

Permaculture and Rehabilitation: A Convergence of Interest

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ABSTRACT Given the changing nature and levels of problems occurring in our social systems, combining or linking various discrete disciplines or practices may be advantageous. The field of rehabilitation has focused on returning individuals with disabilities to physical and psychological health, effective social life, and productive work. Creative opportunities are available to team up rehabilitation with related disciplines and activities to enhance both. One such possibility is permaculture, an effort or movement to design more sustainable ways of life and land use. Social sciences can benefit from greater sharing of visions, ideas, skills, activities, and programmes.

The social sciences includes a wide range of specific and discrete disciplines and activities. Historical causation of these particular components may no longer be relevant. Opportunities to combine, share, exchange ideas and engage in multi-disciplinary research are many. Using the case example of rehabilitation as a discipline and Permaculture as another to illustrate at least one such opportunity, the time has come to review and revise the disciplinary boundaries.

Some individuals and some habitats have encountered damage or impairment, resulting in difference, disability, or other difficulties. Self-improvement or natural change or personal and peer efforts may be helpful, but in both situational and individual arenas, a group of people have emerged to try to help carry out changes that promote and improve and positively effect individuals and habitats.

Rehabilitation personnel intervene with people who have disabilities to minimize the effects of disabilities and maximize human potential. Permaculture design personnel intervene with habitats and parcels of land which have yet to be appropriately developed or which have been damaged so as to renew and regenerate "better" and more ecologically sound environments.

Recent views on rehabilitation (Stubbins, 1982; Cornes, 1984; Stubbins and Albee, 1984; Walker, 1985) have rekindled interest in fundamental questions about the field of rehabilitation. Some of the questions being raised were addressed long ago (Sussman, 1966; Lowenfeld, 1959) but discussion and answers were suppressed by the weight and apparent success of the "clinical" or one-to-one approach. Further, in times of economic changes and shifting forces, strategic alliances may be advantageous to various disciplines previously separate.

Having advocated for many years for an expanded role for rehabilitation, I and perhaps others have had the opportunity to attend a Permaculture Design course and found a convergence of interest. This article discusses some ideas about a parallel between two previously separate endeavours.

WHAT IS REHABILITATION?

According to the World Health Organization, rehabilitation is the combined and co-ordinated use of medical, psychological, social, educational and vocational measures for training or retraining an individual to the highest possible level of functional ability. Earlier definitions often focused on restoration - returning the individual to the position held prior to trauma or accident. Increasingly, definitions have added more emphasis on psychological and social and vocational change as well as traditional medical approaches. Some people with a disability state that the best and most meaningful way to explain rehabilitation is that it represents a way "to live again."

For those working in the field, rehabilitation includes at least some interest in changing the system (particularly the social surround of the individual with a disability) and changing the environment - physically and socially - so that

people with differences can fit in easily and comfortably with the mainstream of society. An ultimate goal is empowerment of individuals with disabilities, so that society becomes sufficiently tolerant of individuals who happen to be different to design work and life spaces in ways that are harmonious for all human beings.

WHAT IS PERMACULTURE?

Bill Mollison (1988) stands as the originator of the Permaculture movement. His work began in Tasmania and since then has flourished around the world with many advocates, followers, and developers. According to his teachings and followers, Permaculture (permanent agriculture) is aimed at creating a stable food-producing system based on environmental principles. The underlying philosophy of this practical system of agriculture is working with, rather than against nature. Careful observation of plants and animals facilitates understanding patterns and subsequently design of plant-animal-earth systems that will be self-sustaining - a kind of cultivated ecosystem based on maximum understanding and minimum interference. Such a system is based on local conditions and can be specifically suited to human needs, whether it be a backyard garden or a full-scale farm. Permaculture is also a response to the ecological crises we face from deforestation, air and water pollution, desertification and soil erosion.

A useful brief summary (Permaculture Educators Link, 1989) is that Permaculture is "a permanent, self-sustaining system of land use adaptable to both urban and rural situations. Key factors are: design, integration of plants, animals and human activities, conservation of soil, water, energy and natural resources, and development of a profitable, ecologically managed landscape (which yields) harmonious environments for people to live in."

RELATIONSHIP OF PERMACULTURE WITH REHABILITATION

Our planet has been dramatically modified in many directions by human interventions, just as individual human beings have been disabled by trauma from automobile accidents, disease

processes, and "aging". Western society and its system of agriculture as presently constituted continues with mono-crops, chemical warfare on insects and weeds, unwise use of scarce natural resources, and ever-increasing industrialization and high technology. Similarly, individuals are surviving but with differences and difficulties brought on by dangerous environments, by accidents, by genetic birth defects, by disease, and by the aging process.

Rehabilitation helps bridge the gap between people with disabilities and their societies. Similarly, a variety of responses to bridge gaps between societies and environments are emerging given the environmental crises, such as deep ecology by Arne Naess (1989) and Bill Devall (1985), organic farming and prevention by Robert Rodale, the Green movement, and many others. Those who realise that the lives of many people and the capabilities of the planet in the future have already been dramatically affected in negative ways by this world/cultural strategy are likely to become increasingly militant unless positive changes occur. And of course, there may well appear end points - where vast numbers of people die because of previous environmental damage.

Mollison has essentially called on us to recognise that the problems in the agricultural world are a disability, physical, emotional and social in impact. He is seeking to point out interventions which will rehabilitate the land through better design, and by so doing, offer people and societies an opportunity to "live again".

Though it began with individuals with disabilities, rehabilitation, as a philosophy, process, practice, or policy, can, should, and must also concern the earth, the system of agriculture, and the lifestyles of people. Rehabilitation professionals and workers have developed excellent strategies for working with individuals with impairments and disabilities. Generally, they do not dominate, but work in partnership, enabling the person with disabilities to gain or regain a meaningful role. Now, it is essential to look at the context of people with disability to incorporate the larger society and the environment itself. In this way, rehabilitation workers can begin to help provide leadership in finding solutions to the problems of today.

DESIGN METHODOLOGY

The heart of Permaculture is design, just as the heart of rehabilitation work is an Individually Written Rehabilitation Plan (IWRP). The scale and scope of each plan/design is different, but a similar process takes place. Permaculture divides a home and surrounding land into five zones, beginning with a house and its immediate yard (Zone I), the space to use for household activities (Zone II), gardens, orchards, and small animal locales (Zone III), working agricultural areas (Zone IV) and forest, bush or wild areas (Zone V). Permaculture also recognises sectors, such as solar angles, slopes or aspect of the land, and wind directions. The techniques to actually implement changes in a situation derive from deeper levels, which are ideas of potentially great interest to people working in rehabilitation.

At the center of Permaculture design is a system of ethics. Among ethical statements that would fit the Permaculture belief system are care of the earth, sharing, respect for life, and a desire to have low entropy or energy use. From these ethical statements come principles, including:

- (1) everything is connected,
- (2) everything supports every other thing,
- (3) every element can and should serve many functions,
- (4) observe and design from, the natural state, to the greatest extent possible,
- (5) systems should provide their own needs,
- (6) pollution is an unused resource,
- (7) work is a deficiency of resources, and
- (8) the problem is the solution (Mollison, 1988; Lindegger, 1989).

These and other principles provide rules by which to understand and use forms or patterns that are present in nature, such as landscape, soils, zones, sectors, water, climate, social, and edges. These patterns with the principles can yield strategies, which in turn provide specific techniques useful for each individual site and the people inhabiting that site.

In rehabilitation work, the original ethical and moral concerns have provided an ethics about the value of human life. From this ethical concern have come principles or beliefs that life

should be preserved, and that if someone has an impairment or disability, then society has obligations to assist. From principles derive practices, such as for example, a plan is formulated following determination of eligibility for services and feasibility of intervention. An individual with a disability is interviewed and accepted into a rehabilitation programme. The person's skills and abilities are evaluated through medical, psychological, vocational or other assessment procedures, and an individually written rehabilitation plan is constructed by the person and the rehabilitation worker. Selection of specific treatment interventions from a range of human services available in a given community follows. The general purpose or goal is meaningful work or independent living within the community. Each person is dealt with on an individualized basis, for rehabilitation holds that each person is unique.

FURTHER CONSIDERATIONS OF PERMACULTURE AND REHABILITATION

Rehabilitation began with an ethical consideration created when military veterans returned to civilian society after major wars. Injured while in service to their country, the ex-soldiers were shown gratitude and honour, by being "re-adjusted" to society with adequate resources and service to assure a rightful place. They were not given charity, benefits and welfare as much as they were rehabilitated through "investments" of time, energy, training, resources, and treatment.

Our natural environment has been in service to an industrial system, which has rendered it unfit for human survival in too many ways already. Certainly a great deal of damage will appear in the future, and steps must be taken now to mitigate the worst of such negative environmental impacts. We must face the readjustment process, whereby adequate resources and services assure that the environment regains its place as a fit habitat for humankind and for other creatures, great and small, and for plants.

In trying to bring our environment back to a livable state, we can begin with new ethic, and a new relationship to the land. We must develop a sustainable agriculture. Such a system has four

requirements:

- (1) It must produce more energy than it consumes,
- (2) It must not destroy its own base, i.e., the soil,
- (3) It must meet local needs, and
- (4) It must gain its own nutrients on site.

There is a parallel with veterans who returned to civilian society and

- (1) produced more taxes than they consumed,
- (2) were capable of maintaining themselves,
- (3) took on meaningful roles, even though they had impairments.

Further parallels could be traced. A scenario on Permaculture could easily provide relevant statements for rehabilitation and vice versa. For example, the natural systems, which satisfy the requirements of environmental rehabilitation are forests, lakes and swamps and savannah grasslands. To these can be added no-tillage agriculture practised by traditional cultures. It is by studying these systems that Permaculture has been devised. The basic practical aims of a Permaculture design can be summed up briefly:

- Emphasis on perennial rather than annual crops, with tree crops replacing annual crops for winter animal fodder and some human food;
- High species diversity, often with close planting;
- Combination of diverse activities: gardening, commercial farming, grazing, poultry, aquaculture, water management, tree and shrub planting;
- Use of small scale machinery and hand tools;
- Layout which minimises walking and transportation;
- Recycling of all materials;
- Use of three dimensional space: trees, shrubs, vines and low-growing plants using different levels of soil and air, and increasing total yield;
- Close relationship between land usage and climatic features, and the location and design of buildings and their functions.

Permaculture links a vision of a complete change in society with practical steps that can be taken. It is based on sound knowledge, observation and experience, together with a profound respect for the natural world.

Parallel practical steps for rehabilitation might

include:

- Long-term solutions for individuals
- A tolerance of diversity
- A wide range of activities and ways in which to accomplish tasks
- Small-scale enterprises
- Mobility and access programmes along with specialized equipment
- Recycling (how similar to rehabilitation can one get?)
- Use of technical inventions, including aids and appliances for communication, vision, mobility, and so on
- Carefully planned relationship between unique individuals with a disability and their environment and social system

SUMMARY AND CONCLUSION

It is an opportune time for a convergence of interest to be recognised, that rehabilitation professionals and workers join with permaculture designers and followers to help re-create a society and environment where all, including people with disabilities, can flourish. Strategic alliances, particularly in the face of evidence that traditional approaches are not always working to best advantage, are possible. Full mergers are unlikely, but shared goals, exchanges of ideas about methods and some joint endeavours may stimulate and benefit both fields. The goals are sufficiently similar in these two movements so that people in each can benefit by examining and thinking through the philosophy, literature, research, and practices of the other. In like manner, other component parts of the broad grouping of social sciences may well benefit from creative sharing.

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