

WORK RESULTS 12

From peasant agriculture to regional supply economy

Functional properties of peasant economies
as key factors for the design of
a regional food supply

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Abstract

There are a variety of different initiatives promoting a re-orientation towards non-industrial agriculture. This phenomena is not only occurring in Germany, Austria and Europe, but also worldwide. Regionalisation and environmental sustainability are its two key features. Peasant agriculture is often used as an umbrella term and we believe that it is a central concept. However, a differentiated description is needed to delineate this term more clearly from fiction, traditional images and appropriation through the advertising of industrial products.

In dealing with peasant economies in Germany and Austria, first of all, we have traced its central functional socio-economic characteristics in order to create a clear understanding of its social and economic organisation and development.

In a second step, we describe which characteristics have changed and define the areas where today's agriculture no longer complies with peasant principles even if many still speak of peasants or peasant agriculture.

In a third step, we show that characteristics of peasant economies can be re-interpreted and re-designed. We outline some of the existing approaches that are considered to be practical alternatives to industrial agriculture.

We propose a simple check list to ascertain to what extent current projects are already applying the functional characteristics of peasant economies and renewing them. This creates a contemporary phenomenological character of peasant agriculture.

Foreword

The question of the future of agriculture and, simultaneously, the future of food supply is a much debated and researched topic. There are scientific materials, journals and many books covering these themes. So, why is there a need for anything more from us on this subject? In the summer of 2016 when I - Christian Hiß - asked Andrea Heistering and Frieder Thomas, if they knew of literature and scientific papers on the functional properties of peasant economies, both answered this specific question with a "no". Naturally, there are many descriptions of how peasant agriculture manifests itself and what special services it provides, especially in the current debate. However, these are often superficial aspects. How a peasant enterprise worked in its inner functioning was hardly researched and respectively only partially grasped.

I have encountered the question of functional properties of peasant economies in recent years whilst working as a bio-dynamic gardener, trying to build my farm into a model of an agricultural organism, that inherits many of the traits of the traditional peasant economy, but at the same time derives its motivation and justification from looking into the future.

Later, during the founding and development of Regionalwert AG, this question has again occupied me. The Regionalwert AG is based on the concept of regional food sovereignty. This implies the construction of a regional supply economy, which has many similarities with the earlier peasant supply economy, but this is established on a new basis.

Last but not least, I have long felt an incongruity between the actual development of farms and the image of agriculture that society holds on to, which really no longer exists.

I found it astonishing, that according to my academic colleagues there is no research available on this topic. Both of them have long been engaged in research on agriculture in Germany and Austria: Andrea Heistering as an agricultural sociologist and Frieder Thomas with the Kassler Institute for Rural Development. The lack of research was evident. In our first conversations it also became clear that we were all very interested in understanding the socio-economic functions of a peasant farm and its associated household.

But how can one approach such a complex theme? Peasant agriculture has always been in flux and not only because of agricultural changes but also due to societal change. In 1800 Germany had 75% of all working people working in the farming sector, today barely around 1% of the working population is active in agriculture. How can one mark the transitions from a peasant to a "post-peasant" agriculture?

The three of us met and discussed what is meant by the functional characteristics of peasant agriculture. How did a farm function at its core? How were the social interactions on the farms? How were the various working areas interlinked? And above all, in what ways could this knowledge be relevant to us today?

The peasant economy is, in the imagination of many people, still a fixed constant for supplying society with food. According to surveys, farmers in Germany are among the most popular and respected groups in society. The only thing is, that the farmers, which society is referring to do not exist any more. Central European agriculture has changed profoundly and with it the farms and the socio-economic relations on the farms. Peasant agriculture has become a fiction and the reality is different: peasant multi-functional supply economies have become highly specialised enterprises that are organised according to industrial patterns. Many people do not want to acknowledge this and they dream that the "old agriculture" is well preserved or can be resurrected if one buys at the farmers market or in the farm shop.

Therefore, in our first talks we did not think about what one would have to do politically and socially to reintroduce historical forms of agriculture. Instead, we asked what the socio-economic operating principles of peasant economy were and how they could be reorganised. Our common work benefited from the fact that, despite our different approaches, all three of us have a critical appreciation of peasant agriculture as an underlying view. We are convinced that peasant agriculture will continue to play a very important role in securing the food supply of the people. But possibly no longer exclusively in the form of a single supply enterprise or in the form of a family farm. What is needed are new forms of organisation that apply peasant economy principles to entire regions and to people living there rather than to individual farms and households. In this regard, emerging initiatives such as Community Supported Agriculture (CSA) in Germany or the Corporate Social Agriculture Movement could be interpreted. The principles of peasant agriculture could also provide them with insights essential to designing their approaches.

We propose a radically new view and discussion: a double view of rural farming. We distinguish between the internal blueprint and the external characteristics of a farm. We call the inner blueprint "genotype" and the externally visible expressions "phenotype", similar to how one views a living organism in biology.

Accordingly, our theoretical approach allows us to get closer to the design paradigms that underlie peasant economy and farm types. We can also better state what defines peasant agriculture in its essence. We estimate that the increased desire of society for more regional supply security and regional and organic food is based more at the level of values than on

the external preservation and reintroduction of old-style farms. This approach would also enable us to differentiate the judgement as to whether an agricultural enterprise still complies (or re-complies) with the idea of peasant agriculture or if it has parted from the original concept. It is not our intention to question peasant family farms; rather, we want to support them, so they can distinguish themselves in their core structure from industrial types of enterprises. Then we can better delineate what is meant by the adjective "peasant".

In describing the functional properties of peasant economics, we have found a trail that could and should be pursued beyond the results of this work, both in practice and in science. This could significantly contribute to the clarification of the term "peasant agriculture" and to the elaboration of the functional principles of future local supply economies.

We are aware that, given our limited resources, we can only give an impetus to this work. We would be pleased if there were further discussions and scientific work on the topic we raised. The preliminary findings could serve as a basis or impulse for the development of new regional supply structures.

1 Contribution to the current discussion on peasant agriculture

Before we go into more detail on the functional characteristics of peasant agriculture, we would like to briefly shed light on the context in which peasant agriculture is currently being discussed.

Structural changes ...

Is peasant agriculture an outdated model?

Peasant agriculture seems to be an obsolete model. Life in the villages is no longer dominated by the rhythms of agriculture. In most villages, there is only a single full-time farm left.

The 'dying out' of farms continues. In the recent past, the liberalisation of the milk market has led to a dramatic loss of dairy farms. Even enterprises that have been "growing" continuously - increasing their livestock, working with the latest technology and choosing high milk yield varieties - had to shut down. So even larger scale does not provide any more security. The economic pressure that weighs on farmers in everyday life is reflected in official statistics in a regular decline of agricultural enterprises with simultaneous growth of the remaining ones.

At the same time, production itself has become an almost marginal component within the food industry. Farmers have become almost completely dependent on global suppliers and trans-regional structures for their most elementary means of production- fertilisers, seeds and energy. These global structures are themselves rapidly changing.

The share of external capital - or in other words, the debt - is so high in many enterprises that there can be no talk of "free farmers" any more. In hardly any other industry is the capital input per workplace as high and the return on capital as low as in agriculture. In order to be able to make profits, the strain on the people, animals and natural resources are often excessive.

The negative effects - regional and global - of an industrialised agriculture on the resources of soil, water, air, biodiversity, animal welfare, climate, etc. are extensively documented, regularly in the headlines and are part of the everyday understanding of most people.

Many facts argue against the premise that industrial agriculture is viable for the future. This has recently been postulated by the German Agricultural Society (DLG). This is remarkable insofar as the DLG has demanded and actively facilitated the industrialisation of agriculture for decades. Now the president of the DLG is calling for a paradigm shift in agricultural policy

because he sees supply security endangered due to the high degree of specialisation and its negative effects (FAZ, 18.1.2017).

Changing relations of family and enterprises

The external structural change is also accompanied by internal changes in family enterprises, which are even more significant for the question of farm-based rural development. The direct connection between the provision of a family and the organisational structure of an enterprise has been severed. The purpose of the industrialised enterprise is to generate a sufficient financial income for people in the enterprise. If this is no longer possible, people look for other jobs and leave their farm and often their village.

A fundamental change has taken place between the two essential systems that make up a family enterprise: whilst in the old peasant agriculture the systems "family" and "enterprise" were almost congruent, now they have drifted further apart. Today there are different criteria for both systems. The system "enterprise" often makes the economic decisions about management and development without a conscious inclusion of the social system 'family'. The consequences are often excessive workload, strain on the relations of the people living on the farm or that the farm is no longer attractive as a place for living and working for the younger generation, especially for young women. Thus due to social reasons, the continuity of the farms is endangered. The average age of those working in agriculture is rising steadily.

On the other hand, the 'family' social system has many other economic possibilities (work and income) than just agriculture. As a result, the working environment and the internal structure of peasant family enterprises have changed fundamentally.

Change of the working environment

The peasant family and farm labourers/servants originally lived on the farm. But there are no servants bound to farms any more. For a very long time, the farm family enterprise was essentially limited to the immediate circle of family members. The share of family workers in West Germany was 85% in 1960 and increased to more than 90% by the 1980s.

Farm work was rationalised not only for the so-called foreign (external) workers, but also in the family. Often technology intensive one-person farms are left over, in which, the partner works outside of agriculture and family members only help out at peak times or in high season.

For those who continue to farm, it is not possible to save even more on labour. That would mean abandoning the farm altogether. Family farm enterprises with predominantly family workers seem to have reached their limits.

In addition, more and more people complain about the loneliness on the farms and this seems to be a reason why many young people do not consider farming even when their families run economically well-functioning enterprises.

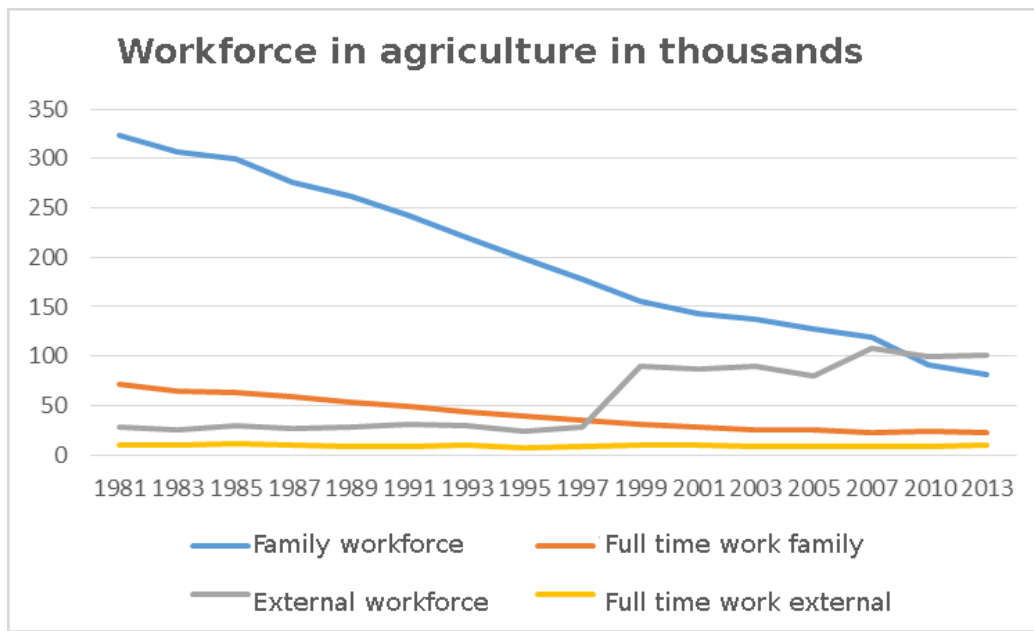
For different reasons, therefore, new operating and working models must be developed.

Current data clearly shows which changes have already taken place in Germany: the number of self-employed persons and their family workers now amounts to less than 50% of all agricultural workers and has fallen below the number of external workers (see Figure 1). However, in terms of hours worked, the figures for family workers are still marginally higher than for external workers (see Figure 2), because they often work full-time. Nevertheless, the number of self-employed and family workers will continue to decline. Amongst external workers, the number of permanently employed skilled workers has been stagnating at a relatively low level for many years whilst the number of non-permanent workers - usually seasonal workers - increased massively.

Figure 2 also shows the development very clearly: the average size of workforce per farm enterprise (WF/enterprise) in West Germany in 1960 has decreased from 3.48 WF/enterprise to 2.35 WF/enterprise in the 1990s (see blue columns in Figure 2). Mechanisation and rationalisation of the work were so successful that despite the economic growth of the enterprise, a "downsizing" of the workforce took place. The reduction in workforce affected both family workers (see red columns in Figure 2) - whose workload decreased by around 25% - and external workers whose workload halved from a generally low level.

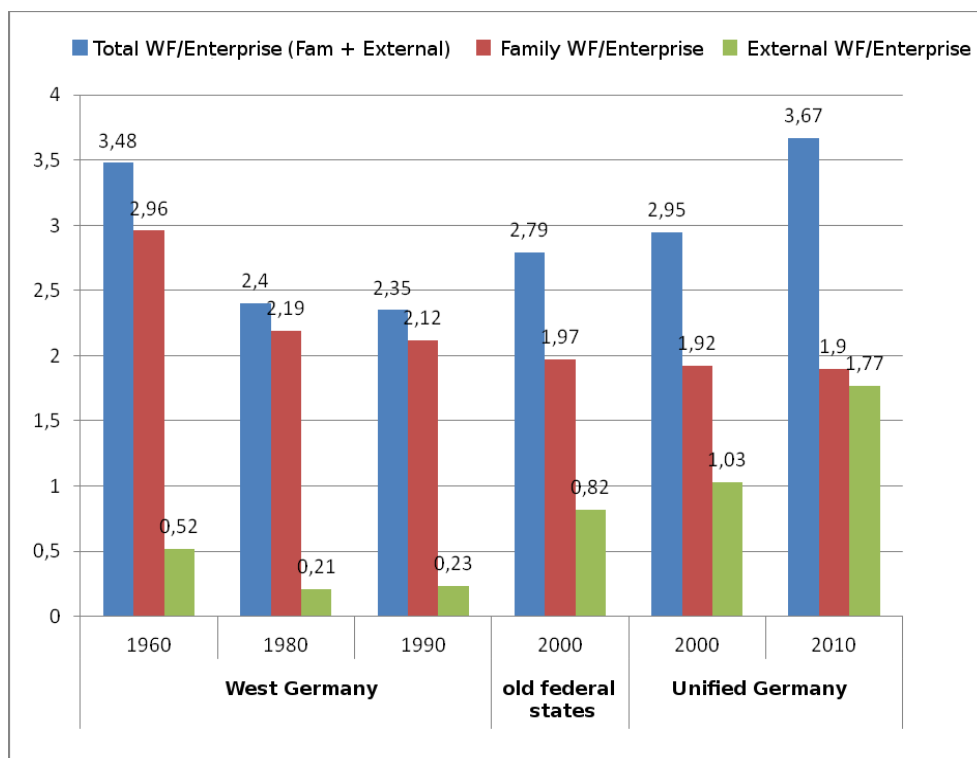
From the mid-1990s, this development has changed. Although the economic growth of enterprises has continued steadily, the workforce per enterprise (WF/enterprise) has increased since then and in 2010 was higher than the workforce use of 1960 with 3.67 jobs per farm.

Figure 1: Workforce (WF) in agriculture in Germany



Source: Statistisches Landesamt 2015

Figure 2: Workforce (WF) per farm enterprise in agriculture in Germany 1960 - 2010



Source: aid information service, according to data from the Federal Statistical Office (DESTATIS) and the Federal Ministry of Food and Agriculture (BMELV), as of 31.8.2012

This increase is based solely on an increase in external workers. Their workload has more than tripled between 1990 and 2000 in the old federal states of Germany.

In view of the different agricultural structures in the old and new federal states, one could assume that the change in the average employment structure in Germany was significantly influenced by the reunification. The addition of the new federal states has indeed increased the trend towards more external workers and a higher WF/per enterprise used (compare the two pillars from 2000 for the former and the new German federal states in Figure 2). However, the general dynamic is taking place independently of this (see columns 2000 and 2010 for the entire federal territory).

With this dynamic change in employment relations, the family could slowly but surely lose its importance in safeguarding continuity of farm management over the generations.

In addition, the family's close ties to the enterprise are loosening. Today, many children from farming families are choosing other professions and will not be taking over the parental farm. To secure operational continuity for these farms, new forms need to be developed.

... and movement towards peasant agriculture

Peasant agriculture as a trend

Despite this development, most people still associate agriculture with a family farming enterprise. This peasant agriculture is highly valued by many citizens for addressing economic, environmental and social challenges at the same time, as well as providing high quality food to the growing number of people worldwide. The typical characteristics of peasant economies that are currently popular include: regional and environmentally friendly food production, hand crafted quality and sustainable management.

Utilising scarce resources

High expectations of peasant farming economies arise from the knowledge that farming has been an economy with limited and above all regional resources. Technological developments and the globalisation of trade relations have apparently dissolved this limitation. Discussions about the planetary boundaries (peak oil, peak everything, earth-overshoot-day) or the necessity of not using existing resources for ecological reasons (climate change) sharpen the view of the importance of peasant experiential knowledge and the characteristics of peasant farming practices. This could offer a solution because they have worked in a more energy and resource efficient way than industrial agriculture and because they have developed procedures to operate with limited resources.

Movement for Peasant Agriculture and International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD)

Since 2011, annually, thousands of people have taken to the streets of Berlin calling for agricultural policies for peasant farms and against agricultural factory farming. This movement for peasant agriculture unites the resistance against the pressure of economic growth and against the use of the "grow or die" model in agriculture. This is not about resistance to development and innovation; quite the opposite: rural innovations are required. It is rather about reducing the permanent pressure of rationalisation that forces enterprises towards one-sided growth or mass production.

Strong motivation for this movement came through the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD). This report, first published in 2008, is the result of a broad scientific discourse involving civil society. It has brought together a vast body of scientific data and reached a clear conclusion for agriculture worldwide: "We cannot continue like this!" The report emphasises the great relevance of peasant economies for the fight against hunger and the sustainable and resilient securing of resources on Earth. In the international debate, peasant farmers and peasant family farms have become bearers of hope.

However, the report and the resulting debate focuses primarily on the situation and potential in countries of the global South. These countries (unlike Germany with 1%), have a substantial part of the population working in agriculture and are not so apprehensive about human labour in agriculture being rationalised away on a large scale.

It will be interesting to apply the concept of food sovereignty, which was also developed in this report initially for developing countries and emerging economies, to our circumstances in Europe.

Images, desire and reality

The vague notion of peasantry is also being exploited.

Totally independent of food production: German magazines such as Rural Enjoyment, Rural Life, Rural ideas etc. are constantly increasing in sales; quite in contrast to the general trend in print media.

Producers, trade and tourism use the images of "traditional" peasant structures, although the present methods of production no longer have much in common with the old peasant economy. "From the region", "directly from the farmer", "from here" are such slogans which today are in vogue. According to surveys, a majority of German consumers would like the

food they consume to come from their region. The characteristic "regional" is currently more important for their decision to purchase than "organic". According to the nutrition report published by the German Ministry of Agriculture and Food (2017), the regional origin (73%) is the second most important purchase criterion after personal taste (97%) and ahead of product information and price (57% each). Around three-quarters of Germans (71%) assume that food in Germany is produced under good to very good conditions. However, around a quarter (24%) disagree. The respondents see room for improvement above all in dealing with animal welfare (87%), and more transparency for consumers (82%), such as seals or labels.

However, the desire for more regional origins stands in stark contrast to reality. The 'region' has little significance in the supply of food. A study of the city of Freiburg im Breisgau (2016) revealed that only around 8% of fruit and 13% of the vegetables consumed in Freiburg come from the region. Across all product groups, a share of about 20% was calculated. An astonishingly low rate for a region where everything could be grown to meet the need of the people who live here. The study "Graz feeds itself" (2017) comes to a similar conclusion.

Around three-quarters of the respondents of the Freiburg food economy did not provide information on the origin of their products. It can be assumed that the actual figures for regional consumption are still significantly lower than those mentioned above, as all major food retailers and discounters refused to participate in the study because they did not have adequate data and/or because they did not want it to be published.

2 Research Questions, working hypotheses and methodological approach

Research question

Potential of peasant agriculture

"Peasantry" has positive connotations in the current societal discussion. We also assume that the principles of peasant agriculture can have considerable potential for solving current problems.

However, the historically formed internal structures of the peasant subsistence economy changed fundamentally due to structural changes in agriculture.

Peasant economy was not per se "good", nevertheless, under historical conditions forms of economy had developed and their properties and approaches could become more relevant for current issues: e.g., addressing the overuse and limitation of resources in the search for sustainability and resilience, the strengthening of social coherence instead of commodification of relations, the strengthening of the multi-functionality of agriculture and much more.

The term "structural change"

The continuous loss of the farms – "the dying of farms" - is commonly referred to as structural change. As tragic as the continuous loss of farms is, for us structural change means something different: our focus is to understand how the internal structures and the economic understanding of agricultural enterprises have changed over time.

For example:

- the change in the inter-linkages of family and enterprise
- the change from a high degree of self-sufficiency to a market-based enterprise through integration into local, regional, national and international markets
- the change in the use of resources such as labour, land, seeds, machinery or capital and the increasing replacement of labour by capital as an indicator of increasing industrialisation

A deeper socio-economic understanding of peasant agriculture could therefore be helpful in developing viable models for shaping future food supplies.

To not paint desired images, ...

If we want to develop a sustainable system for a future agriculture and food economy, then it is not about painting imaginary idyllic images of agriculture. Above all, it is not about artificially restoring the image of peasantry or traditional cultural landscapes. What is valued as peasant agriculture is the result of certain socio-economic and cultural constellations. There is a considerable discrepancy between the images in the mind and the reality in the food and agricultural economy. There is a danger in this discrepancy between imagination and reality. Meaningful demands, e.g. for more regional supply, become superficial and seemingly satisfied (advertising is constantly trying to communicate this), without any profound change of the real conditions. This is potentially fatal as well as a missed opportunity. Technically, beautiful landscapes can be produced. Today, the re-cultivated lake landscapes in traditional open-pit mining areas are often attractive recreational landscapes: but in fact we do not want such technical solutions that are only possible sequentially – as in the case of mining, the creation of new landscapes occurred *after* it ceased. In agriculture we want a continuous coexistence of production and reproduction, protection and use.

Projected ideals usually hinder the attainment of that which is desired from becoming a reality. In addition, these idealised images are usually static. It is fundamentally impossible to reconstruct as such peasant agriculture because peasant economies have been in constant change and local differences have been considerable.

... but understand:

Recognise the functional characteristics of peasant agriculture

Our aim is to understand the particularities of peasant agriculture as the functional properties of a system.

We propose a differentiation between visible manifestations of peasant agriculture and its internal principles. These are what we call functional properties and they are the basis for a system of peasant agriculture. In the terminology of plant breeding, we speak of the phenotype in terms of visible phenomena and of genotype in terms of functional properties. Plant breeding, for example, assumes that the phenotype correlates directly to the genotype, but only through environmental influences - that is, by the conditions prevailing at a certain place at a certain time.

Therefore, in the following we will address the question of which functional characteristics peasant agriculture had, according to which farms designed their structure (at least in Central Europe). Despite all differentiation in detail and adaptation to the respective specific local contexts there are common attributes.

So we are less concerned with a comprehensive presentation of the diverse phenotypes of peasant agriculture, but rather with the understanding of the functioning and effect of their inner structures and properties.

Re-organisation of peasant economy

In the next step, one can derive which fundamental building blocks ("genotypes" or principles) are required for a system of responsible, sustainable, local supply economy.

It is important not to be tempted to ignore or reject progress and modern development in many previously problematic areas by looking for the strengths of a historical socio-economic system. In addition to a whole series of negative developments in the recent past, there is also an ecological and social modernisation in the sense of peasant production methods. Corresponding findings from science and practical experience have to be considered for future models. Unfortunately, all too often, the past is glorified but a sentiment like "in the old days everything was better" has no place in our analysis or in the derivation of our conclusions.

The food and farming economy that will emerge will not look like it did; but will probably be peasant-like. It is not about restoring old images, but about how to support those who want to develop and practice new models of peasant agriculture.

The question then is how the supply economy functioned prior to the introduction of the industrial paradigm, and what of that can, after a thorough analysis, be meaningfully transferred in the future.

Examples such as Community Supported Agriculture (CSA) or the model of the Regionalwert AG show that peasant agriculture with all its positive ecological and social characteristics can, in a modernised form, be a model for a new regional supply economy.

Working hypotheses

Our working hypotheses are:

- If it is true that peasant principles are sustainable, resilient and durable and the abandonment of these principles led to the current crises in food and agriculture, then it is important to understand these principles.
- Peasant agriculture has revealed itself in different ways. The specific characteristics (phenotype) of peasant agriculture look different according to their temporal, local and

societal context. Peasant agriculture adapted itself to societal changes and to regional, geographical and spatial particularities, but remains in principle the same.

- However, there are ruptures as development advances, where agriculture is step by step moving away from the principles of peasant agriculture. Farms and agricultural enterprises today have both peasant and industrial characteristics.

Methodological approach

How does one proceed if one wants to address a concept that is obviously quite commonplace, but still unclear and constantly changing?

First, we started with the research:

- we turned to agricultural sociology and agricultural historical research. This has often dealt with the topic of peasant economies with a particular focus on the distinction between peasant agricultural and industrial agricultural economies.
- we have also read in the political literature dealing with agriculture and, in particular, peasant agriculture: position papers, reports and studies that have been drawn up to shape agricultural policy and support peasant agriculture.
- last but not least, we have used case studies to show what external and internal forces on the farms and what internal dynamics of a family have led to the gradual abandonment of the farm's subsistence orientation in favour of market orientation in recent decades. Individual studies have examined the transformation of agriculture from self-sufficiency to market integration at local and regional level. These case studies show the effect of the meta connections - social dynamics and agricultural policy - on the smaller scale situation.

When viewing the diverse material the following became clearer:

- The consequence of our results is not a "back to the peasantry of the past", but a departure to new modern economic approaches and forms of organisation that consider the principles of peasant economy.
- under the heading "peasant" there are a great variety of idiosyncrasies, behaviours and economic styles. They are observed and described, praised and condemned; they should be promoted or finally given up. As these real characteristics are visible, we have called them phenotypes.

- however, we assume that these phenotypes do not express what is "typically peasant". They are merely manifestations of peasant principles, typical of their respective historical time, their geographical location or even forms of adaptation to the respective economic and political conditions.

Therefore, we have in three workshops tried to find the building blocks (functional properties, genotypes) of the principle that manifests itself in a variety of phenomena (phenotypes).

The first results were still crude and developing; there were more rounds of discussion, in which we critically questioned, supplemented and refined our original ideas, but also omitted some ideas. What remained were the aspects that we were all convinced were valid. Chapter 3 documents the results.

To a certain extent further deliberations emerged as by-products of this work:

- Where are the "breaches in development"? Which developments inside and outside agriculture have been decisive for farms which have left the system of "peasant agriculture"?
- Where are the approaches for forms of production and organisation that practice peasant agriculture in a new form?

These thoughts have also been documented and they can be found in chapters 4 - 8. A detailed elaboration is reserved for a future project.

3 Functional attributes of peasant agriculture

Intergenerational continuity and permanence of the farm

The basis of peasant economy was the principle of continuity and permanence. This was shown by the fact that a generation operated the farm relatively long (30 - 40 years) and the economic goal was the accumulation of assets and the transfer of assets to secure the existence of the family for the next generation.

To ensure continuity, the farm was often handed over only when the - usually male - potential successor had married. This secured the founding of a new nuclear family and the continuation of the unity of production, storage, processing and daily food supplies.

An essential feature is the farm's internal generational contract. The farm, its economic areas, its dead and living inventory and its economic power served as security in old-age. The working generation increased the business assets (if possible) in the course of its productive period, which it passed on to the next generation. The inheritance also contained the share for those handing over the farm: their existential needs such as food and housing were paid for until their death from the farm assets and income of the next generation.

If all members of the family could not be provided for by the farm, usually those (extra) members had to leave. These heirs were compensated differently depending on inheritance laws. Usually, maintaining the farm's economic viability was a priority.

Despite this priority for the farm, responsibility was also taken for the care of these heirs who had to leave the farm. In many farms, it was customary to finance vocational training for the children. This was to enable the prospect of a secure, socially relevant and respected profession, or to give the material and financial resources in order to create an economic basis of existence for the departing heirs. For example, they could receive land to build upon or the necessary wood for the construction of a house. In most families, it was also common to support each other in building a house with equipment and working hours.

If the divergent heirs remained living in the village or in the region, they were often linked to their parents' farm throughout their lives and helped out in times of hardship and/or in high season, often in exchange for natural goods such as food, livestock or wood.

For example, Maria Bidlingmaier - who would be called a social historian today - wrote at the beginning of the 20th century about Württemberg rural communities. The farms were only handed over when so much money could be saved that all children were given their marriage heritage. So the goal was reached to lay the economic basis for all children from the farm.

This meant that the next generation, who ran the farm, no longer had to be burdened with the payment for the heirs who had left the farm.

Demand-oriented production for the economic and social unit

The household and farm community (the whole house) is an economic and social unit of production and consumption. Even if the family is the core of this unit, all the people living on the farm, who are necessary for the functioning of it, belong to the household and farm community. Even if they are only present on a weekly basis, they are provided with food and shelter during their work.

In the subsistence peasant economy, "economy" encompasses all human relationships and activities in the home. This includes the relationship between husband and wife, between children and parents, between landlords, servants, day labourers and inhabitants, and the fulfilment of the economic tasks.

The goal of this community was demand orientated production. The products generated were used almost exclusively to supply the household and the local farming community. This self-sufficiency not only concerned food but also clothing, housing, energy and other basic needs. A limited number of products e.g. young cattle, potatoes or special crops - were produced for sale. In turn, the sale made it possible to buy resources that were not produced by the farm. Thus, production for sale and trade was part of the peasant economy and trade supplemented the subsistence economy.

The objective of peasant economies was not the market-oriented profit maximisation but a secure and sufficient independent supply for themselves. Farmers sought a balance between workload and satisfaction of needs. At the beginning of the 20th century, Russian agronomist Alexander V. Tschajanow (1923) described the working behaviour of Russian family farm enterprises as very flexible. When the need arose more work was done and correspondingly with good harvests and security of food supply less work was required.

Since it was not about optimising goods for sale but about securing self-sufficiency, the processing and storage and all associated activities and resources such as premises and equipment were essential for the functioning of the entire farm (the whole house). Activities, knowledge and competences had a significant economic importance in the system of the "whole house".

Direct link between household and living

Cooking and eating

The provision of food to the members of the household was one of the main purposes of the peasant enterprise. Cooking and eating were immediate components of daily operations. The food was obviously seasonal and regional because it was highly dependent on the geographical location and the season. Preparing tasty food from one's own produce was a central competence of the farmers - usually women.

Living space and heat supply

The fuels for the supply of thermal energy came from the farm; mainly wood. Timber production and woodwork were also important work areas of the farm. The creation of living space was another main purpose of the peasant economy; residential and enterprise spaces were systematically linked, living spaces also served as work spaces. The heat supply did not heat the rooms individually but created heated communal spaces for the people of the household. The room for the main daily activities where people cooked and ate, was always warm and the "good room" (or "gute Stube") was used only on Sundays and for special occasions.

Cultivation of fibre and production of clothing

The production of clothing has long been understood as being a part of a subsistence economy. This was true for the cultivation of fibrous plants such as flax and hemp and the keeping of sheep. The processing of the fibres and making of the clothes were mostly women's work.

Stable and reliable work and social relations

Stable and reliable work and social relations are a central feature of peasant agriculture. Reliability is guaranteed in the old peasant economy in the form of strict hierarchies. In this context, hierarchy is not a genotypical structure, but instead has a stabilising function.

There is a generational contract which consists of, amongst other aspects; mutual care in case of illness, sharing knowledge, transfer of land and property to the next generation, shared meals at the table and marriage.

The farm community was a means to secure supplies and it was also a community of solidarity in times of crisis.

The social family and village structures were embedded in local customs and customs that set the parameters of informal action and behaviour. They also had control and reflection functions.

Mutual protection against damage and accidents

Both within the farm and beyond its borders, in the village, there were unspoken relations based upon mutual solidarity. For smaller and larger emergencies, the community helped. This assistance was provided through work assignments in the event of illness or death of a community member, and material support for crop failures or other damage, such as fires. This attitude was not truly altruistic but had quite selfish traits because the emergency situation could impact anyone. Mutual reliance was the main motive, according to which, the other was not anonymous but had a face and a name. This meant that one was under a real obligation to them.

Divisional responsibilities assigned

The work process and all activities were precisely regulated and allocated. All work flows were also known to each other and could therefore ensure the smooth running of farm operations. In this classification competences were also reflected and the division of labour ensured the efficient interaction of all involved.

In peasant economies there was a clear gender-specific division of labour between male and female farmer and thus between agricultural and household economies. These two areas were closely interwoven and complemented each other. The house and supply economy fell into the area of responsibility of the peasant woman. She, therefore, had a central role in the peasant economy by ensuring the daily food supply of the household and farm community.

Rhythms of structured daily routine

The times of the working day and mealtimes were fixed even beyond the farm in the whole village. In many villages church bells were rung to signal meal and snack times.

The clearly structured daily rhythm provided structure for the routine of the individual and the community.

Celebrating together creates space for encounters

Religiously motivated rites and common festivals embedded in the course of the year were an important structure for the lives of individuals, families and village communities. Joint

celebration created situations in which social relationships and cohesion were promoted and encouraged through human interaction beyond daily work. In many places, agricultural festivals were characterised by abundant food and drink - and thus formed a counterbalance to the frugality of everyday life.

Manageable networks and external relations

The farms were not autarkical as networks and external relations were essential. The external relationships and dependencies were immediate, well-known and thus manageable (see paragraph Mutual protection above). These relationships served to minimise social and economic risks.

Calculable risks and dependencies

Peasant agriculture aimed at securing its own supply and was not prone to risk taking. Given the lack of alternatives (e.g. insurance, purchase from the market), the risks had to be kept to a minimum. Continuous and predictable yields/earnings were more important than maximum returns.

The diversity of the farms, which was necessary to meet the demands of self-sufficiency, also contributed to risk reduction and enabled the circular economy. Having biodiversity in cultivated plant species and animals reduced the risk of serious failures.

The remaining risks and dependencies were known, manageable and calculable. The local and rather narrowly focused rural world ensured a cyclical and continuous course of activities (with the exception of unpredictable natural disasters).

Applying innovations to the already proven

Even with innovations, there was a fairly stable balance between preserving and changing. Innovations took place only gradually. They were imitated especially if they were successfully utilised by other farms. Since the farms were mainly inherited by sons, they were rather slow to innovate. Often, it was the marriage of young women which brought ideas for change.

Rational work, but no rationalisation of labour

Life in peasant agriculture was inextricably linked to work. There was no strict separation between work and leisure time.

Innovations served to make the work easier and more effective. It was all about using less physical labour and increasing the efficiency of the production process. It was not about

rationalising labour, on the contrary, all those who were cared for in the social system of the farm were integrated into the work process. This meant that even the weaker and older people could and had to take on individual tasks as far as possible.

This also meant that work processes were adapted to the potential of the people involved. This distinguishes the peasant farm's organisational principles from its industrial counterparts, which usually recruit workers for clearly defined work processes.

Flowing transitions from agriculture to crafts

In addition to agriculture, the production of goods for their own or local needs was an important aspect of work for the supply economy of the "whole house". In the seasons, when less agricultural work was to be done, craftsmanship played a big role. Apart from clothing, tools and furniture were also produced. Many farms did not receive their cash income exclusively from agriculture, but also from these activities. It also worked the other way round, so that even craftsmen or tradesmen supplied themselves with agricultural products. They would have had one or two cows or goats for their milk supply, kept a pig and had a field and/ or a vegetable garden. This would depend on the local context.

Sparse use of finance capital

The farm enterprise dealt sparsely with financial capital, there was little cash. This brought about a far-reaching independence from markets, their general conditions and price fluctuations. Peasant economic systems were therefore economically relatively stable. They managed without the need for much external capital. Investments in the future were made on the basis of past profits (e.g. good grape harvest for wine or livestock sales) and not with loans. The share of debt capital and thus the pressure to generate financial profitability to repay loans, was relatively small.

Extended capital concept

Capital had great importance for the peasant enterprise but rather in its original and colloquial meaning. The word capital comes from the Latin caput (head) and means the number of heads in a cattle herd or the size of the livestock. In peasant economic systems, healthy livestock, fertile soil, seeds of cultivated plant varieties were the capital of the enterprise and were considered business assets.

Localised experiential knowledge and practical skills

Learning, education and knowledge acquisition were largely geared towards being able to perform set processes well. It was all orientated towards enterprise-specific knowledge and craftsmanship. The good execution of technical skills was required as well as good knowledge of the location with its particular needs for management. The knowledge was therefore primarily experiential knowledge acquired by undertaking daily activities in the respective temporal and local context. This was largely passed on by seeing and doing - and not through written instruction.

There was no time and no money for experiments on the farms, risks were not taken. In the working practices (on the fields, in the barn) there was great persistence. Practical experience in proven systems of production and therefore secure returns were more important than innovations with all their risks. Although knowledge transfer was not designed to generate innovation, nevertheless, innovations took place, especially when outside pressure on the system increased.

The regulated division of labour ensured that the individual activities - in the daily or seasonal rhythm - were repeated by the same people. Since the implementation of individual activities did not have to be constantly re-learned, experiential knowledge played a major role. Division of labour and recurring activities deepened the knowledge and trained the perception. Since the farms were managed by the same people for many decades, this experiential knowledge grew over time and with age. As a result, the elderly had more experience and knowledge which was not outdated but became multi-faceted. This resulted from their ability to adapt to and resolve different situations and problems they had encountered over the years. Therefore, their knowledge had a high economic relevance and older, experienced people often had a good reputation as a result.

Sustainable use of natural resources

Direct interest in preserving natural resources

The natural resources were usually from the immediate environment or were self-produced such as water, soil fertility, feed for the working animals, fertiliser produced from animal or plant waste, keeping and breeding of working animals, etc. An overuse of what would today be called "public goods" would have had immediate impact on the farm's household and enterprise. This is because damage to nature could not be compensated easily by the purchase of resources such as fertiliser, pesticides, seeds, etc.

Therefore, there was an immediate interest in protecting these resources. Considerable work was done to conserve resources, and ideally, they were used in a way that they were not depleted, even if this involved a lot of work. In case of damage, considerable effort was made to restore an optimal condition.

Circular economy

Essential resources were produced and reproduced at the farm. Almost all of these resources, such as energy, seeds and livestock, were independently produced and secured within the farm or in regular and reliable exchange with other farms.

The scarce and mostly regional resources had to be used, but also preserved. Under these conditions, an intact circular economy and resource-efficient management were of fundamental importance.

Economical use of scarce resources

Peasant farming was economical for different reasons.

There were seldom surpluses. In order to prevent/reduce risks, supplies were stored and these had to be utilised sparingly (on the basis of the precautionary principle).

As long as the farms were barely integrated into the market, the opportunities to buy resources such as fertiliser, working animals or seeds were limited.

When designing the modes of production, it was not about maximum output (effect), which is often achieved today through high input and wasteful use of resources. Instead it was important to achieve the highest possible efficiency per unit of resource used; this is the most efficient use of resources.

As much as possible of the waste and by-products on the farm and in the household was recycled (as fertiliser, raw material, animal feed, etc.). In order to do this optimally, a complex farming organism was needed. This followed a different rationale to the specialisation usual to the industrial system.

Available reproduction of crops and livestock

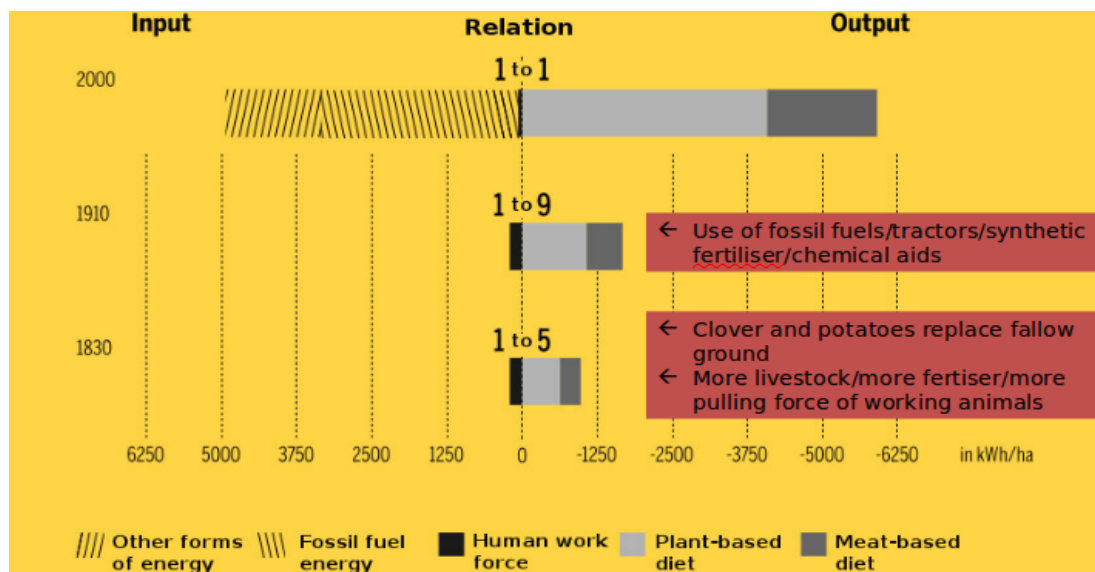
The farms had their own open access to the reproductive sources of crops and livestock. This meant fertile male and female livestock and their own open-pollinating crop varieties. Specific exchange relationships with other farms ensured the fertility of livestock and crops and thus secure production. The diversity of varieties was developed on the farms by selection from plants cultivated on the fields and in the gardens. Not every farm had all

varieties and breeds: seeds and/or breeding animals were exchanged. The male breeding animals were often managed jointly by the farmers.

System-immanent energy supply

The energy cycles were relatively closed. To maintain the production, hardly any external energy was needed or purchased. The main energy supplier of the old peasant agriculture was the sun. The plants cultivated in the fields and meadows converted the sun's energy by assimilation into material growth. Other sources of energy were manpower and the pulling power of the animals. This localised balance of energy was enormously efficient, especially during the 19th century when fallow land was utilised for clover grass and the cultivation of potatoes expanded crop rotation. According to the calculations of the environmental historian Fridolin Krausmann (2004) this improved the ratio of energy input to energy output (measured in kilowatt hours per hectare) from 1: 5 to 1: 9.

Figure 3: Dependence of external energy input / decrease of energy yield



Source: adapted from Krausmann 2004 (graphic representation Richard Schwarz)

In the course of the twentieth century, this ratio has deteriorated massively; in particular, by using fossil fuels for the tractors now purchased, as well as the use of synthetic fertilisers and other synthetic chemical aids whose production is very energy-intensive. The external energy input allowed an increase in the yield (of the energy output), but the ratio of energy input to energy output decreased to 1: 1. For each removed (harvested) energy unit, an energy unit

must be supplied to the field. The massive increase in revenues is offset by a massive increase in energy input (see Figure 3).

Stockpiling as an essential building block

Storage of food was central to the functioning of peasant economies. This concerned both food for the animals and the provision of the food required by the farm community throughout the year. The architecture of the farms was designed for this as storage, care and control of the stockpiles were important activities.

Risk minimising diversity in peasant agriculture

Provision

The diverse farm with its circular economy and the diverse rural cultural landscape are the phenotypes of a farm concept that is not based on specialisation, but on ensuring a wide-ranging self-sufficiency.

The objectives of the farms were not rationalisation and specialisation to produce a single product as effectively as possible, but the provision of all the goods necessary for everyday life.

Flexibility and risk reduction

The diversity of peasant agriculture is a survival strategy for changing conditions such as weather, the workforce in the family and markets.

Depending on the situation, the diversely organised farms could expand or retract one or the other operational areas of the farm. This diversity led to an adaptability and flexibility that was/is an important criterion for the resilience of family farms.

Livestock as a central component of the farm economy

In the farm organism the livestock played a central role. It could be used in many ways: as working animals, sources of food (meat, milk and eggs) as well as sources of important raw materials (wool, hides, horn etc).

Agriculture was closely linked to the keeping of ruminants. It was these that made the plants, which are not suitable as human food, usable. Areas such as grassland pastures, steep farmland and wet meadows or mountain pastures, which are not suitable to grow vegetables or grains could be used for grazing. At the same time, the dung of the animals ensured and

increased the fertility of the fields. The reproduction of livestock was kept on the farm and the breeding of cows had great importance as a self-renewing resource.

The involvement in the complex farm organism led to animal breeds that could be used in many ways. For example, 'three-use' cattle had the widest possible range of utility such as for milk, meat, and as working animals.

4 Changes in peasant agriculture

Changes in peasant agriculture went hand in hand with upheavals in society. Often it is not possible to determine what was the cause and what was the effect. Was the mechanisation of agriculture a consequence or cause of the migration of agricultural workers to industry? Were the agricultural workers displaced by mechanisation, or was agriculture increasingly mechanised as agricultural workers migrated to the cities aiming to improve their living conditions? The fact is that such phenomena usually took place simultaneously and pushed the transformation of peasant economies into a market-oriented and market-integrated agriculture.

The exit from a (more or less) peasant economy geared towards self-sufficiency of a farm towards an outward orientation took place over a longer period of time, incrementally and not at once. Often, the integration and orientation of farms in the market economy took place in regions close to industrial centres earlier and faster, and in peripheral regions and mountain areas decades later. Maria Bidlingmaier (1918) described the change on an operational level impressively and extensively in her ethnographic study "The farmer's wife in two communities of Württemberg", which was written in the years before World War I. It describes how the old order of peasant agriculture broke up in these communities. The farms became more and more oriented towards a capitalist way of doing business and how this ultimately affected the work and life of the women farmers. This related to the quantity and quality of work and on the relation between farm and family. In the fast-growing town of Lauffen, with increasing industrialisation and an increasing urban population, land became more expensive, so farm spending grew and cash income became increasingly necessary. Bidlingmaier used accurate working time records to show that women farmers' working hours and workloads increased rapidly with increasing market integration. In addition to their domestic work, they also worked in the farm enterprise (viticulture or potato growing). This was not only due to the expansion of production for the market, but also to the migration of rural labour into industry. So the farm changed to a pure family business. In other words, the reduction of the peasant enterprise to the peasant family business is an expression and consequence of the rationalisation of agriculture. At the same time, more farm products were marketed, such as milk, butter and eggs. These products were then indicative of decreasing self-sufficiency.

Almost 100 years later, the sociologist Christa Müller (1997) uses the example of the Westphalian town of Borgentreich to describe the transformation of a local economy into a "globalised village" and rural survival strategies "between world market integration and regionalisation".

While almost all residents in Borgentreich were self-sufficient until the 1950s, at the end of the 20th century only around 16 % of the workforce was in the agricultural sector. It was not only the decrease of agricultural holdings, but also the dismantling of the entire economy of the village which shows how the economic and social cohesion of the village was lost. When the first supermarkets emerged in the post-war period, the inhabitants of the village bought from them "secretly". They hid their purchases in their car trunks because they were well aware that they had betrayed the village producers (their neighbours). An increasing number of farmers bought their own grain grinders, which in turn made the five mills in the village superfluous. The existing mills also could not produce the increasingly popular white flour with their grinders. The number of craftsmen decreased because their activities were no longer needed on the farms and in the village. Christa Müller writes, "The shepherd became a milk control assistant, the blacksmith learned to drive a bus, the tailor went to the factory, the saddler changed his business to that of an interior decorator."

If one looks at the development of individual farms, each decision has a "good" rationale behind it. This reasoning usually has a business and/or family context and its relevance is in hindsight understandable.

The drivers for these decisions and developments are manifold. In the following, we want to name a few driving forces and their consequences.

Technological progress in agriculture

The history of agriculture is also a history of continuous technological development. Inventions and innovations made working less cumbersome and increasingly productive. To a considerable extent, some of these advancements have contributed to breaking up the complex interdependencies of the peasant economy. They promoted a division of labour and thus a move towards industrial agriculture.

With increasing technical progress, the division of labour has steadily increased and essential parts of the production process have been transferred to the upstream and downstream industries. This reduced the original complexity of farms. The unity of the "whole house" - as a unit of production, storage, processing and daily supply – was broken. What remained was agricultural production of raw material. The provision of the means of production (seed, energy, fertiliser, etc.) as well as the processing and marketing of food have long since had nothing to do with the peasant economy in the narrower sense. Most steps in the chain of added value are in the hands of commercial companies.

Within agriculture itself, two parallel developments took place. One was the specialisation in fewer operational areas of the farm, even within the limited spectrum of raw material production. This led to decreased diversity of labour tasks, which was/is a hallmark of industrialisation.

Secondly, in the face of the drastic reduction of the workforce, the complexity of activities and work processes increased for the individual worker. In the farmer's family business, the few remaining workers now had to do all the necessary work.

Dismantling the circular farm economy and loss of diversity

In 1909, the Haber-Bosch process for the production of synthetic nitrogen was developed. Nitrogen - a crucial but hitherto limited resource - had become easily available and relatively inexpensive. The relevance of livestock farming for increasing soil fertility and soil productivity decreased. Likewise the importance of the cultivation of leguminous crops declined.

With the advent of fossil fuels, it was possible to use mobile machinery. This increased productivity and performance.

However, these new resources did not originate from the circular farm economy. The so-called upstream industry was created, from which external resources had to be purchased. The proportion of work in the entire production process that depended on these external resources increased steadily.

The development of synthetic chemical pesticides was another technological advancement in which the new resource (= pesticide) was no longer produced on the farm itself but by the upstream industry.

The new pesticides led to a greater division of labour within the agricultural production process. This meant that the importance of crop rotation for risk management as part of preventive pest management declined. This was a significant reason for the loss of diversity on the farms.

Mechanisation also had an impact on diversity: animal husbandry lost one of its important tasks. Working animals were no longer necessary. The variety of farm animals declined and livestock breeding was able to focus on fewer features of the animals.

Loss of significance of resource protection

Where the natural resources of the farming enterprise had to be supplemented and replaced by external resources, the preservation of natural local resources became less important. From the beginning of the 20th century, synthetic nitrogen was increasingly introduced into

farming. Yields increased significantly. But this was accompanied by the gradual loss of soil fertility, which was previously created and maintained by the farm.

The use of external resources tends to have a negative impact on public goods (groundwater, air, biodiversity, etc.). The resulting costs do not appear in the accounts of the farms or in the accounts of the upstream industry, but are externalised.

The end of self-sufficiency

With the technical development and specialisation of the enterprises and with the modernisation of the households the ability to self-supply decreased continuously.

The farm community's demand for food became increasingly irrelevant for the design of the farms and their production. The originally complex purposes of peasant economies increasingly lost importance for the orientation of the enterprises.

Even more evident than with food was the end of self-sufficiency in other everyday products. Most of these routinely used products could not be produced any more. From furniture to the mobile telephone, from clothing to the car: everything had to be bought. For these consumer goods, the farm and the household needed more finances, which had to be generated by the enterprise. The purpose of the farm shifted from the production of food and consumer goods for the family to the generation of money for the purchase of food and production equipment.

This development affected not only the household, but also the enterprise. The new machines, which became more widespread, could no longer be produced by the farm on their own and therefore had to be purchased. This led to an increasing division of labour.

Over the past decades the procuring of the means of production of food, such as seeds and technology, has undergone a paradoxical development. The peasant supply sovereignty, which was initially so vital, has become an absolute dependency on specialised suppliers. So today it is very difficult, if not illegal, to produce one's own seeds. Due to the external division of labour, the farm has lost a lot of its sovereignty. The economic independence for the immediate supply of food, which was formerly important for farmers, no longer exists today. There are therefore considerable financial risks for the farm enterprise in the procurement of the means of production and in the sale of products.

Technological progress outside agriculture

Technological progress had consequences for agriculture and the food industry. The development of transport simplified the delivery of agricultural products. This involved both the transport of the farm's own produce to the markets, but also the purchase of everything

necessary for daily life and farm operations. This meant that the need for self-sufficiency of household and farm gradually disappeared even for those farms with little market integration. At the same time, distance from markets was no longer an insurmountable obstacle.

Market integration and credit/lending system

Whilst self-sufficiency in the peasant economy functioned more or less without cash, this changed with the externalised division of labour. Extensive financial resources were required in order to participate with technological innovation and to buy new resources and machines that were produced upstream. This meant that farmers oriented themselves and their products towards the market and the enterprise had to adapt to this change. Through this economic pressure was increased. In this respect we have to take into account the dynamics of the economies of scale. The result of this was the logic of 'grow or die' farm economics.

With increasing market integration, the focus of operational orientation shifted from the supply of the people who lived and worked on the farm to the goal of achieving the highest possible selling price for the products on the market. With this revenue, the required resources for the operation were then bought. The self-sufficiency of the household food and other products previously manufactured on the farm itself, was gradually replaced by purchasing at the store.

Regulated credit/lending system emerged

Market integration also opened up new possibilities. Investments in the historic peasant farm were usually financed by long term savings. Gradually, capitalist modes of economy also increased on farms. Farmers no longer simply resorted to profits made in the past, but borrowed to finance the future. The consequence was that a constant and sufficient amount of financial resources were available, which then had to be earned in order to pay off loans. This also led to increased risks. Savings are real, but a loan is calculated on the basis of expected future earnings and profits.

In 1848 there was an important moment in the history of the credit/lending system in Germany; this was the so-called peasant liberation. Peasants could now own their own land and farms and could freely dispose of them. However, the land did not freely pass from the ownership of the landed gentry to the peasants, but rather they had to buy land from these landlords. This brought with it a high capital requirement. Many farms that could not raise enough capital were foreclosed in the years after the peasants' liberation. In 1854, Friedrich Wilhelm Raiffeisen created the first "Society for the Assistance of Poor Farmers" to help farmers gain access to their own land and farms without having to rely on the credit/lending

system with all the problems associated with banks and money lenders. The cooperative idea and subsequently the “Loan Association” (Darlehenskassenverein) are considered to be the origins of today's popular cooperative banking.

Social change

There was a strong connection between the enterprise and the social structure of the family. The farm cared for the family and the family cared for the farm. The family business guaranteed continuity and consistency, both for the family and for the farm.

This direct link in the rural family business was firmly rooted culturally and initially little changed as house and farm moved further apart, and farming became an enterprise. Continuity and consistency remained an important goal, even though the money economy replaced self-sufficiency. However, the immediate necessity of this close connection diminished. This led to the gradual erosion of a fundamental motive of peasant economies; their self sufficiency.

Social Security

The transition from farming to ordinary business was supported by the development of social and insurance systems. This gradually introduced social protection instruments such as pensions, accident insurance, unemployment insurance and more. The better these instruments worked, the more the farms and their respective village environments reduced their role as communities of solidarity.

Independent career decision

Currently, it is evident that more and more children of farmers decide to free themselves from the family enterprise and do not take over the parental farm. Before this development it was clear that farm succession happened solely within the family. Until recently, such decisions were usually only made when the farm was so economically unsustainable that it could not feed a family. Recent surveys (Thomas 2015) show that the children's decisions not to take over their parents' farms is now often based on fundamentally different interests and not on the inefficiency of the enterprise.

Feminisation of agriculture

Since the 1970s, the feminisation of agriculture has been described in agricultural sociological literature and is closely linked to the industrialisation of agriculture. In 1983, the agricultural sociologists Heide Inhetveen and Margarete Blasche pointed out in their study

"Women in small peasant agriculture" that the industrialisation of agriculture also changed the gender division of labour and that women's work in agriculture generally increased through industrialisation. The Italian agrarian sociologist Corrado Barberis interprets the phenomenon of the feminisation of agriculture as a sign of the crisis and the weakness of agricultural economies (relative to other sectors). Heide Inhetveen describes this shift in the position of the women farmers on the farms as a role change. The self-determining and highly skilled farmer's wife becomes relegated to the category of assisting family members in the farming enterprise. For many women farmers, this change meant additional workload - both in terms of daily working hours, physical strain and the loss of self-determination.

The central activities of the household economy - processing and stockpiling - became less important in the process of rationalisation of agriculture. This corresponds also to the paradigm change, which began with the teaching of rational agriculture in the middle of the 18th century. Albrecht Thaer (physician, farmer and landlord of Möglin estate in Brandenburg, 1752 - 1828), was the founder of rational agriculture and the agricultural enterprise economic. In his work, "Principles of rational agriculture" the tasks of the housekeeper are subordinate to those of the administrators, apprentices and supervisors of a farm. At the end of the 19th century, the working activities of the peasant woman were no longer described because she was not seen as part of the enterprise. There was a differentiation between home economics and farm economics. The emerging school system also used this differentiation. The enlightened agricultural theories of the 18th century had called the female farmer the 'house mother'.

Change of the working environment:

From the supply of the farm community to the cost of work

The core goal of peasant economies was to provide for the peasant family and all the farm community. If a farm was not able to do so, even family members were sent away. Inheritance law played its part in ensuring a more or less balanced relationship between earnings potential and the people to be cared for.

In terms of functional properties, we have already stated that production processes were geared to the needs and capabilities of the people who ran the farm, not the other way around. This can still be observed today when the successors start farming while the older generation is still active then new areas of operation for the enterprise are opened up - often only temporarily. For example, if seniors stop attending weekly markets then the younger members utilise other types of marketing. Even today, farms are organised to accommodate

the potentials and abilities of the people and not the other way round. This is due to the strong influence of the social system 'family'.

On the other hand, agricultural work has also become a cost factor, so that labour has to be rationalised and its use optimised. Historically, this became clear for the first time when servants and maids, who could claim only food and lodging, became farm labourers who had to be remunerated. For the owners of large estates, it could be economically more profitable to work with less labour. The declining productivity of areas in large enterprises was indeed a problem for national self-sufficiency of the then emerging industrialised countries. The higher productivity per unit area of farms was one of the reasons why family farming was supported by governmental agricultural policy at the beginning of the 20th century.

The high productivity per unit area of peasant agriculture, however, was due mainly to high labour intensity. In the market economy, labour has increasingly become a cost factor. The cost of a working hour of a self-employed farmer or a peasant woman and their family members are difficult to quantify. Structural change clearly shows how workplaces in agriculture have been gradually reduced. At present, a further reduction in labour is no longer possible on many family farms, because they are now only one-man farms. A further reduction would mean changing to part time farming or closing the farm altogether. This means that the possibilities for rationalisation of family farm enterprises in relation to the labour are largely exhausted.

We are again faced with a major structural change. Whilst the share of self-employed and family workers in agriculture continues to decline steadily, the share of external workers is rising slightly. Meanwhile, both groups are about the same size. Further development in this direction does not mean the further reduction of labour but a restructuring of farms and the integration of external work into the business. Today there are more external workers working on the family farms in direct contrast to the traditional peasant farming economy.

5 Reinterpretation of functional properties

During the course of structural change from the original peasant supply economy to the market economy, we have found that some of the functional characteristics of peasant economies have disappeared or become redundant.

Many changes were plausible in their historical, societal and individual context. However, some changes are now perceived as problematic such as pollution, poor animal welfare, pressure towards growth, poor working conditions on the farms and so on.

We now examine which of the functional properties of peasant economies are important for a secure and sustainable food supply. How can we reinterpret, design, and implement these characteristics? According to our methodological approach, we ask: How can the functional characteristics of the peasant supply economy be transformed into a new phenomenological state under changed conditions? Below we give examples of possible approaches.

Non-familial farm succession to maintain continuity

The intergenerational contract within the family has become less important as a guarantee of continuity for agricultural enterprises and also for food supply. There will continue to be many farms that will be handed over to the next generation of family. However, according to statistics, these family successor farms are, in the long run, too few for a stable and resilient supply and diversified rural management. Other forms are required so that continuity can be maintained.

On the one hand, this concerns the organisational form of farms and on the other hand, forms of farm transmission where a continuation within the family is no longer guaranteed. The non-familial succession is a way to ensure continuity of farms. There are forms in which consumers assume more responsibility for the preservation of wealth and become co-owners of land and farm assets. Examples are given in Chapter 6.

Demand-oriented production for a larger number of people

Today, the self-sufficiency of a single farm enterprise and household can no longer be the reference point for a farm. However, it is quite possible that one or more farms in cooperation could meet the specific needs of a larger sense of "self", which refers to larger social units, such as, groups of people within a city or a region. The future goal for the production and processing of food and the criterion for success of the farms is then whether the farm can supply this group of people and not the market for the individual products. Therefore food supply becomes a service.

Extended capital conceptualisation on the balance sheet

A regional supply economy based on traditional farming has only one chance to be successful in the current economic system: if the idea of 'success' is measured differently than before. Currently, farms are based on the functional characteristics of industrial or commercial enterprises. Financial accounting used in agriculture comes from industry and commerce and is not suitable for agriculture. This accounting system ignores too many factors within the agricultural economy.

For example, soil fertility is not a separate asset on the balance sheet, even though it is the central asset of a farm. As a result, new accountancy and accounting methods need to be developed for the regional supply economy that measure and value the development of farm assets.

System-immanent energy supply

Agriculture is an economic sector that could have a positive energy balance. It can convert solar energy into organic matter and make it usable. Today, more energy is put into production on conventional farms than the energy generated. The energy balance in the production of food must be re-orientated to the energy generating capacity of the farms. Today, this can be visualised and calculated with technical measurements.

Available reproduction of crops and livestock

For a single farm, it is hardly possible to manage plant breeding, seed propagation, and breeding of livestock. The progress of scientific knowledge on breeding is immense and the economic input is great; too great to be maintained by a family farm. However, these areas of work could be taken over in regional supply networks through cooperation between specialised and non-specialised farms. It is necessary that the genetic resources remain openly accessible i.e. plant breeding must use open-pollinating (non-hybrid) varieties.

These examples should be sufficient to show how the constructive and future-oriented approach to the functional properties is meant. It is not important for us to reconnect all functions to a single farm of the traditional type. The inner design principles should instead be reinterpreted and brought to expression in a modern form.

6 Practical approaches

There are already practical and theoretical approaches that attempt to transform peasant economy and its rationale into a modern paradigm. In the following we describe some examples.

Single enterprise approaches

Bring the value chain back to the farm

Many agricultural enterprises, initially and predominantly in organic farming, abandoned the idea of pure raw material production and have brought processing back to the farm. They turn their grain into bread, turn their milk into cheese, or start direct marketing by opening up farm shops and restaurants. These enterprises have not returned to the classical supply economy and the unity of household and farm. They have, instead, increased the operational diversity and brought back economic added value. This diversification was/is supported by agricultural policy with special support programs. At present, this trend is stagnating and even declining again. This is often due to smaller family enterprises being overwhelmed by the abundance of different tasks.

Alternatively, farms purchase products from wholesalers or from their farmer colleagues for their direct marketing and earn money through this trade. Ultimately, these attempts are about making money with upstream and downstream added value stages. It is not a question of restoring the supply economy in order to provide the members of the household with their existential needs. An important factor in this process is that all stages of the value added chain before and after raw material production are usually more profitable. Therefore, they provide financial compensation for the less profitable areas of agricultural production.

This approach certainly leads to the preservation of individual enterprises and jobs in rural areas. However, it does not take into account some key factors of the peasant economy.

Economical and efficient use of resources:

Different economic approaches

In recent years, there has been a focus on the discussion about the future of agriculture and food security. This is evident from the conflict between organic and conventional agriculture. However, in organic farming, there are resource-intensive and less intensive production techniques as well as specialised and diversely organised enterprises.

The debate that is gradually being acknowledged by a broader group of people, seems to be important for the discussion of peasant economy. This is a discussion about different

economic models. A specific example is described by the agricultural economists Dorfner and Härle (2008). This study is based on accounting results in Bavaria, which have identified five types of enterprises that operate in different ways, all of which have around € 50,000 profit per annum. They conclude:

- The "growth type" model, achieved the result by the construction of a new barn and they increased the size of the herd to around 100 animals. These growth orientated enterprises have twice as many animals as their colleagues.

17 % of the farms analysed followed this strategy.

- The "milk yield type" model, achieves the result through an extremely high milk yield per cow. This was more than 10,000 litres per cow in the average herd. For the four other farm types, the average production per cow in the herd was between 5,268 litres for the "revenue optimisers" and 8,210 litres for the "cost optimisers".

11 % of the farms analysed followed this strategy.

- The "cost optimiser" model has developed a low cost system. They do not achieve maximum yields, but focus on low costs. In dairy farming, for example, this can mean the avoidance of concentrated feed and the production of milk from the use of basic feed. This saves, among other things, on the costs of feed and due to better animal health, veterinary costs are also lowered.

10 % of the farms analysed followed this strategy.

- The "revenue optimiser" model makes sure that they receive a high price per litre of milk produced. These are enterprises that provide high quality products that can be marketed at higher prices. These are usually the organic farms. Despite the significantly higher costs of organic feed, they also gain reasonable profits.

12 % of the farms analysed followed this strategy.

- Around 50% of the farms analysed are so-called "all-rounders". They were not particularly good at any of the strategies described so far. But they still earned around € 50,000 with dairy cattle. Not only are the specialists successful, but even those occupying the middle ground can do well.

The fact that such a variety of different operating strategies leads to the same income, shows the diversity of options that farms have to choose from.

However, from a societal point of view these different economic styles possess different degrees of sustainability. The “growth type” model tends to work with a lot of external capital (debt) and gets into spirals of growth and pressure. The “milk yield type” model emphasises the use of concentrated feed and is criticised due to its seeming neglect of environmental, climate change and animal-welfare standards. Both of these were models utilised in times of food shortages and were specifically promoted in the past. The “growth type” model was promoted through the assistance they received for the building of stables. The “milk yield type” was pushed through breeding focused on high milk yield and policies that have contributed to low prices for the concentrated feed. With equal profitability, from the perspective of the peasant family, they produce about twice as much milk as the “cost” or “revenue optimisers”.

We are facing times of excess production and surpluses, where the amount produced is not the only important criteria but aspects such as animal welfare and resource efficiency are also relevant. This means that the criteria of sustainability are much broader. The “cost optimisers” as well as the “revenue optimisers” achieve equally good revenues with around half of the milk volume. But they are far less resource-intensive and more resource-efficient than their colleagues. In times of saturated dairy markets, they also contribute to the stabilisation of milk prices and are at the same time less susceptible to crises.

Authors van der Ploeg, Ventura and Milone (2016) have completed a study for the European Parliament examining structural change in agriculture in Western Europe. In considering the different economic approaches as described above, they came to the following conclusions:

- There are a wide range of different ways to develop a farm and to maintain or improve income levels. In the past decades, this spectrum has grown significantly. Quantitative growth is only one, albeit very important factor. However, smaller businesses are not necessarily less economical.
- Structural change may have had positive functions in the past. Today and in the future, it can no longer be a guiding principle to connect agricultural development to economies of scale. This is partly because markets have become more unpredictable and many farms are working with high levels of external capital (debt) which renders them extremely susceptible to crises. A change in the guiding principles is also necessary because agriculture is facing new shortages. Agriculture must produce food with fewer resources. The use of fossil fuels and water consumption must be reduced, the regional rural economy strengthened and the preservation of cultural

landscapes and biodiversity ensured. These goals require new forms of agriculture and new development paths.

Reconnecting production and supply

Individual self-sufficiency

While in recent decades, many vegetable gardens have changed to ornamental and recreational gardens, the interest in self-sufficiency in the supply of produce from one's own garden seems to have increased in popularity again. Many people who have not had any gardening experience have started to grow vegetables, fruits and herbs or produce honey. Many can not rely on experiential knowledge from family but acquire the knowledge to grow produce using books or the Internet.

Housing and living communities

Since the end of the 20th century, groups of people have taken over one or more farms in order to establish housing and living communities with a variety of activities. Self-sufficiency of food supply is a key element here. In these initiatives, the two historically related basic needs of housing and food are being reconnected. The extent to which the food supply corresponds to the ideal of food sovereignty must be examined in detail.

Community-supported agriculture and self-sufficiency

The Community Supported Agriculture movement goes one step further, as enterprises involve consumers more in the business operations than in the market economy. Their production is commissioned by consumers for a year and often paid for in advance. The harvest is shared according to certain rules among the members. This is an essential feature of peasant supply economy whereby a defined group of people is supplied with food.

This concept is based on a set of functional characteristics of peasant economy, such as the direct and year-round linkage of production and consumption and the diversity in cultivation. Building stable and reliable working relationships that last for years and do not need to be reorganised every year is a challenge for many CSA operations.

Self harvesting gardens

The concept of self-harvesting emerged as a form of direct marketing in which farmers do not themselves harvest and sell the vegetables. Instead the consumers become gardeners: farms rent an already planted vegetable plot for a season, so that even landless gardeners can garden. The concept developed in Austria at the end of the 1980s is now widespread in

Germany and Switzerland. The special feature of the self-harvest gardens is that the soil care is taken over by the farmers. These gardening plots are handed over to the gardeners at the start of the season already equipped with different vegetables. So they can spare themselves the intensive work of soil preparation and compost preparation in Autumn and Spring.

Community gardens

"Community Garden" is an umbrella term for different forms of land and labour division. What they have in common is the fact that a group of people rent or lease a piece of land together. Most of the facilities are divided so that each one cultivates their own plot, while others cultivate and harvest part or all of the beds together. Most community gardens have temporary contracts for the use of the area. Therefore, in this context, the principles of continuity and consistency are difficult for many to achieve.

Citizen-supported networks of the food and farming economy

EVG Landwege eG

The Producer-Consumer Co-operative Landwege was founded in 1988 to provide food for the people of Lübeck. Today, there are 500 members and in 5 organic markets, the products of more than 30 affiliated production and processing enterprises are marketed.

Tagwerk eG

The Tagwerk Co-operative is located in the Munich area and was jointly founded by consumers and farmers 30 years ago. It maintains a large network of enterprises in the organic farming and food economy, from production to marketing, in wholesale and retail.

Kartoffelkombinat

In 2012 the Kartoffelkombinat cooperative was founded in Munich. It has defined itself as an enterprise working for the common good. The cooperative members are also owners and customers of the cooperative and are supplied with vegetables from their own organic gardening. This is mostly grown by gardeners employed for this task. Sales are partly voluntarily managed by members of the cooperative, who contribute to planning e.g. a new warehouse.

Regionalwert citizen shareholder enterprise

The Regionalwert AG concept is based on the strategy of linking smaller and medium-sized enterprises in the organic farming and food economy with the citizens of a region. This gives these enterprises in regions of added value more connectivity and therefore a chance of securing a long-term existence. The individual enterprises are independent entrepreneurs,

but they are organised in clusters and financed by the capital contribution of citizens. This means that they are owned by the citizens of a region depending on the Regionalwert AG's involvement in the enterprise. All participants work towards regional food sovereignty. This not only means the final production, processing and marketing of food, but also the procurement of the means of production such as capital, seed, energy and competencies. These are brought back into the regional cluster. The background of this concept is the assumption that a large number of small and medium-sized enterprises operating within a manageable radius can secure the food supply and are more efficient than large-scale structures with their globally organised supply and sales chains. Regionalwert AG tries to measure its ecological, social and regional economic impacts by means of specially developed indicators. The results are then presented transparently. Each Regionalwert AG is bound to a particular region, there are currently Regionalwert AGs in 8 regions of Germany.

7 Outlook on new economic forms

Local supply economy

The functional characteristics of peasant agriculture that we have described can be used for a new type of regional supply economy. On the basis of a supply economy, which is inspired by traditional peasant farming, a number of enterprises along the chain of added value can work together to ensure the secure supply of food for a defined number of people. This takes into account local environmental, geographical and social conditions. Whole networks of enterprises emerge from plant breeding, seed propagation, production, transformation and marketing; from the farm to the plate. Wholesale and retail belongs to the value chain and its task is to ensure the supply of goods between the regional value added areas as well as the supra-regional and global. The processing enterprises, such as bakeries or juice producers, are important building blocks of the chain of added value. Ideally, this chain no longer ends in an anonymous market, but serves to supply people in a regional economic area. It is no longer a farm and the farming community that are the reference point for food supply, but a defined group of people in a region that need to be supplied.

Regional added value spaces

Above all, regional chains of added value focus on improving cooperation in the production of food within the chain. It is about recognising the possibilities and at which points of the production process the companies can work together better (planning, procurement, production, sales, logistics or marketing).

The economies in regional added value spaces represent a further development of the regional chains of added value. The central motive here is the supply of food for people living in a region with a focus on sustainability and responsibility for the ecological, economic, social and geographical conditions of the region.

The added value space is where the people living in the region are involved as entrepreneurs and consumers. Both providers and customers are among the active designers of this economy.

The single added value space is not a closed system, but has permeable boundaries to allow a flow of goods between different spaces. It is not autarkical but sovereign. In contrast to the purely business-oriented approach of the chain of added value, the added value space also creates a social and ecological sustainability balance. This is in order to understand and control how the regional economic value develops.

Important for the design of regional added value spaces is the small-scale management of the economic cycles. This also includes the production and consumption for self-supply. This refers to historical models of small-scale economies that today celebrate a renaissance as "prosumer communities", e.g. they play an important role in the renewable energy sector. In the food sector, many means of production are also generated in the region itself. In this way, smaller-scale economic units with greater autonomy and sovereignty can be enabled. Financial capital in the region can also be generated through instruments such as citizen cooperatives and citizen share holding companies, which have increasingly emerged in the areas of food, housing and energy.

Organising regional added value spaces would allow the individual enterprise to specialise in production, processing or marketing. They would nevertheless, belong to a larger entity and benefit from its overall economic performance and added value. How big the added value space is and how many companies are included is of secondary importance. The central motive for the design and development is the regional supply economy, which provides people with food in the added value space with the means available.

Public goods in regional responsibility

Within the boundaries of regional value-added spaces, some of the more abstract public goods could again become common goods of a regional civil society. This would include cultural landscape, clean drinking water, clean air, regional seeds with open access to plant varieties, soil fertility, regional specialities and much more.

In this way, economic factors of a manageable size could be combined with business management mechanisms.

8 Functional properties as guidance

Our thesis is that the principles of peasant economy provide a real alternative for the secure supply of food. The functional properties we have developed can be used to test the extent to which individual concepts as well as practical initiatives actually take into account the characteristics of peasant economy. If they fulfil these characteristics, even as modern versions, this is an indication of long-term economic, ecological and social stability. This would also be a contribution to a regional supply economy.

Functional properties of peasant economies

- o Intergenerational continuity and permanence
- o Demand-oriented production for the economic and social unit
- o Direct link between household and living
- o Stable and reliable work and social relations
- o Mutual protection against damage and accidents
- o Divisional responsibilities assigned
- o Rhythms of structured daily routine
- o Celebrating together creates space for encounters
- o Manageable networks and external relations
- o Calculable risks and dependencies
- o Applying innovations to the already proven
- o Rational work, but no rationalisation of labour
- o Flowing transitions from agriculture to crafts
- o Sparse use of finance capital
- o Extended capital concept
- o Localised experience and practical skills
- o Sustainable use of natural resources
- o Available reproduction of crops and livestock
- o System-immanent energy supply
- o Stockpiling as an essential building block
- o Risk-minimising diversity in peasant agriculture
- o Livestock as central component of farm economy

We explicitly do not understand our functional properties as an approach to the labelling of "peasantry". Labelling is a necessity in anonymous markets, for which we want to develop alternatives.

We understand the formulated functional properties rather as an aid to orientation. The different practical approaches outlined in Chapter 6 can only partially meet the attributes listed here. A single family farm, for instance, has criteria other than those relevant for the construction of Community Supported Agriculture project or even a Regionalwert AG.

9 Summary and Outlook

Starting from the question of the future of peasant agriculture, we concentrated on the study of the internal organisational and socio-economic structure of peasant economies which existed in parts of Germany and Austria until about 50 years ago. We wanted to understand the functional characteristics of peasant farms, in order to derive design principles for future modes of regional food supply economy.

In order to understand the purpose of this approach, one has to realise that today farms in Germany and Austria have almost nothing in common with the historic peasant supply economy. Nevertheless, the ideas of people inside and outside agriculture often refer to an idealised traditional farm. Now agricultural enterprises work predominantly according to the principles of the industrial division of labour. This procures raw materials and means of production as cheaply as possible and produces or processes one or more products. Formerly, the purpose of farm businesses was the self-sufficiency of a social unit. This unit consisted of all the people belonging to the household (farm community). The supply did not function through the market, as is the case today, but directly from the field and stable to the table.

This directness of food supply is often demanded or at least desired in society. Numerous initiatives of regional marketing and of "prosumer" organisations testify to this. The trade has taken up the trend and serves it, at times, quite consistently. Scientific studies, such as the IAASTD, see farmers in agriculture as a guarantee for resilient food security for the world's population. Small farms are considered worth protecting. We support this demand and consider the movement for more peasant as opposed to industrialised agriculture as necessary. At the same time, we see a widespread lack of knowledge regarding the internal structural constitution of peasant economies.

Simply trusting a phrase such as "directly from the farmer" or "from the region" is not enough to create a positive momentum for the food and farming economy. Even the distinction "family farm" no longer proves that the working methods used are those of a peasant economy. Similarly, "small scale farm" is not synonymous with a resilient and sovereign self-sufficiency.

We have researched the functional qualities of the original peasant economies because we believe that it is at this level where guidance exists for food supply security and resilience. It needs different design principles than those of industry or in other words a kind of new "genetics" for economic operations. If the design features are clear, the practical initiatives can be shaped according to local geographic and social conditions. This is true in the case of a family farm, a CSA, a citizen shareholder company or regional food cooperatives.

We have worked out and briefly explained 22 such characteristics. It may be necessary to re-evaluate them in greater detail as we may have overlooked other important properties. We believe that the perspective is meaningful and that the results of the work available are sufficient to review existing initiatives and provide guidance for further development towards a more regionalised supply economy.

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11 Author biographies

Christian Hiß MA (born 1961) grew up on one of the first organic farms in Germany in Eichstetten am Kaiserstuhl near Freiburg. In the early 1950s, his parents converted their farm to biodynamic farming. As a trained horticulturist, at the age of 21 years he founded an agricultural enterprise and managed it until 2009. In 2006 he founded the RegionAnWert AG citizen shareholder company in the Freiburg region as an innovative social enterprise. With this enterprise, which he heads, he hopes to secure the future of the regional organic agriculture and food economy.

Andrea Heistinge Dipl.Ing. (equiv. to MEng) (born 1974) studied agriculture at the University of Soil Science in Vienna and at the University of Vienna with a focus on organic agriculture, agricultural history and agricultural sociology. Since 2000, she has worked as a freelance agricultural researcher and consultant as well as an author of books and scientific articles. The focus of her work is on social issues in agriculture and on the documentation of peasant and horticultural experiential knowledge in the context of book, research and regional development projects.

Dr. Frieder Thomas (born in 1957) studied agriculture in Weihenstephan and Nürtingen as well as ecological environmental protection at the University of Kassel in Witzenhausen. Since 2001, he has been a director and researcher at the Institut für Rural Development in Kassel (www.kasseler-institut.org). From 2009 he has been the managing director of AgrarBündnis eV (www.agrarbuendnis.de). Since June 2011 he has managed the affairs of the federal chapter of the farmers union Arbeitsgemeinschaft bäuerliche Landwirtschaft (AbL) in Baden-Württemberg (www.abl-ev.de / www.abl-bw.de).

There are different initiatives that aim to make food and farming non-industrialised again. Peasant agriculture is often mentioned in this context as an umbrella term. However, a differentiated description is required in order to distinguish this term clearly from fictional and idealised traditional images as well as from falsified advertising rhetoric.

For this reason we have addressed peasant economies and their socio-economic characteristics. Thereby, we were aiming to achieve a better understanding of the inner organisational and developmental principles of peasant economy, which is not concerned with external imagery. We distinguish between the inner plan (genotype) and the external attributes (phenotype) of a farm. For this we were inspired by plant breeders epistemology. With this approach we can understand the functional characteristics of peasant farm types and their economic operations better. It is our thesis that through this we can more clearly define the inner nature of peasant agriculture in Germany and Austria.

In a next step we describe which attributes have changed and where agriculture today does not comply with peasant principles, even though many are claiming the term peasant. We show that peasant attributes can be re-interpreted and re-designed. We outline some already existing initiatives that see themselves as alternatives to industrialised agriculture. We propose a check list which can guide us in how far current food and farming initiatives apply functional characteristics of peasant economy in a new form.

We are aware that this work can only provide a limited impulse to this discussion. We would be happy if this contribution would promote further scientific investigation of the issues raised. We hope that the preliminary results are useful for the construction of new regional supply structures.

Christian Hiß, Andrea Heisteringer and Frieder Thomas