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Local Rural Systems Sustainability - Case study of a goat farm in Klikov

Introduction

This paper is a result of one week long research excursion in the municipality Suchdol nad Lužnicí in South Bohemia, Czech Republic. The aim of the course was to explore the sustainability of the region on the basis of particular cases. Our research team was dealing with the case of a goat farm in Klikov village.

The respondent of the case study was Ms. B., a single woman in her fifties, who moved to Klikov from Prague one year ago to start a goat farm. The interview focused mainly on the following issues: the respondent's motivation, her relationship with local community, the viability and sustainability of her business and its dynamics. To address the sustainability issue we concentrated on the well known three pillars: the environmental, social and economic aspects. From this point of view, we intended to determine whether the goat farm is self-subsistent within the current conditions (natural resources, invested labor, demand of products etc.). Another goal was to link this particular case to broader trends and patterns in and beyond the region. Our intention was to see whether the respondent forms part of certain transition happening in the village.

For the purposes of this study, the goat farm was considered as a subsystem inside the system of Klikov village. This approach appeared as convenient, since the farm is geographically, economically and conceptually detached from the rest of the village, while it still forms an integral part of it. The case study was carried out within the framework of social metabolism and material and energy flows analysis (MEFA). We were thus trying to observe the material and energy exchanges taking place inside the farm system and between the farm and its natural (the landscape) and socioeconomic (the village) surroundings. We referred to all kinds of rather stable (yet also variable) assets as stocks - this comprises possessed artefacts, livestock, land, but also available human resources. The mechanisms enabling alterations of those variables and effectuating the material and

energetic exchange processes were considered as flows – production and sales of goods or house maintenance can be good examples.

Methods

The research team is a pluri disciplinary (environmental pedagogy, environmental engineering, ecology, sociology, social and cultural anthropology, environmental studies) group of six people. Due to the different degrees and academic and professional experience, this study was enriched by different approaches, methods and levels of analysis.

The first step of the research was intended to give an idea of the sustainability issues of the village and the goat farm. We defined the more important themes that could help us construct the village of Klikov as a system and the goat farm as a sub-system within. According to the latter we prepared an interview guideline with three main themes related to sustainability which were supposed to give us data to establish then the frontiers of the subsystem studied as well as the relevant socio cultural characteristics of our informant. These themes were environmental, economic and social aspects.

After the elaboration of this fieldwork guide we embarked in two moments of data collection as follows:

1. Observation of the physicality of the socio ecological subsystem: In this we performed an identification and description to the subsystem's infrastructure, surroundings and stocks during our visit on the goat farm.
2. Application of a semi-structured interview with open ended answers. The structure given to the interview stands as follows: general background of the informant, motivations to start the farm, production processes (including stocks and flows), her relation to space and the infrastructure, opinions on tourism and the biosphere reserve, integration into and construction of a local social network and finally expectations for the future.

The communication with the informant was only possible by the translation from Czech to English. It was then of crucial importance the presence in our group of one colleague whose mother tongue was also Czech. This introduced some challenges to the interview process, especially because the meaning of the content and some information got lost during the translation. Nevertheless body language and accentuation gave hints of the actual meaning and importance of the answers.

The Informant

In the following chapter we will characterize our respondent, the goat farmer Ms. B). This should give a better understanding of the local system and its transformation over time.

Ms. B. has always been deeply connected to nature and having her own farm was her dream. She even planned to study agriculture as an adolescent, but finally did not because of lack of support from her parents. For more than forty years she lived in Prague, where she

worked in an administration office. Her affinity for nature was then limited to walks with her dog and weekend trips to the countryside. It was during that time when she developed the first connection to the house that she currently lives in. Therefore a brief digression to the building's history is in place. The house is situated approximately 2 km outside Klikov, in the vicinity of forest and meadows. It was built in 1784, and before the Second World War it was used as an inn. In 1974 the brother of her grandfather, who was living in the region, bought the plot to use it for agriculture. After that moment she had been visiting the house from time to time. Five years ago, after the death of her father she inherited the property. Nevertheless, she only came there during weekends and holidays in the past, using it as a summer residence. She was planning to move to Klikov permanently when she would retire. The fact that this turning point in her life occurred sooner than planned can be explained by an unexpected and significant personal crisis which changed her priorities and life values. Namely she was suffering from a serious illness and the death of her life partner. This difficult situation brought her to drop the job in Prague and in a very short time move to Klikov permanently.

The reason why Ms. B. became a goat farmer is rather anecdotic. It started when her son gave her a goat as a birthday present five years ago. What was meant as a joke turned into the starting point of her connection to this animal. She experimented with making of dairy products as yoghurt and cheese, first just for her own needs. When she moved to Klikov permanently, she naturally started to expand this activity. Nowadays she owns fifteen goats and is producing and selling her home-made products as a full time job.

In conclusion, despite the first impression our respondent does not fit into the pattern of urban residents moving to the countryside in search of healthier lifestyle and attractive environment. We had to look deeper to understand the real reasons for her turnaround. Personal crisis combined with an opportunity for a positive change appeared as the main driving forces which gave her the courage to leave things behind and fulfill her dream.

Findings

1. Environmental aspects

Following the social-ecological model of "Society-Nature-Interaction" Ms. B.'s business has some impact to the environment inside and outside the system. The feed for the animals includes grass from the farm area and the hay, grain and apples produced to a large extend within the community. The manufacture of products is restricted to the summer months since it is dependent on the availability of fresh grass which influences the taste of milk. At the same time it is also restricted by the number of baby goats that have to be sustained. Feed for the animals in general is not artificially processed and therefore all products are organic. Ms.B. is proud of this fact, as she considers the production method is important for her as well as her customers - she finds organic food tastier.

The manufacture of products takes place at the goat farm, therefore no delivery of the goat milk to a creamery is needed, which reduces energy consumption during production. To market her products she uses direct sales from the yard to locals and individual orders of friends and acquaintances from Prague. This form of delivery relies on private transport

system, which is in general not the most energy efficient way to transport products. But in this case it appears useful, since small scale deliveries to Prague are informally conducted by family members or the farmer herself, when she visits Prague once a month.

One of the questions of our research was the attitude of local inhabitants towards the protected nature area nearby the village. As mentioned, our respondent has a positive relationship to nature, which was also one of the main reasons why she moved into the region. Ms. B. recognizes some restrictions related to the biosphere reserve, e.g. in house renovation or use of pesticides. Nevertheless, she does not find them limiting for her living or business - for instance, she would not use pesticides for her crops anyway.

When applying the MEFA framework on the environmental aspects, we observe the following stocks in the land-use category: forests, grasslands and cropland in the surroundings of the farm. Particularly important is the livestock represented by 15 goats, chicken and other animals for personal use. All the animals come from breeding animal farms. The building and possessed artefacts are also seen as stocks. The encountered flows consist mainly in the use of biomass which constitutes the feed for the animals and food for Ms. B. as inputs and the goat products as outputs of the system (for further details see Economic Aspects). We can consider goat manure as biomass flow that circulates inside the farm system, closing thus one of the nutrient cycles. As energy flow we encountered external inputs of electricity and wood used for heating and cooking. Unfortunately we are ignorant of the origins of these sources and the quantities employed, which makes it hard to estimate the sustainability of their use. It is very likely that the farm is not self-subsistent in terms of energy use. On the other hand, other factors have positive impact on environmental sustainability, as the local and natural origin of animal feed or minimal transportation costs. In terms of land-use, we discovered an extensive form of agriculture. The influence on the ecological stocks and flows in the system is limited to a degree which can be considered as sustainable.

2. Economic aspects

The following section focuses on the economic sustainability of the goat farm project. In order to estimate the economic sustainability of the farm it is crucial to define stocks and flows in more detail and consider their dynamics and perspectives. The stocks (human population, livestock, infrastructure, artefacts) roughly consist of our respondent, the farm building and surrounding meadows and grassland, a small garden, which offers the opportunity for basic subsistence farming, as well as the current 15 goats plus other animals, which are of less importance from an economic perspective. The most important flows, which account for dynamics in the system, are money and human labor time. It will be shown that neither the origin nor the destination of these flows stays within the system boundaries, but rather link the subsystem to other systems such as the village community or even more distant places.

Once again, to fully understand the development of the goat farm it is interesting to keep in mind that it was not planned whatsoever, but started with a single goat. After successfully making cheese for herself, then also for friends and relatives, Ms. B. gradually expanded and by the time the interview had been conducted she was doing subsistence farming with up to 15 goats for more than one year. She obtained a permit for a small scale business and with

her plans of further expansion she is quite on the shift from sustainable subsistence farming toward professional farming. Financially the business is not yet sustainable or self-supporting, since Ms. B. has to invest an extra budget from her private savings. Nevertheless, according to our respondent, in this season the goats will be able to sustain themselves financially for the first time. This means that the income from the sale is mainly reinvested into food and vaccinations for the animals. For the following year Ms. B. plans to generate enough income to sustain basic living for her. Within the next two to four years she plans to acquire a certificate allowing her to launch her own brand and start selling her products in cooperation with local supermarkets and on her own stand at farmers' markets. In a long-term perspective she wants to expand her business from 15 up to 50 goats in order to gain profit out of it.

In this context it is also important to mention that the goods are not exclusively sold for money - there are many transactions that can rather be seen as exchange of goods for labor. Ms. B. has no employees, therefore she is not only dependent on the help of relatives and friends with the distribution, but also draws on occasional help from local people, mostly men, for construction works etc. For minor works, the helpers simply get some milk or cheese. This also indicates the importance of social bindings and social networks (see Social Aspects) within the community of the village but also reaching beyond the system boundaries and connecting the village to more distant places such as Prague (see Environmental Aspects for further details about distribution channels). The production process itself however is done by Ms. B. alone. The manufacture of milk, yoghurt, kefir and various kinds of cheese is thus very demanding in terms of labor and time input. With the current number of goats, ten to twelve liters of milk per day can be processed, a task that usually takes a full day. Even though the production is not ongoing constantly, Ms. B. admits that sometimes she feels like she has put too much work on herself.

It is obvious that Ms. B. has not moved from Prague to an underdeveloped region such as Klikov for economic purposes or to become very wealthy. Instead of that Ms. B. exchanged her urban lifestyle with a good income and cultural diversity for the modest lifestyle as a goat farmer. So we could not observe an improvement in affluence, but in quality of life. Her progress can get an example of economic sustainability in terms of decoupling of economic wealth and quality of life. Considering the future outlook of the goat farm however, it seems to have economic potential and is sustainable in the sense that it offers new perspectives and job opportunities within the local community.

3. Social aspects

The small town of Klikov has officially 200 inhabitants. However not all of them have centred their life in the village, a considerable part is using its houses only as a weekend home. As already mentioned also our goat farmer used to belong to this group. In the course of going to Klikov one year ago our goat farmer has moved both the place of residence as well as the social circle of relations. Regarding the issue of social surroundings or social networks the drastic change in the life of our respondent raises a pivotal question. How was it for her as a newcomer to be accepted by the people of a local rural community who had already formed a strong and tied cohesion? In this respect Ms. B. made an unexpected experience. Particularly because of the fact that she was a single woman the integration into the

community of Klikov was easier for her. She experienced a great willingness to help especially by the men of the village. According to our respondent this can be explained by the prevailing prejudice and traditional common attitude that women are still dependent on men. But ironically the stereotype of being the alleged weak gender is useful to her and her voluntary helpers just as well. On one hand our female goat farmer is being helped by her male neighbours if there is anything to fix at her farm (bricolage, handyman, do-it-yourself jobs) and on the other hand it also increases both the self-respect of those men as well as the satisfying feeling of being needed. In any case, the villagers show their sympathy and compassion with our goat farmer which can be considered as a kind of social acknowledgement by the local community.

From a general perspective mutual taking and giving is very common within a closed system and a tied network of a local community. In order to receive a favor, people are also likewise supposed to give something back in return. So in return Ms. B. is often inviting her neighbors on some shots of spirituous beverages to her home. Accordingly we draw the conclusion that this kind of social rituals and get-togethers can certainly contribute to strengthening social cohesion in the local community in a formidable way.

Above all we also recognized certain implicit rules (or an alleged implicitness) within the social system of the local community of Klikov. Socially desirable behaviour such as being polite or friendly to the others is a basic precondition for being accepted by the community. Hence the people in the rural region are cultivating the art of face to face conversation. In consequence of all this active chit-chat a lot of gossip and rumours exist in Klikov. Finally the village dwellers are not only talking with one another very much, they are also talking a lot about each other as well. Through this social network of gossip the locals are in constant touch. If someone in the village is in troubles (e.g. a personal or financial crisis) the neighbors are willing to care for this person by offering food or supplies. But also our goat farmer profits from the fast spreading gossip in the local community. In fact Ms. B. does not need to advertise her products, because due to gossip or word-of-mouth advertising the locals are already well informed about her business. Nevertheless she has an arrangement with the shop keeper of the local grocery store of Klikov to place a commercial sign in the shop window. That way the customers of the grocery store also know where to go if they want to buy organic goat products.

Reflection

Assessing the general sustainability of the goat farm is a challenging task, especially with the limited time we had for our research. However we can still draw some partial conclusions.

From the environmental point of view, fossil fuels and electric energy (most likely also from fossil sources) are the main problem to sustainability, which corresponds to the pattern in the vast majority of Czech households or companies. On the other hand, the production draws almost entirely from local and renewable resources. The feed for goats is obtained from natural sources in the area and does not require any added energy for processing or transport. The organic farming practices are beneficial for the land in question as well as for the surrounding natural environment. The manufacture itself takes place in the farm and relies highly on human labor. The informal delivery system also poses no additional burden

on the environment, which will however have to change when the amount of transported products increases.

In terms of economic results, the goat farm is currently not sustainable, since it is subsidized from the respondent's previous savings. According to the farmer's plan this situation should already improve the next season. Nevertheless, it is important to bear in mind that the change of business scale can have unforeseeable influence not only on the revenues but also in costs and other, non-economical aspects. Eventually, the shift to professional farming can alter to a high level the goat farm's sustainability.

The social aspect turned out to be the most significant part of our research. Social integration is a significant influence on the farmer's living and prosperity. The best examples are barter trade and informal economics (e.g. repair work on the farm) or advertisement that is realized with investment of social capital only (face to face recommendation by the locals). In a way, these social ties can be seen as replacement for economic investment but they have an added value of reinforcing the social cohesion of the community. From this point of view the mentioned gossip of Klikov is a part of the social system that "reproduces itself culturally, by communication" (c.f. Fischer-Kowalski et al. 2011: 148p).

Maintaining the biophysical stocks, as well as financial and working power inside the village system is crucial for its sustainability. Taking into account the broader context, the Klikov region is isolated in terms of location, economic development and demographic reproduction. The options of employment or self-subsistent living are indeed limited, which in many cases can result in erosion of traditional lines of business and decoupling of production and consumption. On the other hand, the unfavorable conditions can at the same time lead to strong social cohesion, which is ultimately a significant driver for both community life and rural economy. Regarding the significance of the local systems, social relationships are essential for the well-being of the village dwellers as well as for the regional development.

Bibliography

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