distribution. Poor people struggling to survive show little concern for protecting the environment-as has been often observed in third world development (Blower, 1993). While a valid observation, focusing on this dimension of environmental destruction in fact shields us from the truth of the situation that modern-day poverty has been manufactured and people have been forced into non-traditional ways of life that are inherently not in balance with the natural ecosystem. Sustainable development as a praxis has focused on rural poor in developing countries as a mechanism to support survival and aid the environment. People in industrialized countries do not face equal threats of daily survival, yet their contribution to destruction of global environmental systems is enormous.

> "Human development depends upon a healthy environment; economic vitality and social equity can follow only if ecosystems continue to thrive. If we do not protect the land and its resources, the land will not support us." (Grant et al., 1996)

Intergenerational equality, meaning that our descendants will have the same stock of natural resources that we have, is a key concept in sustainability. See Daly and Cobb (1989);

Brown et al, Clark, O' Riordan, Pearce, Repetto in Sustainable Development Concepts (1992). Sustainability espouses an ethic of stewardship for the earth and ecological systems. In terms of the global scope and implication of environmental catastrophe, this ethic is a first for global human civilization – but not for individuals or indigenous societies where these ideas have existed for thousands of years. It demonstrates the expanding complexity of global interactions and people's awareness of their impact on their environment. Still, the concept is in a nascent stage as "few of the world's city-dwelling people understand the impacts and scale of the extractive economy that supports their lifestyles" (Young and Sachs, 1994).

The following two definitions best connote the sense of sustainability that I consider in this paper. Coomer says a "sustainable society is one that lives within the self-perpetuating limits of its environment. That society...is not a 'no-growth' society...It is, rather a society that recognizes the limits of growth...[and] looks for alternative ways of growing". This makes it imperative to find a paradigm for decision-making that naturally elicits these types of limits and processes. And to O'Riordan, sustainability "is a much broader phenomenon [than sustainable development], embracing ethical norms pertaining to the survival of living matter, to the rights of future generations and to institutions responsible for ensuring that such rights are fully taken into account in policies and actions" (Pezzey, 1992). And I would like to add to Pezzey, that sustainability is also about the rights of present generations and that key to intra-generational equality is that all people are sovereign to express a multiplicity of views and perspectives.

Broadly, sustainable communities create mechanisms for local control (Nixon, 1995) of productive resources while nurturing their environment. Resource conservation, the built environment and its impact on land, respect for environmental quality, increased social equality-

especially for future generations, and, broad-based political participation are key concepts and strategies employed by sustainable community systems (Blower, 1993, Rookwood, 1993).

Besides the moral dilemma, there is another notable element in the dialectic that affects the values driving sustainability and how it is implemented. Vandana Shiva, a former nuclear scientist from India, points out that *sustainable* can have two meanings:

> "The real meaning refers to nature's and people's sustainability, where nature supports life. The second meaning is the sustainability of the market and the production process, but this path cannot be followed forever as it destroys nature, which is the primary source of support and sustenance." (1992)

Does the economy have to grow in order to develop? Can it develop without *fiscal* growth? To regard sustainability "holistically," due consideration must be given to the growth versus development debate. The opposing views elucidate the values of two distinct social paradigms-sustainability and industrial expansion. Both Goodland (1992) and Daly (1991) describe the earth as a finite system. Seeing the economy as a subsystem, means that "the economy, must eventually stop growing but can continue to develop"(ibid.). Society is also a subsystem of the earth (and the economy is a subsystem of the society;) population cannot continue to grow, but society can indefinitely develop and mature. Ultimately, we will deplete the earth's natural resource reserves and destroy its regenerative capacities unless we change our values and corresponding socio-economic systems.

Sustainability may pose a threat to those who esteem the virtues of the free [sic] market economy. This perception has resulted in the greatest polarity between the merits of the service-capitalistic economy and the possibility of achieving sustainability. People in favor of growth argue that expansion is necessary for the perpetuation of the economy. They advocate "sustainable growth" by producing "more with less through conservation, technological improvements and recycling"(Goodland, 1992). This argument also has validity - but only to the

extent that other forms of economic organization have not been examined because our entire culture in thoroughly embedded in a capitalist growth model.

Community development intervention organizations whether or not they advocate sustainability, can benefit from the process of problem solving used in sustainable community building. Contemporary community development and sustainable development are more similar than disparate. Minimally they share the goal to improve the quality of life for communities and act with intent to safeguard important natural, cultural, and community resources. Both are fostering more participatory development through coordination, political participation, trust and reciprocity, increased networking and links, leadership, and organization. The main difference is that sustainability poses an ethic and value of stewardship for ecological systems that is formed by the thoughtful and conscious choices and limits on the use of resources by people.

> "[S]ustainability is a helpful concept in that it posits the long-term planning goal of a social-environmental system in balance. It is a unifying concept, enormously appealing to the imagination that brings together many different environmental concerns under one overarching value. It defines a set of social priorities and articulates how society values the economy, the environment, and equity." (Campbell, 1996)

Bradshaw explains that as society becomes more complex, community development intervention organizations will place increased emphasis on coordination and they expand their strategies from service to sustainable development (Bradshaw, Lecture, UC Davis 11/26/96). His theory provides a systematic way to understand the complexity of society in terms of roles and relationships, yet it doesn't explain in light of societal complexity, why a community or individual would change their values and adopt sustainable development.

Robert Putnam's theoretical construction for a healthy democracy (1993) premises that structure leads to relationships capable of producing a healthy democracy. I use his theoretical construction to help explain why communities choose sustainability over service in complex

society. I added a link to the beginning of his construction, the catalyst or gestalt, i.e., that which inspires behavioral changes in the individual or group upon the digestion or awareness of information and experience. As industrial-information society becomes more complex, people are increasingly aware of how growth driven values and mass-consumption are adversely affecting the earth's life supporting systems. "The emphasis on the market economy has resulted in the destruction of the other economies of nature's processes and of people's survival" (Shiva, 1992). In response people's values are changing and likewise their organizations. A greater emphasis is placed on strategic coordination and systemic decision-making because this is the only chance to effectively deal with large-scale environmental problems and social malaise. The result is sustainable development.

Part 2

Sustainability is a paradigm shift triggered by rapid environmental deterioration and growing social malaise. The technology of the information age brings the increasingly complex society (Bradshaw, 1996), to bear and people have an expanded awareness of being part of "complex inter-related ecosystems that are being disrupted at an increasing rate" (Rookwood, 1993). Comprehending and assimilating the scope and implications of the global changes necessitates abstract reasoning; a gestalt manifests a change of goals, lifestyle and, behavior (ibid.). Clark describes two gestalts, one based on individual competition and the other based on the concept of community. The latter

> "views economic activities and material consumption as a link between Nature and human community. The establishment of viable societies or sustainable ecosystems requires a deep understanding of human nature, its needs, and its proper relationship with Nature as a whole"(1991).

When a community organizes its social and economic systems away from *service toward sustainable development* it reflects this change. In complex society, we face a host of challenges

for our development: rural-urban stability, rich and poor dichotomy, tool and resource acquisition, health and ill-health, cultural inequities or imbalances, basic needs distribution and access to productive resources, autonomy, and lastly basic human rights. This list sounds more appropriate for Third World [sic] problems, but in fact, these issues are basic now to any society on the globe and they are useful in helping us coordinate more strategically as we naturally develop over and in time. Using sustainable development as a paradigm to address global-local problems, communities are moving from linear economic growth to localized resource efficiency and quality community. As Norwood observes:

> "Worldwide, [c]hanges are appearing in the form of an international economy, and in the US, as economic decline and increased unemployment and poverty. Survival pressures will force us away from treating housing, health care, jobs, and education as commodities in a market-based system and towards more people participation in a localized, community based, and resource-efficient bio-regional economy." (1995.)

This difference is paramount and cannot be underscored as vital to success in establishing development processes that will be sustainable and this is **why I argue that we need to begin to think and process information in totally new ways.** An example of a linear system is urban communities that survive by exploiting resources in rural areas at the expense of rural communities (Grant et al., 1996). Small wonder that resource rich rural areas remain economically poor. The challenge is that despite the fact that "close proximity is no longer necessary for most business functions" (Bradshaw, 1993), the type of conceptual planning that could alleviate this situation for rural areas is antithetical to sustainable development. In sustainable systems local control, production, and consumption is the desired goal. This is the physical and intellectual shift, from service to sustainable development. To reorganize economic and social systems that function in harmony with natural systems will require holistic decision

making processes and broad-based community participation laterally and horizontally through space and time.

Many attempts in the past by community development organizations have been unsuccessful at equipping communities with the necessary skills or resources to survive in the current economic paradigm. Even community development corporations, "designed to halt the flow of capital from low-income communities" (Blakely and Aparicio, 1990), essentially only mitigate the injustices of the market based economy. Multicommunity development in Iowa or town clusters in Canada are examples of ways in which communities are creating institutional alternatives to *overcome the vulnerabilities of resource-dependent economies* by networking with nearby communities (Wells, 1990; Schwab, 1990). These cluster arrangements seek to increase their resource base and use it more efficiently.

> "[P]articipants may determine that a cluster has the potential for increased power to influence social policies, to achieve economic efficiencies through the sharing of local facilities or services, or to support local enterprises." (Wells, 1990)

Indeed, local communities are, and always have been, the pioneers of sustainability - they have the most to gain, and they "offer people the greatest opportunity to meet face-to-face to fashion a shared commitment to a sustainable future" (Presidents Council..., 1996). Multicommunity development and similarly, strategies like regional coordination, organizational networking and joint-action, or "multijurisdictional development strateg[ies]" (Bradshaw, 1993), are restructuring social interactions *vis-à-vis* the economy and improving the way society uses resources by reducing waste and eliminating redundancy.

Industrial efficiency means cultivating large tracts of land at declining costs. Sustainable efficiency means reducing consumption of particularly disposable goods and increasing consumption of durable goods, lowering external inputs, recycling wastes and energy, and reusing and renewing resources and products. "The overall efficiency of the [economic] system

will have to improve on a massive scale: all the goods and services our economy produces will have to consume far smaller quantities of materials" (Young, 1994). The present industrial system generates huge amounts of pollution and tries to mitigate the pollution through "end-of-the-pipe treatment;" whereas in a sustainably efficient system the entire method of production is "redesigned to be as clean as possible" (Smith, 1996).

Sustainable efficiency builds on closed-loop systems modeled after natural biospheric systems. Current market oriented systems are open-ended and wasteful; Berry (1991) refers to this as mechanical efficiency, a standard determined by its profitability. A perfect example of "mechanical efficiency" is the way that global markets undervalue human labor and grossly manipulate the cost of oil, a non-renewable and finite resource, allowing cheap transportation back and forth across the world's oceans during the production process. This generates huge amounts of petroleum pollution in the sea and air and contributes to the lower standard of living of the poor in developing countries forced to work for small wages in foreign owned factories. The obstacles for creating sustainable efficiency are numerous, but not without positive returns as sustainably efficient systems are "likely to create as many new professions, companies, and industries as did the communications revolution of the past century"(Young, 1994). Reversing the destructive cycle of global trade and mass production will not be easy for any community as Morris notes:

> "over the last century we've developed a system of laws that seem to view community as an obstacle to progress. These laws and regulations and tax incentives heavily favor mobility instead of stability, long distribution lines rather than closed loop systems, large rather than small producers, and absentee rather than locally owned productive capacity" (1993).

So, what is a sustainable economic system? Just as there are numerous definitions and concepts of sustainability there are equally numerous ideas about sustainable economic systems. The problem is that economics are not tied directly to culture and instead has been engineered to

act independently of people by focusing on the abstract value of natural resources. In reality, economics is embedded in our cultures and therefore the answers for sustainability must come from designing cultural processes that elicit the economic structures that are sustainable. This is in opposition to the conventional approach to sustainability that tries to achieve its goals by using economic mechanisms to change people's behavior.

Ecological economics is a growing interdisciplinary field that is possible indicators for sustainable economic systems. One challenge is the difficulty of assigning value to a natural resource like topsoil or fossil fuels that humans depend on yet cannot themselves create. Hence the difficulty in designating set of criteria for sustainable economics, but it also reflects that every sustainable community will be organized differently based on its inputs, outputs, resources, choices, expectations and particular constraints.

Various indicators have been developed to help define the parameters of sustainability. The Index of Sustainable Economic Welfare (ISEW) is a model developed by Clifford Cobb and John Cobb Jr. (1994) ISEW is a sophisticated economic accounting system that considers a range of issues from the loss of wetlands to leisure time to reflect a more holistic accounting of national welfare than the linear Gross National Product (GNP). Morris suggests other conceptual principles for a sustainable economics:

> "To be as efficient as possible, leave to future generations that same quantity and quality of physical resources we inherited from the last generation. Take responsibility for our wastes. Make the price we pay for products equal to the true cost of making, transporting and disposing of those items" (Morris, 1993).

Daly and Cobb (1989) theorize that "economics for community" must not only include the household but also the land, the shared values of the larger community, local resources, biomes, institutions, language, and history. Berry (1987) suggests two human laws of economics, first that money should accurately reflect the full cost of labor and quality or

resource. Petroleum, for example, should be much more expensive to reflect that it is a non-renewable finite resource and the amount of pollution that its use contributes to the environment. Secondly, what people are paid should be in balance with what they have to pay for goods and services.

Bioregionalism is also an example of economic and social reorganization. As a sustainable economic system, bioregionalism bases a community's economy on the ecological boundaries of the physical region. Breheny and Rookwood constructed a comprehensive bioregional community development model that they call the "Social City Region" (1993). The concept looks at a multiplicity of circumstances, social and environmental, that sets distinctive but complementary and mutually reinforcing policies for the different parts of the region.

Campbell criticizes a bioregional approach because self-sufficiency (a principle tenet) does not necessarily promote equality or ensure a balance of power; but, he adds, "the bioregional perspective can provide a foundation for understanding conflicts among a region's interconnected economic, social and ecological networks" (1996).

New organizational and intra-community relationships will be formed concurrently to evolving sustainable economic and social systems. Broad-based participation and systemic decision-making that includes the economy, the community, and the environment will be prominent in sustainable community building. Permaculture, shared and co-housing movements, import substitution, business incubators, intentional communities, and local currencies can all be considered examples of new organizational structures and subsequent relationships premised on sustainability. The *Tomorrow's Leaders Today* (Wells, 1990) program in Iowa is an excellent example of evolving relationships in community economics and decision-making systems. In the

broadest sense it is important to see the shift to sustainability that is happening in all sectors of society-even if it has an indirect effect of a community's action.

People are engaging in new types of social/political organizations, e.g., regional cooperation, multijurisdictional development, public-private partnership, or multicommunity systems, to improve their quality of life and the effectiveness of their communities. People's need for sustainable community means building cooperative relationships vested in mutual interest, not on individual competitiveness.

> "The sustainable community is a model, an ideal set of goals to work toward. But it is also is a philosophy for envisioning those goals and a practical problem-solving process for achieving them" (Geis and Kutzmark, 1995).

This process reflects the system of tower societies in 14th century northern Italy that Robert Putnam described (1993) where neighbors came together for each other's mutual defense. By fostering sustainable principles in community building, people are indirectly building trust and familial bonds within the community similar to the tower societies. This process and its by-products, i.e., trust, ability to work with one another, and mutual goal building, will foster a healthier community as it builds more durable and sustainable economies and social services. All members in the community will have to participate and all views in the society will have to be represented and incorporated into the community's goals and strategies as the principle criterion for quality sustainable development. Developing sustainably is itself a complex manifestation of community development and organization, which is why Bradshaw's theory is important along with Putnam's prescription for healthy democracies.

Sustainable communities are being developed across the country and influencing a number of institutions in academia, government, community organizations, and private industry (Maclaren, 1996). The field of landscape ecology tries to connect complex human cultural

development with the complex natural processes of the environment (Grant, et al., 1996). For example, in planning a residential development, maintaining landscape function would be the requisite criteria for the project, as opposed to completely altering the land to suit the new houses.

Targets, environmental thresholds, and frameworks for decision-making are necessary tools for sustainable community building. A life-cycle analysis, or "Cradle-To-Grave Assessment" (Clark et al., 1993) is one such tool used to measure the environmental impact of a product from the point of resource acquisition, production, through the impact of distribution, consumption, and its disposal. Maclaren discusses several decision-making frameworks and their varying applications in sustainable development. A framework helps structure process and defines indicators or targets of sustainability (1996). Below I describe two decision making models: *Sustainability Mandala Decision Template* and *Holistic Resource Decision Making Test Model.*

Communities engineered on sustainable principles are diverse economically and socially through conscious and systematic restructuring to "relate and integrate the many components of [their] community to achieve a synergistic whole"(Geis and Kutzmark, 1995). The number of factors that have to be considered in sustainable systems necessitates sophisticated decision-making. As a community works together to strengthen its economic base on sustainable principles, it will diversify its assets and reduce its dependency on any one commodity or industry. Locally controlled and diverse economies increase people's investment and dedication to work together for a common goal.

> "In sustainable communities, partnerships involving business, government, labor, and employees promote economic development strategies that create diversified local economies built on unique local advantages and environmentally superior technologies. These efforts can strengthen the local economy, buffering it from the effects of national

> and international economic trends that result in job losses in a community." (President's...1996)

Part 3

Discussing and theorizing about sustainability is much easier than implementing sustainable principles. As a holistic and systemic process, it requires new mental linkages somewhat like learning a language. The environment, society, and economy have to be comprehensively assessed-all inputs and outputs of the systems in relation to each other must be worked through. All views and opinions within the community must be present in the process. This validates all of the community members thereby engendering equality and ensures a greater degree of efficacy.

The most important asset a community might have in order to build sustainably is a decision making tool or framework to assist them structure their process and systematize their thoughts. I advocate a modifiable tool, or template as opposed to a prescriptive plan of action, (which is the hallmark of top-down development models,) recognizing that every community will achieve an unique understanding of what it means to be sustainable after considering its own geography, resources, needs, and ambitions. These thoughts have come to me by my experience as a permaculture designer.

I developed a visual map (see Figure 1) to demonstrate the complexity of decision-making that I call the *Sustainability Mandala Decision Template*. My intent was to create a generic map that would help organize a decision or goal forming process based on principles of sustainability.

As a mandala, (ideally a three dimensional model) the map tries to demonstrate the interconnected nature of all of the principles involved inasmuch as any and every part is

connected to each and all of the other parts. I used Dixon and Fallon's concept of sustainability placed in a social-physical-economic framework (c. 1990). The mandala shows interconnecting systems and subsystems organized in a domain-based framework (Maclaren, 1995). The domain consists of the three dimensions of sustainability: society, environment, and economy. I purposefully left some elements blank to demonstrate that a) there is always an unknown, for example, an event in the future that may affect the community like war or a natural disaster; and, b) to allow for the various and different elements that each community respectively must address.

Figure 1 Sustainability Mandala Levels of Analysis

The idea of the mandala comes from discussions about the complexity of society being an impediment to good sustainability planning. I would argue that it is only an impediment as long as we continue to compartmentalize how we think about development. Some of the concepts of construction are based on general systems (see Miller's 1978 theory of general living systems that organizes levels of analysis from the cell to the organ, organism, group, organization, society, to the supranational system). Level 8 is based on Larry Bidinian's "Strategic Template for the Sustainable Research Area Campaign" that he presented in a lecture in 1990.

Level 1	Base unit of analysis-the actor, or persons making a decision.
Level 2	Immediate relationships, e.g, household or board of directors.
Level 3	Community Setting
Level 4	Geographic location and demographics.
Level 5	Three dimensions of sustainability.
Level 6	Elements of each dimension. Can be modified depending on the base unit of analysis.
Level 7	Variables and Concepts that act on each element in each dimension respectively. Can be modified.
Level 8	Multiple views and perspectives of each element, variable in a dimension and in relation to the other dimensions.
Level 9	Problems, Needs; Short and long term effects; Root cause of problem, options and choices, conflict mediation. Community development begins at this level.
Level 10	Relationship of problem or goal to global or regional forces.
Level 11	Solutions, goals, and investments that incorporate sustainable principles.

The *Holistic Decision Making Test Model* was introduced to me at the Fambidzanai Training Center (a permaculture farm and institute for natural farming) in Harare, Zimbabwe. It is a simple and elegant tool developed by Allan Savory (1988). I used the plight Ironton, MO – a small rural town historically dependent on a single industry economy - as a case study to demonstrate the test. When the Brown Shoe factory closed Ironton fell into an economic downturn. Ironically despite the towns severe depression, the town still held to the idea that "[t]he best thing they could do is find somebody to go into that Brown shoe factory." (National Journal, 12/21/85.)

1. Whole Ecosystem: What effect will the decision/action have on the whole ecosystem? Damage-fail; improvements-pass.

> Bringing back another shoe factory will not likely have an effect on the whole ecosystem positively or negatively. The pollution and waste generated from the factory is incalculable do to an absence of information. They would be using an existing structure so no new facility would have to be constructed. It may make an improvement if people are employed locally by reducing the amount of pollution generated by their cars during their commute to outside communities for work.

2. Dependency or Self-reliance: Increased self-reliance and local control is the goal.

> The shoe factory leads to dependency. Rather than supplying other towns with labor, people in Ironton will once again be supplying a "foreign" or extra-local owned company with cheap, under-skilled labor. The people are not gaining new skills. Moreover, the Brown shoe factory specializes in molded soles and heel-making. It doesn't even produce an end-product that the people in the community could purchase. They will still be spending a significant portion of their income on importing value-added goods and services they need to survive.

3. Profitability: Use this test only if the goal is to make an economic gain. Profits should never be the sole criterion for making a decision.

> While the factory may help to reduce unemployment, it is not a profitable gain for the people employed by it. Reason being, the shoe factory located in Ironton in the first place because of the cheap labor and "tame" workforce. The shoe factory would help the nearby slaughterhouses by buying their hides. Even from the factory's point of view, it won't be profitable to locate in Ironton because of the high volume of shoe imports to the US and even cheaper labor in developing countries.

4. Weak Link:If the decision strengthens other links but doesn't address the weakest element, fail the test because it will not build greater self-reliance.

Ironton's weak link is its dependency on a single industry economy. Furthermore, with the exception of agriculture, all of Ironton's industries have been oriented at product export not production for local consumption. Bringing back the shoe factory won't help to diversify the economic base or increase the skills of the labor force-another weak link in the community. Other weak links are the lack of leadership, skill-base, professionalism, innovation, and motivation among the community members.

5.Cause or Sympton:Is the decision addressing the root of the problem? If an interim decision is made that addresses only a symptom (often out of necessity,) fail the test. If symptomatic, re-evaluate goals/priorities and re-start the test. Avoid temporary solutions that lead to compounded problems.

"as farming petered out and the mining industry slowed, shoemaking became the primary livelihood of these communities..." This is the pattern-one single export-oriented industry to the next. The community should re-examine its goals, does it only want another industry to employ people, or is there a way the people of Ironton could employ themselves and create a new economic base? In what other ways could the facility left behind by the shoe factory be used, for example, our class discussed the possibility of manufacturing leather goods for the hospital and nursing home? Could they support a business incubator? What natural resources does the community have it could build on, for example, arable farm land?

6.Marginal Reaction:With every decision, aim for the maximum possible thrust towards the goal for each extra unit of money and/or labor (resources). Opportunity Cost.

Ironton's goal appears to be reducing unemployment and improving the vitality of Main Street. If the people are working at low wage factory jobs, building goods they will likely not purchase (specialty shoes or a new Saturn car), are they getting the maximum return on their investment, in this case, labor? Main Street can only hope to be marginally improved since it won't be able to support any more businesses as income levels stagnate. The people will not be learning any new skills, the economy will not be diversified, and the community will still be vulnerable to external (global) market forces and fluctuations.

7.Society and Culture: Values, beliefs, religion, cultural necessities. Does this pose any danger to families and communities?

There is a danger that they will repeat this cycle of economic depression and decline when the next factory shuts down.

Both of these systems are extremely flexible in that they allow communities freedom to tailor them to their needs. The nature of these models causes people to thoroughly think out any problem or strategy and see how it relates to other parts of the community, region, or world. Even if the exercise is not predicated on sustainable principles, I think community development should always begin with a comprehensive assessment and analysis that identifies the roots causes of a problem and gathers as much information about the community as possible. Ultimately, this type of process that aims at understanding and making connections between the complexities of society, the economy, and the environment will naturally lead to sustainable development. Systems thinking is more difficult because it requires multiple levels of analysis and sophisticated information organization. But for the sake of quality community development and avoiding haphazard solutions that engender other problems in the future, good community development must think like this.

Conclusion

The transformative element toward sustainable community development in complex society is individuals and communities forging a richer understanding of their relationship with their environment. An adherence to these connections will grow sustainable strategies, innovations, and goals. Wendell Berry describes a gestalt and philosophy that an ideal sustainable community would possess.

> "The local community must understand itself finally as a community of interest-a common dependence on a common life and a common ground. And because a community is, by definition, *placed*, its success cannot be divided from the success of its place, its natural setting and surroundings: its soils, forests, grasslands, plants and animals, water, light, and air. The two economies, the natural and the human, support each other; each is the other's hope of a durable and livable life."(Berry, 1987 his emphasis)

For local communities, sustainability offers an internal framework to build stronger economic foundations and supportive ecosystems. To think sustainably requires holistic

decision-making and requires broad-based participation by and between individuals intra and inter-communities. This is difficult, because people must learn to understand spatial and social connections throughout time. The end result or product of this process, though, is a superior community that gives people a greater return on their investment. Organizational restructuring on sustainable principles increases resource efficiency. The net effect for communities is that they will become more dynamic, economically viable, and socially healthy. These qualities increase communities' capacity to survive and adapt in a dynamic geo-political landscape, which is the driving force to move from depleting economies to sustainable development.

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Synopsis

What is the problem that sustainability is trying to address? Development that has occurred in the past and continues to occur where vital earth or human systems are polluted, endangered, or destroyed.

Why has this problem occurred? This problem has occurred do to the values and concepts driving capitalist development have focused more on abstract economic values than on the quality of the earth and people's lives.