



Why Care about Small-Scale Farming? Because of Soil, Sex, Success and Happiness

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Is traditional small-scale farming still relevant today? Is it not just an old-fashioned system, no longer able to meet today's demands of food production? Can factory farming and industrial agriculture perhaps deliver better results at lower costs? Or will food production in the future be done in laboratories, as some researchers suggest?

What is important and what needs to be taken into account concerning the future of food?

Above all there is one thing we need to consider: food is essential for us. It is the base and condition of our physical existence as well as our civilisation. If there is no food, our health, our happiness, our values, politics, society, every building, every road, every business, even countries have no meaning any more. Because without food we simply die.

So whatever we do and wherever we go for, we absolutely need to make sure first, that food is available and that food production is never put at risk. But are we really taking care of the food we rely on?

Decisions that have an impact on our food system are made and influenced by different groups with different priorities. Scientists, politicians, consumers, big business, farmers, NGO's, they all have a specific point of view, specific interests and goals concerning the future of food. And not all of them act in a way that ensures food security.

Writing this article, my perspective is that of a traditional farmer. "Live as if you would die tomorrow but farm as if you would live forever." this quotation probably puts in a nutshell, what family farming is all about.

Traditional small-scale farming is a circular econo-



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my, it depends on diversity. Family farming is not a static, but a dynamic system, permanently changing and adapting to different conditions. Like evo-

lution it differentiated more and more over time, thus becoming more and more efficient. We take care of our resources, nourish the soil. Our goal is to pass on the farm to the next generation – our children – in the best shape possible. That's why we make decisions not only to our own advantage but to the advantage of future generations as well. That is why farmers are used to taking the bigger picture into account, the past, the future, nature and the diversity of living creatures.

And looking at the future of food from the “bigger picture” perspective, small-scale farming delivers strong arguments and evidence for being able to produce the food we need to feed the world in the future: soil, sex, success and happiness. Because soil, sex, success and happiness have proven to be indispensable for the future of food.

SOIL

Food, for us, consists just out of a few special plants and animals. But all the plants we eat need soil to grow and nearly all the animals we eat, need plants to feed them. That's why soil is the base and condition of our food production. Soil is the most precious foundation of our life.

Only the importance of soil is not recognized in our society, nor do we understand soil. Soil is not just the brown stuff to walk on. Soil is alive. And its ability to grow food is dependent on soil being a living system. Soil that is the mineral part that gives the soil structure. Hollow spaces filled with air or water. And that is humus: the dead parts of plants or animals, permanently processed by the living creatures within the soil. All parts of the soil are connected, depend on each other and live in symbiotic relationships, including the roots of the plants.

Soil being a living system depends on the living creatures of the soil. Amazingly there are more living creatures in just a handful of soil than humans on earth. And most of them (90-99%) we do not even know. So without living creatures in the soil, without the permanent delivery of fresh organic material, there is no humus and without humus, plants will not grow. It is the humus

that is responsible for the fertility of the soil.

Like everything that is alive, soil is in a permanent process of change. This happens automatically in grasslands and woods. Not so with arable land. We harvest potatoes, corn, beets - the organic material – and we do not leave it on the field so that it can be changed into humus. On arable land, we need to add organic material in return to keep it fertile. Traditional agriculture does that, mostly in form of manure or by leaving organic material on the fields. It nourishes the land.

Today it is not part of our mindset that a resource needs to be nourished. Dealing with resources, we think about it in terms of “using” or “exploiting”. But farmland cannot be fertile without human input and care, it is not just nature, it is culture, “agri-culture”. And nourishing our most precious resource takes time.

Soil is a long-term investment. That's why the fertility of today's soil is a heritage. Something our ancestors invested in, not only for their own, but for our sake as well. And the way we take care of our soil today will be the heritage of our children and grandchildren. So soil has a long memory. Soil once spoiled is not easily restored. It can take up to 1000 years to form one centimeter of soil.

But today we lose ground at an ever-accelerating pace. We degrade, we erode, we poison, we over-build, we compact the soil thus destroying its capacity to grow the food on which we depend. If current rates of degradation continue, all of the world's top soils could be gone within 60 years, a senior UN official said on the World Soil Day 2014.

52% of the land used for agriculture is moderately or severely affected by soil degradation. Due to drought and desertification, 12 million hectares are lost each year: 23 ha per minute. Meaning every single year we lose more fertile soil than the territories of Belgium, Holland and Switzerland together. And the farmland available per capita declined from 0.33 ha in 1986 to 0.23 ha in 2000.

How are we to feed the world in future with an economic and agricultural system that like an ill

bird fouls in its own nest? At the moment our agricultural and economic system is on the point of dissipating our most precious heritage, the soil, instead of nourishing it.

SEX

Probably you never thought about sex and agriculture being related but they definitely are. Agriculture is mostly about sex, it is based on sex, that's what farmers deal with all the time. Not just casual sex. In agriculture sex must be fertile. Plants and animals have to have sex in order to produce offspring that are meant to be our food.

Fertile sex generates a "MORE". More plants, more animals and thus more food. In agriculture $1+1=2$ is not true. $1+1=\text{much more than } 2$. And that's because of sex. 1 and 1 and sex can result in 3, 12, 20 or 1000. The job of a farmer is to connect plants or animals in a way they can have sex – the rest is done by nature. And the output is more, a lot more than the input. We harvest more than we have sown. That is why agriculture, together with forestry, is the only business able to deliver growth. All other businesses are changing or trading: they change materials to another state, or trade whatever was produced. At best, input is equal output but you can never produce more output than input (even if the output is more useful to us than the input, it is not more).

But the ability of small-scale farming to create "more", to create "growth", depends not only on sex alone. It is sex and the connection and cooperation with nature in traditional farming that is responsible for growth – and for efficiency. Family farming is so efficient in delivering growth because it leaves part of the job to produce our food to nature. It establishes a circle that is run by both, farmers and nature, which permanently generates resources for the various living creatures taking part in it. Thus minimizing human input, while generating optimum output.

Industrial agriculture does not cooperate with nature. So despite the fact that industrial agriculture uses sex as well, the energy input is greater than the output. Family farming being so efficient, results in a positive energy budget, meaning the energy in-

put is lower than the output. But efficiency is not the only reason why small-scale farming is so successful.

SUCCESS

What is success? According to the Oxford Dictionary it is the "accomplishment of an aim or purpose". So in food production, success would be a system that is efficient in delivering permanent reliable results, not only now, but in the future as well. Even under changing conditions.

The problem is that today, the measuring stick for success in the business world, as well as for countries, is money. Money is measuring in corporate monetary profits or the national annual GDP. But can this be the measuring stick for the success we need in food production? Remember, we need food to stay alive. We simply cannot risk failure, we need a system that works for sure and not just for a short time.

Food security is complex. Quantity without quality, feeding just a part of the world's population at the cost of the other part, producing food just for today while diminishing the ability to feed future generations: that's not success. And measuring exclusively performance, while ignoring and externalizing costs and damage, that's not success either. How can this be measured by corporate profits or the GDP?

Success in our food production system means taking the bigger picture into account. And if we take the bigger picture into account, we first need an answer to the question: What is the food we need? The history of humankind is the history of our adaption to our food. Our digestion system was designed to process just the food we were adapted to during the evolution. Only the plants and animals we have been eating for thousands of years form the food that makes us grow and keeps us healthy. The quality is marked by freshness, diversity and natural pureness, thus delivering all necessary ingredients.

So the food we need is not just defined by a certain quantity, the quality is important as well. Mostly we are not aware of that, thinking all that matters is the taste and the quantity.

Today, we do not have a quantity problem in the industrialized world, like we used to have during the history of humankind. But most of the food we consume today does not meet the quality demands we developed during our evolution.

“La via campesina”, the organization of small farmers, was the first to raise an awareness by promoting the idea of “Food Sovereignty”, the right to choose a certain quality of food. So starting from the point that food security – quality and quantity – is connected to food sovereignty, what else do we need to consider from the bigger picture perspective?

To ensure long-term success, the food system needs to make sure that whatever we do today, the effects on future generations are taken into account. Above all, that everything which is essential for food production in future will not be damaged but taken care of. Owning the farm gives farmers more independence in the face of changing political demands, increasing their power and willingness to act in a responsible way. Only when owning the farm, it is within their power to pass it on to their children. The success in future food production depends on the willingness of farmers to nourish the soil for the sake of future generations - at their own costs. This is so important, because keeping the soil fertile for future generations is the core of sustainability.

The need for reliability and efficiency requires to not just concentrate on performance or achievements. Seen from the “bigger picture” perspective, long-term success is not just performance, it is the result of performance minus costs and damage. We need to make a full cost accounting over long time periods to give us a clue what system is not only successful but the most efficient in delivering long-term success.

And there is something else that is utterly important. Times change, natural and human-made conditions change. But whatever change may come – we always need food. So food production must be resilient, able to deal with changing conditions, adapt to change. It must be successful even under unfavourable conditions, today and in future. More than 10 000 years ago, farmers established

a sustainable system to feed the worlds’ population. It is the base and condition of our civilization. The system was never basically changed, but it differentiated along time, thus becoming more and more efficient. And although agriculture is different in every country, every region, it works upon the same principles worldwide, even under changing and suboptimal circumstances. Traditional small-scale farming is the most successful business model in the world, the only one that delivered proof by feeding the world over time.

But the history of agriculture shows, that traditional farming was sometimes more, sometimes less successful in feeding the population. The interesting question is now: why did traditional farmers most of the time nourish the soil and why did they sometimes exploit it, leaving regions devastated in the end?

It is often claimed that farmers did not realize what they were doing, they failed to see the consequences, the “bigger picture”. And although that might have been the case now and then (and sometimes it might have been changing natural conditions) I guess the main reason is a different one.

Farmers overused and exploited the land because of the demands and the pressure put on them by religious and political leaders. You too would opt for exploiting the land when your only alternative would be giving up farming or death from starvation. If those in power create conditions and use their power in a way that farmers do not have enough to feed themselves, they simply have no choice.

And at this very moment, it is happening again. Farmgate prices all over the world are low, often below the costs of production, three quarter of the world’s hungry live in rural areas. Public money and the political system support industrial agriculture, giving sustainable agriculture systems not enough to live.

So who do you think will survive?

There is one thing about the future of food that is essential, but rarely discussed: if we do not pay farmers that nourish the soil, but instead reward

those who destroy it, we destroy our future as well. Discussions dealing with the future of food are often done in a way that suggest it is something natural or God-given, if family farmers do not earn money with what they do. But the decision where the money goes is made by people, not by a mysterious supernatural law. Agriculture as well as agriculture politics is a system that was invented, established and modified by humans. And this sys-

HAPPINESS

Do you know why so many farmers keep on farming, although it does not pay? Most people do not understand this, thinking someone who does not get properly paid must be silly not to leave the job.

Sure, in the Global South farmers often do not have alternatives, but in the North? "Farming is a pas-

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tem can be altered by humans – in fact only by humans. If we pay sustainable farmers properly they will produce enough to feed us.

The measuring stick for food production is the reliability and efficiency to deliver the quality and quantity of food we need, now and in future and even under unfavourable conditions. The IAAS-TD Report "Agriculture at a crossroads" shows that small-scale farming is able to deliver food security. But taking the bigger picture into account, there is still one argument missing. Something that is the main reason for the success and sustainability of small scale farming: happiness.

sion, an incurable addiction. That's why I carry on, even if I do not get paid, even if I need to subsidize the farm with off-farm income" that's what one of my friends answered to this question. It seems farming can make you happy – even if you are not properly paid. When in October 2013 the French journal "Le nouvel observateur" titled: "professions that will make you happy", the research showed that number 2 from the charts were – farmers. It's the happiness, the passion of farmers for what they do that still keeps our agricultural system going. It makes farmers care for the farm, the soil, nature. There is a deep connection between farmers and their farm. It gives meaning, creates a feeling

of responsibility. And that's why they do not give up farming easily when the going gets rough. The sustainability of family farming depends mainly on this fact.

If farming makes you happy, if it is your passion, you will not stop because you can earn more money elsewhere. You will carry on even if it's hard. You will do everything to make the farm succeed. And you will do your best to pass it on to your children. This makes small-scale farming resilient, makes it succeed even under extremely unfavourable circumstances.

So let's bother about small scale farming:

Because food is essential
Because food needs soil
Because soil needs to be nourished
Because nourishing the soil needs caring about the future
Because caring about the future needs passion and happiness

And that's why I would like to ask you as a researcher: Take the bigger picture into account, the long-term perspective. The bigger picture is not an accumulation of details. And even when working on details, check whether the detail fits into the bigger picture.

Be aware of the importance and the risks of food production. Go for solutions that do not include a major risk of failure. Humankind cannot afford to make mistakes here. So look for proof not for promise, although promises and speculation are often more exciting. Raise your awareness of reality, of what happens out there in real life. Look behind trends, behind what's obvious, behind common knowledge.

Traditional family farming is looked upon as being backward, inefficient, and unable to feed the world in future. And farmers are considered to be dumb, dull and incompetent. If you look for proof, not for prejudices, you will probably discover that just the contrary is true. So take farmers competence into account. If it looks as if they are not, take a close look at the circumstances, the framework, at the "why" the "what for" the

"who gets paid for what?" Be aware of prejudices. Arrogance is not a useful tool, it blinds us.

Food, farming and everything it depends on is essential for the future of humankind. If we begin to change our attitude, if we change our perception of reality, it probably will change our future.