Post Industrialist Pioneers

Gyűrűfű: An Ecological Anthropological Experiment

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Abstract: Gyűrűfű, a small village in Zselic, South-Transdanubia depopulated in the 1970s, is the site of an eco-village experiment since 1990. In addition to some of the physical aspects of the project not covered earlier on, this paper deals with the human ecological features of the new community. Social-anthropological considerations such as community development, social background of the participants, the Communist past, which all are determining factors of the social model emerging on site, are discussed from the systems theoretical perspective which states that certain properties of a subsystem are always defined by the superimposed supersystem, both in physical geography and social organisation. The resulting tensions stretched social cohesion in the past 10–15 years, but new developments such as creating jobs by modern telecommunication means and achieving energy independence through the deployment of solar panels and passive energy conservation solutions off-set for these difficulties. The future of the experiment depends very much on three factors: generation change, immigration/emigration and conflict resolution.

Keywords: eco-village, systems theory, human ecology, sustainable rural settlement, community development, anthropology, Gyűrűfű

THEORETICAL BACKGROUND

As traditional societies including native tribes modernise and leave their characteristic lifestyles behind, modern ecological anthropology turns towards contemporary social experiments which try to redefine the relationship of human societies with the surrounding natural environment and its functional characteristics. A special set of such experiments is commonly called eco-villages. They seemingly easily lend themselves to scientific scrutiny from the ecological anthropology perspective. However, the methodology of such research endeavours is far from being smooth and straightforward. The problem of human sciences approached with the toolbox of 'hard core' natural sciences such as biology or ecology has been the subject of extensive debates in the scientific community (Borsos, Balázs 2005). Nevertheless, an attempt is being made here to scrutinise eco-villages with one of these toolboxes: that of systems theory.

Many people in the mainstream society believe that there was a need for reorganisation of the current societal, economic, political and spiritual circumstances. After the bioregional concept (SALE 1991), a new approach to re-furbish human-nature relationship emerged called biomimicry. Biomimicry is an approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time tested patterns and strategies. It maintains that there are simple and elegant solutions to be found all around us in the structures, patterns, strategies and organizing principles that have stood the test of time. To learn them, you just need to ask the right questions and learn how to listen again. It is a long held view in ecology, that despite competition and the pervasive predator-prey relationships that keep populations in balance, living systems are fundamentally cooperative. Ecovillages can be seen as biologically inspired solutions to social organisation that reflect the most elegant, efficient and sustainable strategies for living within the operating conditions of this planet. They constitute a foundation of social organisation for the mature human species. "Like the rest of the natural world, ecovillages are diverse, decentralised, locally attuned and adapted, self-organised, and premised on cooperative relationships" (BROWN-HANSEN – MARANTZ 2017). Ecologists researching the traditional ecological knowledge (TEK) found that urban dwellers leaving the city and getting in a new environment close to nature – such as an eco-village – are able to acquire a great part of this age old knowledge, primarily the part built on own personal experiences (BABAI et al. 2014:18).

HISTORY: 25 YEARS

The history of the Hungarian eco-villages has not been extensively researched and documented, only a few papers deal with the issue (notably FARKAS 2014). A more comprehensive coverage presenting most of the design principles exists at the international level, illustrating their implementation on examples from eco-villages throughout the world including the members of the Global Eco-village Network (BANG 2005; JOUBERT – DREGGER 2015). The Gyűrűfű experiment itself started in south-west Hungary in the Zselic region, at the same location where a 700 years old village existed, has its own long standing history. During the development of the model experiment some 25–27 years ago, the concept focused on systems theory, human ecology (MARTEN 2001), and most predominantly an agricultural design system called Permaculture (MOLLISON 1991). It was seen that "one of the methods of facing the challenges of the worldwide ecological crisis is the implementation of the resulting principles of sustainable development at the rural development level". Spatial planning was one of the dominant features of the design work with overlapping thematic maps and bioregional properties. The practical experiences gained from the implementation of this design concept were summarised with a view to human geography and small scale settlement patterns in (BORSOS 2013b). The focus of the experiment in the first two decades of its existence related mostly to its connections with the natural environment substantiated by a system theoretical background (BORSOS 2009). In human terms, however, it was not without legal complications that the site of the local watershed was acquired by a foundation set up for this purpose, and later on changes in the law and shortage of funding made the realisation of the original concept of a common land ownership even more difficult (BORSOS 2006).

A comprehensive report on the first 25 years of history was published in a book (BORSOS 2016). In the paper below, the focus is put more on the human factor.

ANTHROPOLOGICAL IMPLICATIONS

When you want to organise an eco-village, the organisation and set-up of human and social relationships is of paramount importance due to several reasons:

Eco-villages are 'intentional' communities, they are not the result of an organic, natural development process in society. They stand out from the surrounding society as a foreign body: city dwellers turned farmers, or simply strange creatures living in a queer and awkward way in the eyes of the general rural population. They are uprooted from their former social environment and planted in foreign ground. Therefore, inhabitants of such communities need a stronger social cohesion to identify themselves as a stand-alone entity which still merges with the surrounding other communities in many aspects.

The approach eco-villages take is outright the opposite of mainstream 'development'. One of the main differences is that such communities are not only workplace entities or residential neighbourhoods, they are both. Eco-villagers – at least in theory – work and live at the same place, which is shaped and taken care of by themselves and not by some distant forces (municipality, the state, etc.). They need strong determination and stamina to cope with all the difficulties arising from these factors and from the fact that they spend a lot more time with each other than urban residents do.

They are in a new situation which needs active organisation. In most cases, people settle in existing communities and their main intention is to adapt to the existing rules, social habits and practices. In the case of an intentional community, however, the participants of a project are all newcomers, a non-existing entity. The system of relationships, the social organisation, the institutional background need all be created afresh. Additionally, they do not want to create just a community. They want to create an organic community.

For all these reasons, such a community, created artificially, is additionally supposed to fit and adapt to the closer natural environment of the eco-village. This means adaptation to the dynamics of the natural systems in their environment, which is the key to ecological sustainability and which is the main goal they are organised for.

An organic community relies on the resources of the natural environment. The goal of a community like this can not be anything else but to get to know natural resources, processes and connections in a depth which allows their long term, truly sustainable use and has a built-in alarm system which makes avoidance of their overuse possible (BABAI et al. 2014:20). The ecological knowledge of those communities which eke out a living from the surrounding natural environment (hunter-gatherers, pastoralists, and traditional peasant communities in some cases) must not be content with the identification and use of the various resources, plants or animals, they need to have an intimate knowledge of population dynamics and the intricate web of ecological connections in order to actively manage the habitats and ecosystems, to adapt them to the changing boundary conditions and again, to recognise the signs of over-exploitation or even anticipate and avert such signs.

Figure 1. The Community House at Gyűrűfű, Zselic, Hungary, 2013. (Photo by Zsolt Pálfia)

SYSTEMS THEORY REVISITED

The system theoretical considerations apply not only to the relationship of an eco-village with its natural surrounding, but they are equally true in terms of its social structure: you can not get rid of the supersystem around you. In principle, three different kind of systems might exist: the organised whole is more than its constitutional parts, the organised whole is less than its parts (in other words, the parts block each other's functions), and in a neutral system the organising and disintegrating forces and impacts quench each other's impact, thus the system is nothing else but the entirety of its constitutional parts (GORELIK 1975). Natural systems and social systems are both organised systems, and, as such, they can be conceived as organic, integrated sets of super- and subsystems. The most interesting feature of such systems is that they will acquire new properties on each distinctly new level of organisation, which properties can not be derived of their constituent parts, can not be found in them and the systems will not have them, either, if they are arbitrarily compiled only, without systemic arrangements (BORSOS 2003:90). That is, they fall into the first category of systems: they are more than merely the components they consist of. These unpredictable new properties are called emergent properties, popping up from nowhere at the new level of organisation. Their emergence can be attributed to the organised network of connections and relationships between parts, the very essence of system functionality.

Organised systems are connected to the larger entity above them – the supersystem, providing an environment to them – in many points and react to the changes thereof by adapting to them. Such adaptation is achieved by control and regulation, that is a dynamic balance of positive and negative feedback loops. As long as the environment allows, positive feedback loops reinforce a functional element of the system, but as soon as it reached the limits set by the boundary conditions, the function in question – growth,

Figure 2. Visitors at one of the Yurts, Gyűrűfű, Zselic, Hungary, 2013. (Photo by Zsolt Pálfia)

energy consumption, reproduction, etc. – will be restricted through negative feedback. Feedback has a lag time, which may result in the appearance of periodical fluctuations (such as predator-prey population sizes). However, periodical features can be controlled by lag time regulation only (Borsos 2016).

Contemporary society is a multiple complex system, and to make it more complicated, it is organised in two different ways. It has an institutional organisation form (government and its institutions, business entities, churches, etc.), where the individual is of secondary importance and organisation itself provides the framework, and there are organic relations, the family, relatives, neighbourhood, colleagues, where individuals create spontaneous or institutionalising organisations themselves, along their perceived interests and values (Gyulai 2009).

The latter include eco-villages. Their super system includes the surrounding society, mainly its institutions (such as municipality, county, region, nation state, EU). However, in addition to a geographic embedding of social structures a set of other types of embedded hierarchies can be envisaged. The hierarchy of settlements and physical entities can be conceived as a vertical hierarchy, while belonging to a political party, a church, an ethnic group, a language, a trade, economic sector, field of interest, etc. should be imagined as horizontal arrangements of individuals in a society. These two kinds of model organisation provide the output of social functioning in close interactions with each other, and the final result will be what the resulting force of the interactions in the system determined. As long as the eco-village is merely an isolated and tiny subsystem only, the resulting force will clearly point towards the existing supersystems. However, the eco-village itself – albeit at the cost of certain compromises and due to its small size – can exist successfully in the framework of its supersystem.

The relationship of the Gyűrűfű eco-village with the surrounding natural supersystem was covered earlier on extensively (Borsos 2009). However, an eco-village is also a

subsystem of the surrounding society. Consequently, whenever and wherever an eco-village is set up, it can not get rid of its social and historical environment entirely. As long as eco-villages are isolated subsystems, and not a part of a larger bioregional entity, their existence and functional limits are inevitably determined by their relationships with the surrounding supersystems of society. However, human behaviour in the contemporary social supersystems is characterised by secularisation, a consequence of 18th century enlightenment, and – in the wake of the emerging market economy – instrumental rationality based on abstract conceptual thinking, a feature hardly known before. Such rationality strives to realise arbitrarily set objectives with the use of the most suitable means, where the question whether such goals were appropriate is suppressed by the all-pervasive wish to improve efficiency of the means (Takács-Sánta 2008).

SOCIALISM LURKS IN THE SHADOW

Residual traces of the organic community and co-existence with nature are restricted to a very few and small places in Europe and the Western world in general. The prevailing paradigm is action to implement the arbitrary goals as mentioned above. Naturally, eco-village projects could not separate themselves from such approaches in the mainstream. Therefore, the structure of communities which define themselves as an eco-village can be one of two alternatives: either it reflects the social organisation, sociology and psychology of the surrounding society, or it wants to be an outstanding, isolated subsystem, a distinct entity. Certainly, these are the extremes and a number of transitional arrangements can be envisaged, but the community of most eco-villages can be classified into one of them (Borsos 2013a).

Eco-villages which are distinguished as independent subsystems are organised in many cases along spiritual or religious lines (Farkas 2012). Gyűrűfű took a more conventional approach, it has no declared faith and never wanted to be seen as an isolated subsystem. The original concept was a kind of post-industrialist approach, where the latest achievements of technology are mixed carefully with those of the traditional methods and practices which can be exercised in a 21st century environment without too much difficulties. However, this also meant that the members of Gyűrűfű came from the existing society. Naturally, this is not to say that they actually represented the Socialist ideas of contemporary Hungary at the end of the 1980s. In fact, many of them came from protest groups of various forms. Thus, it can be stated that the Hungarian eco-village founders – including those at Gyűrűfű – represented a spin off of the environmental movement just as well as the impacts of the Western New Age penetrating Eastern Europe.

In the case of Gyűrűfű, however, a special factor also emerged: the symbolic attitude towards settling in a place which used to be a small rural community, and a victim of the village destructing furore of the powerful in the Socialist era. A community marching against the current trends (urbanisation, urban migration, consumer society, attitude towards the environment etc.) made an attempt to settle down at a location where the small rural village exposed to the whims of power existed before. It can be contemplated that the self-sustaining, difficult to access, and hence, difficult to control and influence rural existence was seen as non-desirable by the political power in the times of the Socialist state, while the village has become unviable for those who lived there due to the

consistent suppression of their opportunities from top down. The new 'dwellers in the land' moved to this place just for the same reason: to create a self-sustaining, difficult to access eco-village in an environment which was not prone to the invasive industrialisation practices of the previous decades, which lacks the conventional infrastructure and which is a small, secluded site away from the buzz of the cities (Farkas 2009).

In spite of their good intentions, members of the Gyűrűfű community could not shed their skins and get rid of the Socialist past. Arguably, the project started practically in line with the political transitions and the free elections in 1990, consequently all the founding members had lived in the Socialism before. There is no reason to wonder that in most eco-villages launched in this period in Hungary, the 'existing' Socialism – a pejorative attributive noun commonly used at the time to indicate that things did not go quite as anticipated – was mirrored in them in some way or another.

Everybody in that generation carried the burdensome heritage of the Socialist past in various extents and in different ways. Beside the environmental activists and dissidents, children of party secretaries and presidents of agricultural cooperatives were found among the pioneers just as well as unemployed miners and descendants of has-been proletarians. Therefore, a frustrated attitude towards the communistic ideas of the New Age or hippie movements – many of them deeply rooted in eco-villages of the time in the West – could be experienced. Communistic ideas proved to be dysfunctional in the Socialist period and they were regarded with suspicion when encountered in a new form, the 'everybody for everyone' approach seen in – for instance – Gyűrűfű. However, a properly functioning eco-village is not a commune and is not an enemy to private ownership. As it was stated earlier on, the eco-village of the present is inevitably entwined in a double sided organisational structure: while it is in principle desirable to restrict the all-encompassing inclusion of private property to protect natural systems, it can not be accomplished under the boundary conditions of the social supersystem without running into difficulties and suffering competitive disadvantages in getting to the necessary resources (Borsos 2013a). Unfortunately, as it was described in another paper, the solution chosen for Gyűrűfű was not a lucky one (Borsos 2009).

RESULTS

It was observed that in the wide scope of approaches taken by Hungarian eco-villages, ranging from purist tradition and religion or spiritualism up to all-embracing technology and innovation, Gyűrűfű stands somewhere in the middle (Farkas 2014:56): while not neglecting the past and trying to learn the lessons from the traditional methods, a key role was envisaged for the post-industrialist, non-invasive and non resource-intensive technologies, such as telecommunication and alternative energy systems.

Nature-humans relationships

Research has shown that societies in the past made an attempt to ensure their livelihood with as little destruction as possible. Ethnographers and cultural anthropologists have repeatedly demonstrated that in most traditional communities the intention to preserve

Figure 3. Wood pasture on the eastern hillside of Gyűrűfű, Zselic, Hungary, 2013. (Photo by Zsolt Pálfia)

the wealth of the natural environment was quite conscious (ANDRÁSFALVY 2009). For instance, this was accomplished for centuries by the land use patterns and water governance practices in the Tisza valley (BORSOS 2014).

In hilly or mountainous landscapes, such as the Zselic, Gyűrűfű is situated in, wooded pastures represent an excellent example of sustainable management of hillside grasslands and clearings (VARGA et al. in press). Recent research in many places in Central and Eastern Europe demonstrate, that such practices are still present in some rural communities, and also, that by proper use and adaption of such practices they can be continued for an undefined period of time without disrupting the delicate and dynamic ecological balance of the specific habitat they are applied in. In fact, secondary succession can be actively managed on wooded pastures by the appropriate methods and hence, not only the state of affairs can be maintained, but a kind of adaptation is also possible in the light of changing boundary conditions – such as, for instance, the local impacts of the impeding climate change (BABAI et al. 2014).

Although the direct predecessors of current Gyűrűfű dwellers did not practice such grassland husbandry methods, the area is absolutely fit for such an approach. Lessons from the past and the current possibilities allowed to set up several such plots in the watershed, which provide grazing grounds for horses, sheep and cattle and set secondary succession to a path managed by humans.

Figure 4. Goats on pasture at Gyűrűfű, Hungary, 2013. (Photo by Zsolt Pálfia)

Organisation, man-nature relationship, ownership

Gyűrűfű was designed along the lines of a strictly ecological approach, but this statement applies to physical design only. Human factors were confused, neglected, idealistic and mistaken from the very beginning. The Foundation as the only organisational scheme failed as soon as individual interests clashed with those of the community. Since a foundation has no membership and is led by a Board of Trustees, democratic decision making mechanisms could not be effectively practiced. As a result, the community has no clearly defined leadership up to date, which is a disadvantage when quick and responsible decisions would be needed for the sake of the common interest.

Attempts were made to create artificial traditions to make up for the missing religious or spiritual ties. The most consistently practiced such rite is the Autumn Equinox Celebration, a festival organised each year by the participants with many visitors coming. The date selected for the event symbolises both the new paganism of the New Age and the celebration of the traditional village saint.

Beside the difficulties in community based decision making, the structural setup and the conflicts of the village society also have several shortcomings. The 18 to 35 age group is practically missing from the texture of the population, while elderly people – with one notable exception – come only as visitors to their offspring or families. The reason for this is clear: the initial settlement of the new project was implemented by a relatively homogeneous age group then in their thirties, who are now between fifty and

sixty. Children of the first generation grew up to young adults and most of them study or look for jobs elsewhere. It remains to be seen, whether the younger generation will come back to replace and take over from their parents or will there be a generation gap in the population of the community, to be filled by newcomers (Erdélyi et al. 2014).

Social cohesion has been and to some extent is still being tested by land issues and road issues and immigration. Land issues are represented by long lasting, protracted litigations which prevent free and easy leaseholds, while the road issue is embodied mainly in the condition of the access road, the only artery connecting the village to the outside road in physical terms. Its deterioration was stopped by common efforts in the summer of 2014, demonstrating, that in spite of the struggles, inhabitants are willing and able to cooperate when absolutely necessary. It should be noted that access to the village is an issue which divides the inhabitants. Those who need to make trips frequently or earn a living from hospitality industry, prefer better roads, while those who see visitors a nuisance and want to leave the site only now and then think that a difficult to pass dirt road would be more than sufficient.

The problem of newcomers is manifold. The village needed further settlers to increase the number of permanent inhabitants in order to reach a 'critical mass,' able to provide the functions of an independent subsystem. Additionally, over the years some of the settlers were forced to leave the site for various reasons (family quarrels, divorce, unbearable tensions with the community, administrative problems of ownership, lost lawsuits, failed livelihood, just to name a few). The drop-out ratio is not high but significant.

Newcomers face a lot of trouble upon arrival. There are only a few lots available, even less land to let, and the problematic community life does not seem to create a very attractive and welcoming environment. They need to comply with complicated and arbitrary conditions such as a leasehold agreement with the foundation before building permits are issued and in certain cases the resistance of the community – or some members of it – aggravate the situation. In the meantime in the supersystem, both in Hungary and internationally, the prosperity of green ideas and the fashion of alternative lifestyles have passed and less and less people see the eco-village as an alternative path of the future for themselves. In spite of this, immigration did not stop entirely, just slowed down, compared to the 1990s.

The impacts of the social supersystems around Gyűrűfű have been manifested recently in the development of new technologies, which could not have been possible just a couple of years ago. There are two such novelties which – although present in the original development concept – could not be implemented at the level of technology advancement of the 1990s: energy and telecommunication.

Energy in the promising future

Renewable energy sources were considered thoroughly in the design phase for Gyűrűfű. Initially, however, no comprehensive plans were envisaged to replace grid-derived electricity and the main course of action included the conversion of biomass stored in the form of wood as well as passive solar and insulation techniques to reduce the need for heating energy during winter times (Borsos 2005). Up to the beginning of the 2010s, grid based power supply had no viable alternative at Gyűrűfű.

Figure 5. Photovoltaic cells on the roof of the Community House, Gyűrűfű, Zselic, Hungary, 2014. (Photo by Béla Borsos)

However, this situation started to change some ten years ago. Developments in the photovoltaic technology resulted in a downfall of commercial prices for solar panels, and accession to the European Union by Hungary mandated the government to set up subsidy schemes to promote the use of renewable resources. Consequently, in a period ranging from 2009 up to 2013 there was a possibility for installing solar systems which could be successfully exploited by Gyűrűfű as well. A total of four systems were installed, three of them on a commercial basis. Due to the power generated by these systems the power balance of the cluster of plots supplied from the national grid with the help of a transformer station was reduced on an annual basis to near zero, meaning that the meter on the transformer pole shows a value near zero: the overall amount of energy produced by the photovoltaic cells installed in the four locations out of the nine lots in the cluster was sufficient to supply the entire cluster throughout the year. Certainly, the temporal pattern is different, there were times when the solar cells fed onto the grid and there were other times when power had to be drawn from the grid. According to an analysis carried out for the consumers in this cluster, it can be stated that the system was nearly self-sufficient and relatively energy saving, considering that most people in the cluster both live and work and that two commercial establishments are also operated there (Borsos – Munkácsy 2014).

Independence through microwave networks

The other aspect where the original post industrialist concept was reinforced by the latest developments is telecommunication. It has always been emphasised by developers at Gyűrűfű that if you want to attract a major population to rural locations where physical traffic is cumbersome and expensive, you need to offer some alternative means of communication to replace the need for physical movements and to provide opportunities

Figure 6. Dióliget. Passive solar house at Gyűrűfű, Hungary, 2014. (Photo by Béla Borsos)

such as home-computing, teleworking, etc. In geography, traffic is also a form of communication. Traffic is a technique used to conquer space, and virtual communication is a logical advancement of such a technique. In the fifth round of such techniques designed to overcome large distances since the Industrial Revolution, after the steamboat, the railway, the electric grid and the highway networks, these days the transmission of data and information seems to be – at least theoretically – more important than physical transportation of goods and passengers (Erdősi 2004:25).

In Gyűrűfű, however, several stages had to be endured before the current arrangements would have become technically, financially feasible. Initially, there were no communication possibilities at the site, whatsoever. During the first few years amateur ham radio sets were used to set up connections between the construction site of the community building and the headquarters at Ibafa village. In the next phase, a mixed version of wireless radio-telephone sets and fixed line networks of the telecommunication company MATÁV (called RLL which stands for radio in the local loop) were used, making very unreliable and poor quality voice connections possible only. With the advent of the mobile phone era, the entire territory of the country was developed to provide coverage everywhere – except a few remote locations like Gyűrűfű, which is situated among the hills and the microwave towers of most service providers could not reach the properties in the valleys.

In the next phase, a national project of the fixed line service provider MATÁV was applied for and implemented. This meant the installation of a 3.5 km long underground cable from the neighbouring village Dinnyeberki, the replacement of the overhead line connecting Dinnyeberki with Bükkösd, the closest branch exchange, and the setup of a private branch exchange in the Community Building in order to allow the commissioning and operation of a technology called ISDN (integrated services digital network). This service was also very unreliable, yet the first possibility for data transfer.

It operated for a couple of years, but the now final solution came from the side of development of wireless technologies. They were promoted in recent years and provide a lot higher quality parameters than before. Having regard to the fact that several individuals in Gyűrűfű earn their living by working on and with computers, a company was set up to make its own investment project and to erect a proprietary microwave network for both Gyűrűfű and the surrounding small villages on a commercial basis. By the end of 2014 proper broadband high speed coverage was established in 18 communities in the region (Borsos 2016).

CONCLUSIONS

The boundary conditions for the eco-village subsystem are gradually closing down on the small, isolated unit. It has to be stated that Gyűrűfű represents a very narrow and artificial segment of society, which is extremely difficult to set up and sustain, but it has also to be stated that it survived, after all. Researchers see the main function of such initiatives as the entities providing role models for mainstream society (Farkas 2014). Tensions and conflicts stretched social cohesion in the past 10–15 years but new developments such as creating jobs by modern telecommunication means and achieving energy independence through the deployment of solar panels and passive energy conservation solutions off-set for these difficulties. The future of the experiment depends very much on three factors: generation change, immigration and conflict resolution. Further settlement is indispensable for achieving a viable size, generation change for ensuring long term sustainability in social setup and population dynamics, and an effective conflict resolution process is absolutely necessary to enjoy functional community relations.

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