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CAN MODERN AGRICULTURE MEET SOCIETAL EXPECTATIONS?

Subtheme: Large scale and agribusiness

Alfons Balmann, Lioudmila Chatalova,
Vladislav Valentinov, Taras Gagalyuk

Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Halle (Saale),
Germany

Abstract:

The agricultural sector in many industrialised countries remains in the spotlight of controversial societal debates that testify to an advancing alienation between modern agriculture and society. Key issues include animal welfare, environmental externalities, industrialisation of agricultural production, and the extinction of family farms. As steadily increasing animal welfare or environmental standards are requested by society, the respective agricultural debates take on ideological tenors. A key concern is the increasingly large and technology-based farms, partly considered as 'factory farms'. The present paper asks to what extent the existing economic conditions allow the agricultural sector in general and large farms in particular to benefit from agricultural innovations on the one hand and to meet societal expectations on the other. The analysis builds on two concepts: the agricultural treadmill theory, which assumes the agricultural sector to be under a permanent economic pressure, and the concept of corporate social responsibility, which presumes that firms have an interest to comply with societal expectations. We describe and analyse the internal mechanisms of these concepts theoretically and conceptually. We then discuss opportunities which may help to overcome the increasing alienation of agriculture and society.

Keywords: *agriculture, technological progress, corporate social responsibility, acceptance of modern agriculture, large-scale agriculture*

1. Introduction: Technological Progress and Societal Responsibility

For quite some time now, agricultural production in the EU and in many other industrialised countries is the subject of conflicts, which reveal a growing alienation between society and agricultural producers (Balmann et al., 2016). There are obvious reasons for some of the conflicts, such as deficits and resistances of farmers to engage in animal welfare and environmental protection. What strikes us most in these disputes is the scarcity of attempts to find solutions. Instead, ideologically tainted rallying shouts like 'mass animal farming', 'factory farming' and 'the end of family farms' increase the distance between the parties. The urgent need for showing more consideration for animal welfare and

environmental protection in individual areas notwithstanding, the ideological undertones in the public discussion increase. There are some signs that farmers started to realize that their public image does not match their own perceived reality. In response, many farmers started actions like engagement in social media and open farm days.

However, there are more and deeper-rooted problems which relate to the privileged position of farming enterprises in our economic system. By comparison with non-agricultural enterprises, farmers and farming enterprises enjoy numerous privileges not only in the political arena (such as the EU Common Agricultural Policy) but also in terms of laws regulating taxes, social burdens, inheritance and construction. Many of these privileges might be justifiable if local agriculture would not survive without protection or if protection would be required to provide important societal services including crops and food in the desired quality. Protection might moreover be justifiable if farmers or agricultural enterprises face particular disadvantages.

Below, we will discuss whether agricultural enterprises deserve or need protection in terms of the characteristics, which are unique to agriculture. We are particularly interested in finding out whether the current economic circumstances allow agricultural enterprises to fulfil public demands. An important side aspect in this context is the public image of modern agri- culture versus the image insiders in the agricultural sector have of themselves. This is relevant because public expectations must be measured in terms of their relevance to today's reality (Valentinov, 2013). In many debates and media reports, public perceptions seem to have their roots in the myths of traditional peasant farms. Ignored is the fact that today for the most part, EU agricultural produce comes from farming enterprises using modern technologies and industrial principles rather than from small picturesque peasant farms. Such myths may not only create an increasingly implausible picture of current agriculture but ignite moralising political debates about 'good' and 'bad' agriculture. Subsequently, public discussions are hypothesized to result in ideologies, myths and morals as a sign of the increasing alienation between agriculture and society. If this is true, the key question is how to overcome the ideologization towards future-oriented solutions.

2. The Technological Treadmill and the Special Status of Agriculture

In his book *Farm Prices: Myth and Reality* (1958), US American economist Willard Cochrane referred to a treadmill when he described the special competitive situation in agriculture. By and large, he sees productivity gains in agriculture benefitting only a few

innovative agricultural producers while the majority of producers suffer the consequences of the following drop in prices. In the end, agricultural enterprises using outdated technologies as well as suboptimal size and management will no longer be able to achieve profits. Especially small farms will have incomes, which are clearly lower than the costs of doing business. This leaves particularly small farmers few choices. Either small farming enterprises work on becoming more productive to keep the treadmill moving or they exit farming. This necessity and the never-ending stream of innovations make the economic treadmill a permanent presence in agriculture.

The mechanism of this treadmill is the common driver of economic progress in all industries and endeavours. The core principle is the 'creative destruction' described by the Austrian economist Joseph A. Schumpeter (1942) for the economy of nations in his book *Capitalism, Socialism and Democracy*. Schumpeter realized that innovations destroy old structures and allow new ones to emerge. This process never stops. It is the basis for all technical and economic progress for the benefit of society. Individual companies or even entire industries must adapt or perish.

However, agricultural enterprises face special circumstances when it comes to absorbing the consequences of productivity increases. Food markets are subject to saturation whereas food products have little income and price elasticity. Demand for food increases less than proportional with increasing income and falling prices. Consequently, people spend smaller and smaller portions of their rising incomes on food. Therefore, poor members of society profit more from agricultural progress than affluent ones. This makes agricultural productivity growth a special service to society. In turn, the low elasticity and high productivity lead to disproportionately lower prices and lower profits. Of course, innovative and highly productive agricultural enterprises may realise short-term windfalls. However, producers who cannot keep up with the innovations suffer.

Since the treadmill theory was published, politicians, economists and scientists discussed ways for farmers to escape the technological treadmill. Attempts at a solution were price policies, ceilings on produced amounts as well as direct subsidies. From the beginning, scientists criticised these attempts and thought of them as dead-end streets. After all, the EU Common Agricultural Policy proved convincingly that all these measures went nowhere. EU pricing policies caused tremendous overproduction in the 1970s. The EU paid high export subsidies to 'dispose' these excesses. The restrictions on produced amounts of sugar and milk turned out to be unsustainable because they suppressed innovation, created

hardship for consumers and, in the long term, stalled the agricultural development. Even today's enormous direct subsidies will not halt the treadmill. They simply delay the dilemma for a while. At the same time, the payments create expectations of entitlement, hinder adaptation and development and create dependency. Not the least problem is the created greed and jealousies about the distribution of funds.

3. Corporate Social Responsibility

The indirect but grave consequence of the unstoppable treadmill is that it forces agricultural enterprises not only to live with the constant pressure to adapt but also to keep looking for new cost-lowering measures. In this context, we must recognise that the pressure to reduce costs is intimately related to the desire to achieve profits while, at the same time, it contradicts societal interests that go beyond the provision of cheap products for consumers. These ignored societal interests include positive externalities such as non-market benefits as well as negative externalities such as environmental harms. In this regard, incentives as well as opportunities for taking public responsibility are important. Even though this problem is not unique to agriculture, the small agricultural enterprise structures introduce unique challenges. Being structured into small units prevents agricultural producers from assuming social responsibility to the same degree as large corporate enterprises. Large enterprises are always in the public eye and therefore have a vital interest in keeping up appearances as part of their brand image and customer relations work.

Large enterprises upstream and downstream of agricultural producers have substantial incentives to put their best foot forward in public. Their internet pages illustrate their social engagement in prominent ways. Assuming responsibility in the interest of society has become the norm under the flag of Corporate Social Responsibility (CSR). Without doubt, not all that glitters is gold. Still, CSR is part of creating a brand image and it may even help to keep government regulators at bay. As a side or advertising effect, assuming CSR polishes the corporate profile in the competitive field and helps to increase the market share.

Farming enterprises in the treadmill are not even visible in CSR. The treadmill interferes with the assumption of corporate responsibility because of two main reasons: i) the treadmill leads up to an ideologization of the public discourse, and ii) it impedes the formation of company groups or industrialisation.

3.1. Components of Corporate Social Responsibility

Today, the term CSR is a fixed part of the corporate ethics vocabulary. There are many definitions and classifications of CSR. They are too numerous for a systematic presentation in this paper. In principle, CSR is a corporate policy in favour of assuming social responsibility. In this context, we explicitly refer to three components.

Firstly, CSR is about balancing the different stakeholder interests. In 1984, R. Edward Freeman inspired the corporate stakeholder theory (Freeman, 2010). The theory acknowledges that corporations are not only dependent on shareholders but also on a much wider circle of stakeholders, which includes the staff, suppliers, creditors as well as the local and global public. Ignoring the interests of these stakeholders may jeopardize the standing of the corporation. According to the stakeholder theory, the CSR is the balanced consideration of the interests of all relevant stakeholders, which constitute the societal environment. In this theory, corporations have moral obligations towards this societal environment.

Secondly, there are various levels of CSR, which range from compliance with legal regulations to nonactionable acts of good will. Archie B. Carroll (1991) created a well-known CSR classification. His pyramid model comprises economic, legal, ethical and philanthropic levels of responsibility (Figure 1).

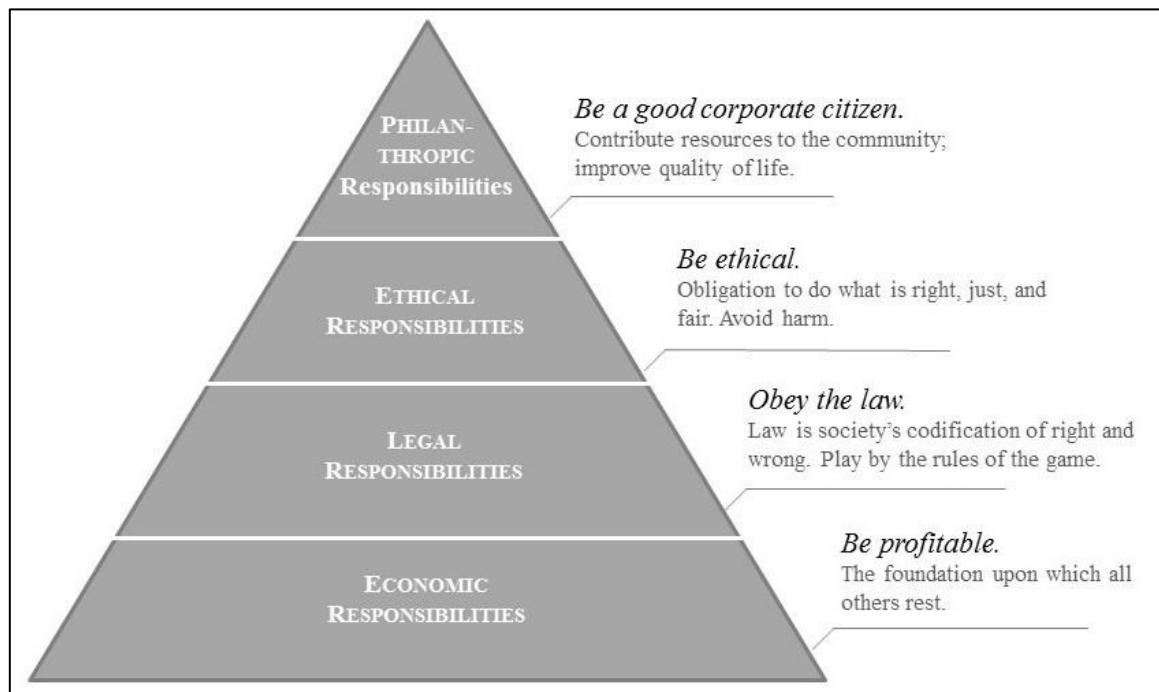


Figure 1: Carroll's pyramid model of corporate social responsibility (Carroll, 1991).

The central assumption in this model is that the societal valuation of CSR acts grows with increasing inability to enforce such actions through the legal system, i.e. the higher up in the pyramid they appear. CSR as marketing strategy also fits into the pyramid model. In this case, the moral value of CSR is inversely proportional to the strategic value. Enterprises, in which CSR practices are mostly acts of compliance with legal standards or acts in the company's immediate interest, can hardly reference these acts as moral deeds of an ethical enterprise or expect them to establish bonds with stakeholders.

Thirdly, CSR relates to the size of enterprises. As for the majority of current papers on corporate ethics, the authors regard CSR as everyday common practice. The aspect is important in the agricultural context because with a few exceptions farming enterprises worldwide are small by comparison with industrial enterprises. The few large enterprises and agricultural holdings do not change the overall picture. In 1960, the US American management theorist Keith Davis formulated the famous *Iron Law of Responsibility*, which states that enterprises tend to lose their power if they fail to use their power responsibly (Davis, 1960). This explains why CSR has become imperative for corporations. Powerful enterprises are under public pressure to use their power responsibly. In short: Corporate power comes with obligations.

3.2. The Ideologization of Debates

The US American philosopher and ethicist on agriculture Paul Thompson (2010) describes the agricultural treadmill as follows: In the long run, farmers are unable to profit from the introduction of innovative technologies. Instead, they must put in more and more effort to stay in the same place as Lewis Carroll (1871) described in the allegory of the Red Queen's Race in *Through the Looking Glass*¹. According to Thompson, the technological treadmill will end in a social dilemma, i.e., in a commons-like unintended collective self-impairment, which now serves as justification for agricultural subsidies. In this sense, it is possible to determine a correlation between the treadmill and the discussion about the special status of agriculture in our economic system. The treadmill spurs on discussions about the pros and cons of traditional peasant farming versus industrialised agriculture.

¹ "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!" (Lewis Carroll, 1871).

Traditional agrarian philosophies have their roots for instance in romanticised reports about farming by Thomas Jefferson, the third president of the United States of America. Accordingly, “(t)hose who labour in the earth are the chosen people of God (...) Corruption of morals in the mass of cultivators is a phenomenon of which no age nor nation has furnished an example” (Jefferson, 1785). Traditional farming philosophies are also fuelled by works of Russian agrarian economist Alexander W. Tschajanow (1923) arguing that traditional farming is not based on profit maximization but on the self-exploitation of family-labour to satisfy the own needs. In contrast to these peasant theories, the US American agrarian economist Michael Boehlje (1999) argued repeatedly that the modern agriculture and large parts of agricultural production are increasingly based on principles like “biological manufacturing” with new business models that differ substantially from peasant or family-based farming and traditional farm sizes, the integration of agricultural production into the value chains, as well as the reliance on science rather than art. Over the past twenty years, these trends continued and are reflected, for instance, in the emergence of the so-called agrohholdings with farm sizes of up to several hundred thousands of hectares in Eastern Europe and South America. The treadmill fostered these trends towards a reality in which farming became more and more industrialised while public debates widely considered these general trends as a threat to traditional forms of farming instead of wondering about new opportunities. This, in turn, led to increasing conflicts between the participants in the public discourses. It spurred an emotionally controlled inflation of public expectations and concerns about modern agriculture addressing issues such as small versus large farming enterprises, conventional versus ecological farming and traditional versus industrial farming. These conflicts smother an effective discourse on social responsibility of agricultural enterprises which requires to address the really existing problems.

The conflicts between stakeholders exacerbate the balancing of their interests through the CSR functions of agricultural enterprises. While the stakeholder theory of CSR does not presume that the stakeholder views and interests are on a collision course, it is safe to assume that finding a balance will be much easier without conflicts of interest among stakeholders. In cases of conflict, agricultural enterprises can only use their CSR activities to some of these positions while others remain in conflict. This particularly does not resolve ideologically driven conflicts and will keep agricultural enterprises failing to make friends

with the public.

3.3. Restrained Corporate Growth

Economists Schumpeter, Galbraith and Williamson each described in his own way how technological advancements contribute to the formation of large corporate groups. The agricultural treadmill disrupts this correlation and absorbs the effects of progress. According to Thompson (2010), farmers need more and more advanced technologies just to stay in place. This is not unlike the Red Queens Race in the allegory 'Through the Looking Glass' by Lewis Carroll (1871) or the proverbial hamster wheel.

This permanent pressure leaves little operational space for farms to engage voluntarily in CSR. The wide majority of farms is only able to satisfy the lower levels of CSR in Archie B. Carroll's pyramid (Carroll, 1991). If farmers can only manage to comply with the laws, this dampens the moral value and public effect of CSR activities. Even though the CSR activities take place, they are ineffective in counteracting the alienation between agriculture and the public.

The EU Common Agricultural Policy provides substantial farm subsidies. Partly these are motivated to generate social value. As this creates direct economic incentives, the societal benefits of these subsidised CSR activities are also of limited moral value. Partly the payments can be seen as income support in response to the treadmill effects. In the end, these subsidies only delay the consequences of the treadmill, which require investments or getting out of the way. It is quite likely that the well-intentioned subsidies as well as the tax relief and the special considerations in the inheritance laws provide considerable incentives to keep unprofitable farms in the family despite the lack of economic prospects. This restricts the development opportunities for other, in particular for neighbouring farm enterprises, which may be far more likely to become profitable.

The restrained formation of larger agricultural enterprises prevents Davis' *Iron Law of Responsibility* (1960) from being more effective. When agricultural enterprises cannot build powerful structures due to their small size, they will not be pressured into taking social responsibility (Figure 2). In light of the barely present power and the relatively scarce resources, the individual contributions of agricultural enterprises are hardly significant enough to solve the problems on the societal level.

There is also a free-rider problem. Individual services are almost never free. Therefore, performing these services may diminish the individual competitiveness and future development

opportunities. Besides, due to existing economic pressures only a portion of the enterprises must bear the costs of the increased social responsibility. Farmers running the treadmill also have very different perspectives. While some of the farmers see new development perspectives in using innovations, other farmers will ignore that these innovations even exist. Accordingly, the outlooks for the enterprises are different and so are the incentives to assume social responsibility. Accordingly, a substantial fraction of farms may not benefit at all from higher societal trust in the long-term.

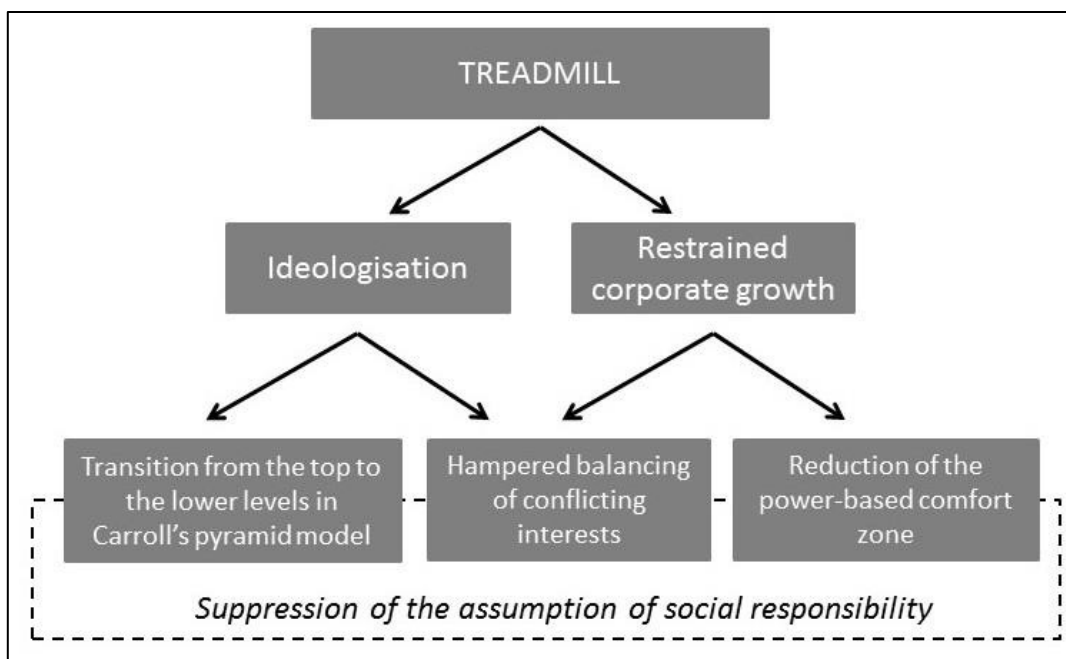


Figure 2: Effects of the agricultural treadmill on corporate social responsibility.

3.4. Chain Captains: When Power Obligates

The restrained corporate growth and thus also the limited corporate size of agricultural enterprises is characteristic of the agricultural sector but not obligatory for entire value chains. The upstream and downstream businesses of value chains are substantially consolidated. This is particularly true for the retailing sector. This gives Davis' *Iron Law of Responsibility* a fair chance to work. Consumers demand excellent quality of agricultural products, including food safety. The consolidated chains rely on the fulfilment of these demands. Particularly the dominant players, the "chain captains" are able to control the adaptations.

A chain captain can be considered as an enterprise inside the network of enterprises or within a supply chain. Chain captains have leadership functions with the necessary power to

gather and coordinate the available resources and services of the network members (Gagalyuk et al., 2013). From the perspective of the chain captain, the value is created inside the supply chain. The effectiveness of this process depends on the prudent and targeted coordination. This is important because for the consumer the chain captain is the entity, which takes responsibility for the products in the value chain (Hanf and Kühl, 2005). As already discussed above, this responsibility is instrumental in character and derives from the trivial concern for the success of the product brand. Usually, the chain captain creates this brand. The increasing role of generic or store brands within the food sector is based on the principle that retailers are trusted by consumers through their ability to avoid (or eliminate potential) scandals (Lindgreen and Hingley, 2003).

If consumers are serious about ethical issues such as animal welfare, environmental protection or social issues of workers or farmers, the 'iron law of responsibility' has the instrumental effect that chain captains like dominant retailers or manufacturers owning well-known brands are forced to address the ethical concerns in a credible way. This forces them to define and ensure quality standards for the whole value chain. In this way, they force small actors which are not directly affected by the 'iron law of responsibility' to implement principles of social responsibility. It is their way to escape the alienation from society.

4. The Role of the Civil Society

The continuing alienation of agricultural production from its social and ecological environment has the result that the pressures caused by the agricultural treadmill and the associated social costs are not solved but shifted elsewhere. To the extent that political measures and the supply chains offer no satisfactory solutions, civil society actors may become active. On the one hand, numerous civil society groups exist which address societal concerns like environmental problems, animal welfare issues, food safety, and social concerns. These non- governmental organizations (NGOs) are important actors in putting societal concerns on the table and advocating societal responsibility. On the other hand, the agricultural sector is organised and represented through different types of farmers' associations. These associations lobby in favour of the interests of their members.

In principle, societally engaged NGOs may collaborate with NGOs lobbying the interests of the agricultural sector to identify opportunities which generate win-win situations by leading

to more social responsibility of the business and to avoid ongoing and societally costly conflicts. In particular, cooperative agreements may provide legitimacy to the agricultural producers. Unfortunately, there are specific problems for NGOs on both sides.

Despite their enormous contribution in the reduction of social costs, civil society organisations cannot be the guarantor of sustainable business practices and the solution of the agricultural dilemma. Rather, they are able to incite public emotions and turn topics like mass animal keeping into scandals. Other such problem topics are the use of certain pesticides or agricultural speculations. There are also the emotional debates about 'good' versus 'bad' agriculture. Some conflicts cannot be completely resolved. Public demands turn these problem targets into overdrawn ideological comfort zones, in which private persons can take positions without ever suggesting a single productive solution. Instead of solutions, emotional arguments and unrealistic demands dominate agricultural debates that in the end may contribute to increasingly ideological debates on industrial versus peasant farming. The consequences of these distorted debates, ideologies and myths may be policies which preserve existing structures such as unprofitable family farms (Collier, 2008) or result in more privileges for agricultural enterprises, the misjudgement of innovations (such as the green gene technology), or the introduction of derivatives to secure financing for the food supply (e.g., Prehn et al., 2015). Despite of all these problems, examples exist in which NGOs developed labels which are more or less successful in addressing concerns like fair trade, environmental and animal welfare.

On the other hand, also agricultural NGOs face limitations when engaging towards higher corporate social responsibility. Usually, these lobby organisations have hardly any enforcement mechanisms. But even more important is the heterogeneity of their members. The general effects of the technological treadmill in agriculture of persistent pressures on income and innovation go along with a steady decline in the numbers of farms. Addressing higher CSR standards often requires a reorganization of the business or additional investments. That means that higher CSR standards has partly effects that are similar to the treadmill: farms either have to adopt or to exit. Accordingly, agricultural associations are confronted with the dilemma that a potential engagement towards higher CSR standards is inherently connected to internal conflicts.

5. Conclusions and Discussion

Technological change alters society continuously. In the agricultural reality, these changes are reflected in the so-called technological treadmill. Farmers are pressured into keeping up with the most advanced technology even though it does not increase profits but is simply necessary to stay in business.

In this faster and faster race for economic survival, the social responsibility of agriculture became a subordinate issue. Recognizing opportunities to overcome the alienation between agriculture and society in its complex interwoven societal-ecological context requires the contextual embedding of agricultural decisions and systems thinking. Already existing approaches to dampen the negative consequences of the technological treadmill have resulted in supportive political measures. Unfortunately, market interventions and subsidies have created rather subsidy dependencies instead of prospects for the agriculture. They also burdened the taxpayer with huge costs and blurred the vision of the actual challenge of assuming social responsibility. Last but not least, the support led to increasing fights of different interest groups

Agricultural enterprises have started to recognize the roots of their distorted public image. Farmers reacted with online information and other actions. To overcome the existing dilemmas, agricultural enterprises should, however, actively examine the myths and ideologies in the context of farming. This should include a critical discussion of agricultural privileges. Public pressure can be partially absorbed through engagement of chain captains with- in the value chain. Nevertheless, without feedback and communication from and between all involved parties as well as a paradigmatic shift of guiding economic maxims, sporadic solutions can only partially and temporarily compensate for the undesirable consequences of the treadmill. The treadmill itself is likely to be unstoppable. In the end, only innovations can adequately address societal concerns and needs.

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