

Slávka BELANOVÁ

## Permaculture as an Ecological Alternative

It is only recently that I have realised the relevance of the ecological approach known as permaculture which has prompted me to dedicate more time to a deeper study of its principles as well as of its potential role in the considerations concerning the future face of ecology. I got acquainted with the methodology and prospects of permaculture through the Society of the Friends of the Earth in Revuca, Slovakia.

### I. Why Permaculture?

Permaculture can be considered as one of the starting points for ecological solutions of today's often deplorable state of the environment. It is ecology in practice, ecology as a lifestyle. Its basis is the spiritual dimension of the humans and their ethical and moral feeling. The attitudes of a believer cannot be based on indifference. The believer cares about what is happening and sees that we are destroying the very world God has created. The believer understands that we are able to destroy and exterminate ourselves. It is, however, not the aim of this present essay to focus on the perils of technical and industrial progress and on the instances where people have moved away from God, from the nature and from one another.

The aim of this essay is exactly to talk about the return. The return to the essence and meaning of life, coming closer to the Earth where we all live, feeling its breath and heartbeat again. Acknowledging that the Earth does live, that it is not just a source we can exploit as much as we want and leave it devastated, damaged and hurt. It is the duty of the believer to promote the respect towards this source of life, to live out her or his love

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towards it on a daily basis. The believer cannot expect someone else to solve this question for her or him. One is responsible to do it oneself.

Before elaborating the theoretical core of the topic of this essay, I would like to mention the fact that I have not finished my course of permacultural design yet and thus my personal experience with practical permaculture is of a limited nature. For this reason this article is based rather on theoretical material gathered from studies dealing with the essence of permaculture as well as with applied permaculture. It is the aim of this article to enable its readers to acquire at least a partial insight into the principles of this creative ecological and environmental approach and to provide some introductory hints about the role and place of applied permaculture.

## II. What is Permaculture?

Permaculture is a way of designing permanently tenable and highly productive gardens, terraces, fruit orchards, parks, forests, farms as well as estate units, villages, habitations and towns. It does not concentrate only on agricultural units, it is also concerned with house design, producing houses which are in harmony with nature as far as it is possible (mostly made of economical and natural materials), it creates and restores communities (community in this sense being the population of a house, of a street, etc.), local (as well as non-financial) economies, or it can take the form of a municipal support for local organic farmers. The very term permaculture is based on the merging of the two words "permanent" and "culture". The origins of permaculture are closely connected with the personality of the renowned Australian ecologist Bill MOLLISON, who, being disappointed with the almost complete failure of the classical, traditional approach to the protection of the environment focused on a creation of a practical method for effective prevention of environment devastation.

Permaculture acknowledges the internal value of all beings and things regardless of whether they are useful for people or they are not. This movement tries to design human systems according to the model of natural ecosystems, by using the knowledge of traditional cultures already at hand for centuries as well as the latest scientific and technological knowledge, together with its own knowledge, heritage and experience. As a result, permaculture does not try to overcome and humiliate the nature at all, but rather tries to co-operate with nature surrounding us as much as possible. It tries to discover and follow its rules and laws.

Permaculture tries to combine structures, plants, animals and humans, all living beings, so that we can get acquainted with and utilise their natural qualities and abilities. We utilise proven principles and processes to cre-



ate highly cultured ecosystems. The aim of these efforts is to create systems in which there would be gradually less and less work needed for the keeping-up of the system itself and after some time there would not be any need to interfere and influence. The mentioned efforts are not aimed at cultivating the nature but – on the contrary – at giving more freedom to the nature (for its natural development) and thus creating space and possibility for wilderness.

### III. Ethics of Permaculture

The very basis of permaculture is its ethics and morality. Environmental ethics is often defined as the total of our moral principles and practices necessary for our survival on this planet. In permaculture we connect three kinds of ethics: first taking care of the Mother Earth, then taking care of the human element present on it and finally the legitimate division of time, money and raw materials for these previous aims. The first kind of ethics, taking care of the Mother Earth means taking care of all living and non-living creatures: for example soil, air, water, the micro-world, plants, animals (keeping in mind the colourfulness of their variety). This does not mean the creation of destructive and recovering mechanisms, but it means an active protection of the nature, ethical and economical utilisation of natural sources, as well as a good, conscious and benevolent life, i.e. life focused on the work for useful and generally beneficial systems for all.

Taking care of the Mother Earth is directly connected with the second ethics, taking care of the human beings, women and men. This care includes all of the basic human needs and necessities: like food, housing, education, satisfactory employment and friendly interpersonal relationships. Taking care of the human part of the nature is very important, because although people are only a tiny little part of the whole living system of the world, their activity has a crucial and decisive impact on its condition. If the human beings were able to secure and guarantee their basic life needs, in many instances they would not engage in activities and structures that cause damage and destruction to the natural environment.

The third part of permacultural ethics concerns our dedication of spare time, money and work to practical taking care of the Earth and its millions of human inhabitants. Practically this requirement means that if we have satisfied our own needs and designed our own systems according to our best abilities available, we can direct our activities at helping other people to reach this aim as soon as possible. It is clear from the above mentioned arguments that permacultural ethics tries to permeate all levels of environmental, social and economic structures. Its key approach is based on complementing competition with organised co-operation.

### IV. Eight Principles of Permaculture

#### 1. Relational Situating

The principles of permaculture pertain to all permacultural designs and they are applicable in different climates. Each element (for example house, pool or road) is situated in a mutual relation to other elements so that they can assist and help each other; e.g. when a water basin is situated higher than a house: we do not have to gather water, but it flows there due to

gravity. The windbreakers are situated in a place where they change the direction of the wind, but do not shade the house from the important winter sun. The garden is situated between the family house and the chicken-house; the waste from the garden is collected on the way to the chicken-house and the chicken dung is used in the adjacent garden.

The relations between the respective elements are to be organised in such a way that the needs of one element would be satisfied by the output of some other elements. To achieve this purpose, we have to know the basic characteristics of each element, its basic needs and its output and result. While searching for the optimal position of an element the important question should be posed: how can the products of this element be used for the satisfaction of the needs of other elements? Which of the basic needs of this element can be satisfied by the production of other elements? How can this element cause damage and destruction to other elements? How can this element benefit from other elements?

## 2. Each Element can Fulfil many Functions

A pool can be used for watering for example, as a source of water for cattle, for growing water plants or as a protection against fire. It can also be a home of water bird colonies, fish or a mirror for reflecting sunlight. The same approach can be applied to plants and vegetables. By selecting suitable species and by situating them correctly we can use plants for different aims: as windbreakers, as forage, as private nook, as fuel, as anti-erosion elements, as fire protection, as shelter for animals, as for changes of microclimates, as food or as for improvement of the soil.

## 3. Each Important Function should be Ensured by Several Elements

Our basic needs such as water, food and energy supplies or the protection against fire should be ensured in two or more ways simultaneously; e.g. water can be acquired from barriers and basins as well as from wet places and irrigation ditches.

## 4. Energetically Economical Planning

The elements are situated according to the intensity of their use by humans (which is called zone planning) according to the direction of incoming energies (sector planning), and according to altitude planning. In zone planning Zone 0 represents the centre of all human activities (home). Zone 1 includes the immediate surroundings of the house, the controlled and most intensively used space (like the garden or the workshop). Zone 5 is the uncontrolled wilderness, in which we just watch and study, a silent place for meditation, where we are visitors, not administrators.

The sectors refer to the energy of the sun, light, wind, rain, fire and water. These elements enter our system from outside and go through it; e.g. in an area exposed to floods or to cold wind. In each sector appropriate plant species and suitable structures are to be situated so that incoming energies can be directed to our benefit. In the sector of danger of fire we situate components which are non-flammable or represent natural barriers for fire, e.g. a pool or a stone wall.

In altitude planning, we look at the ground in profile, so that we see relative altitudes and can correctly decide on the position of barriers, water basins or wells (e.g. when above a house, the water flows down by gravitation), so that we can plan entrance roads, protection against floods and place drainage systems correctly or situate the production of natural gas.

Each element is in its place for three reasons: it is situated in relation to the sources of the ground, external energies and the altitude planning. Each tree, plant, structure or activity should be situated on the basis of these criteria. When planting a pine tree, the following factors can be considered: it is situated in Zone 4 (rare visits), it is the sector of the danger of fire (potential fuel), it can be used against cold winds (potential windbreaker) and it bears fruit that can be used as forage.

#### 5. Preferring Biological Sources to Fossil Fuels

Instead of nitrogen fertilisers green manure is to be used in the fields. The lawn mower can be replaced gradually by a scythe and pesticides by a biological control of harmful animals (e.g. in a lake frogs can be used against insects, and thorny bushes can provide home for useful birds).

#### 6. Circulation of Energy on the Spot

The saving of energy is achieved by saving the costs of transport, of packing and marketing. Permacultural systems try to prevent the leakage of nutritious materials and energy from the ground and seek to introduce their circulation; e.g. kitchen waste is recycled in the compost, animal dung produces natural gas and returns to the soil, water used in the household irrigates the garden, green manure enriches the soil and leaves are raked around the trees and serve as mulch.

#### 7. Small Intensive Systems

It is more productive to take care of a smaller space in the proper and right way (balcony, house threshold) than to apply wrongly designed methods to larger areas. It is advisable to follow the natural evolution of elements and the natural succession of its phases rather than to merely fight against this process. Diversity is to be preferred to monoculture. The importance of

diversity lies not merely in the number of elements of the system, but affects the number of functional interactions among these elements.

### 8. Border Effect

Productivity is always increasing on the edge between two ecotypes (earth and water, or forest and meadow), as the sources of the two systems can be used and cultivated jointly. A lake of a simple shape and even depth produces a simple ecological system. A lake with complex borders, different depths and small islands can be used for manifold purposes. On its edge we can plant cane, in shallow waters water-lily, on the small islands birds can have their nests, and different fish types can be used for shallow and deep waters.

## V. Conclusion

Permaculture tries to develop life in community; it tries to create local systems which require minimum interference and influence from outside. It is mostly impossible to grow all the necessary food in our own gardens and orchards. There are other needs as well for which we need inputs from outside. But in many instances the missing elements can be obtained by local work and co-operation. If we want to create a permanently tenable way of life, we need to create strong local communities, which can secure most of their needs themselves.

This co-operation leads us gradually from our individual interests and activities towards a wider co-operation in different areas as well as towards a conscious rescue of our planet. This co-operation is quite natural and inevitable. The functioning of nature is based on co-operation, it is based on symbiosis. The whole planet is an unbelievably complex organism in which everything depends on everything. All the elements of this colourful system are interconnected and the human observer is free to learn from the structures created by the nature around us. Respect for these structures and the willingness to learn from them and to protect them lies at the core of permaculture.

### Suggested Reading

FUKUOKA Masanobu, *The One-Straw Revolution. An Introduction to Natural Farming*. 1978.

MOLLISON Bill – SLAY Remy Mia, *Introduction to Permaculture*.

MOLLISON Bill – HOLMGREN D., *Permaculture One. A Perennial Agriculture for Human Settlements*.

MOLLISON Bill, *Permaculture Two. Practical Design for Town and Country in Permanent Agriculture*.

## Slávka BELANOVÁ: Permakultúra



A permakultúra: ökológia a gyakorlatban, vagy másképpen: az életforma szintjén megvalósított ökológia, amely az ember lelkeségi dimenziójában és erkölcsi érzékében gyökerezik, ilyenformán esély arra, hogy megóvjuk a Földet a további pusztulástól. A permakultúra alapja azon erkölcsstan, amely összekapcsolja a Föld gondozását az emberről gondoskodással, és amely az idő és a pénz helyes elosztását is jelenti az előbb említett célokra. A permakultúra gyakorlatilag a következőket tartalmazza: fönntartható, ugyanakkor igen termékeny kertek, erdők és parkok, a természettel összhangban működő házak és városok tervezése, közösségek létrehozása, illetve olyan helyi rendszerek kialakítása, amelyek a lehető legalacsonyabb befektetést igénylik a külvilágtól. A permakultúra magja az elveiben rejlik, amilyen például az arányos elhelyezés, az energiamegtakarítás, a változatosság (ellentétben a monokulturális felfogással), vagy a határjelenségek. Be kell látnunk, hogy a természetszerű és természetbarát tevékenységet alapvetően az együttműködés, a szimbiózis és a kölcsönös egymásrataltság jellemzi. Meg kell próbálnunk szakítani azzal a manapság elterjedt magatartással, amely a természetet ellenfélnek tekinti és megalázza. Ehelyett, amennyire csak lehetséges, működünk együtt a természettel, és kövessük annak törvényeit.

## Slávka BELANOVÁ: Permakultura



Permakultura to ekologia w praktyce, ekologia jako styl życia oparty na duchowym wymiarze człowieka i jego etycznym znaczeniu, tak, że staje się ona drogą do przeciwdziałania dalszemu niszczeniu Ziemi. Podstawą permakultury jest jej etyka, która wiąże dbanie o Ziemię, dbanie o ludzi z rozsądnym podziałem czasu i pieniędzy na te cele. Praktyczną częścią permakultury jest projektowanie zrównoważonych i wciąż wysoko produktywnych ogrodów, lasów, parków, projektowanie domów i miast w zgodzie z naturą, rozwijanie okolicy i tworzenie lokalnych systemów wymagających jak najniższych wpływów z zewnątrz. Istota permakultury leży w jej zasadach, np. stosownym usytuowaniu, oszczędzaniu energii, różnorodności zamiast monokultury, efektach sąsiedztwa. Musimy zdawać sobie sprawę, że funkcjonowanie natury jest oparte na współpracy, symbiozie i współzależności. Musimy również starać się nie dążyć do podporządkowania sobie i poniżenia natury jak to jest obecnie w praktyce, lecz współpracować z naturą tak szeroko jak to tylko możliwe i działać w zgodzie z jej zasadami.



### Slávka BELANOVÁ: Permakultúra

Permakultúra je ekológia v praxi, ekológia ako životný štýl založený na duchovnej dimenzii človeka a jeho zmysle pre etiku, ktorý prispieva k ochrane Zeme pred ďalším ničéním. Základom permakultúry je jej etika, ktorá spája starostlivosť o Zem so starostlivosťou o človeka a poukazuje na potrebu adekvátneho prerozdelenia našich prostriedkov a času na tieto ciele. Praktickým obsahom permakultúry je tvorba udržateľných a zároveň vysoko-produktívnych záhrad, lesov, parkov, ako aj obydli a miest v harmónii s prírodou. Permakultúra sa snaží o tvorbu spoločenstva a lokálnych systémov, ktoré vyžadujú minimum zásahov zvonku. Jadro aplikovanej permakultúry je obsiahnuté v jej princípoch ako napr.: vzájomne zosúladené situovanie, redukcia energetických vstupov, rozmanitosť (opak monokultúry), či hraničný efekt. Je nutné si uvedomiť, že fungovanie prírody je založené na spolupráci, symbióze a prepojenosti. Je potrebné, aby sa človek nesnažil prírodu obísť či pokoriť, ako sa to dnes mnohokrát deje, ale naopak, aby sa snažil s prírodou spolupracovať a nasledovať jej pravidlá.



### Slávka BELANOVÁ: Permakultur

Permakultur ist angewandte Ökologie. Ökologie wird als Lebensstil, der auf der spirituellen Ebene und dem ethischem Empfinden der Menschen basiert, angesehen. So soll die Welt vor einer weiteren Zerstörung bewahrt werden. Die Grundlage der Permakultur ist ethischer Natur wobei besonders auf einen sinnvollen Umgang mit der Erde und den Menschen und auf eine gerechte Verteilung von Zeit und Geld Wert gelegt wird. Der praktische Aspekt der Permakultur ist es, wiederverwertbare und gleichzeitig höchst produktive Gärten, Wälder und Parks zu schaffen, Häuser und Städte im Einklang mit der Natur zu planen, eine Gemeinschaft zu formen und ein lokales System zu etablieren, dass grösstenteils autark ist. Der wichtigste Punkt hierbei sind die Prinzipien der Permakultur, die da wären Energiesparen, ausgewogener landwirtschaftlicher Anbau (keine Monokultur) oder Grenzeffekte. Wir müssen uns bewusst machen, dass ein funktionierendes Biosystem auf Zusammenarbeit, Symbiose und Unabhängigkeit basiert. Wir dürfen die Natur nicht, so wie es heute meist der Fall ist, übergehen und demütigen, sondern wir müssen mit ihr zusammen arbeiten und ihre Regeln beachten.