

Characteristics and barriers of sustainable food consumption in Germany

Charakteristiken und Hemmnisse des nachhaltigen Lebensmittelkonsums in Deutschland

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Summary

Sustainable food is a niche market in Germany, but steadily growing. This exploratory study (N=300) analyses the importance of four sustainability dimensions (environmental protection, climate protection, animal welfare and fair trade) from a consumers point of view. It is shown that most consumers (45%) have positive attitudes towards sustainable food but do not translate them into buying behaviour. The identified main barriers are: difficulty to identify sustainable food; lack of knowledge where to buy such products; premium price. This implies that via policy and marketing the information about sustainable food and the products as such has to be made more easily available. Additionally, their premium price has to be better justified.

Keywords: Sustainable food consumption, barriers

Zusammenfassung

Nachhaltige Lebensmittel sind in Deutschland ein Nischenmarkt, doch dieser wächst stetig. Diese explorative Studie (N=300) untersucht die Relevanz von vier Nachhaltigkeitsdimensionen (Umwelt-, Klima- und Tierschutz; fairer Handel) für VerbraucherInnen. Es wird gezeigt, dass viele VerbraucherInnen (45%) eine positive Einstellung gegenüber nachhaltigen Lebensmitteln haben, diese aber eher selten in Kaufverhalten umsetzen. Zu den identifizierten Haupthemmnissen zählen das Problem der Identifizierung nachhaltiger Lebensmittel,

fehlende Kenntnisse, wo solche Produkte zu kaufen sind, und deren höherer Preis.

Für Politik und Marketing bedeutet dies, dass Informationen über nachhaltige Lebensmittel sowie die Produkte selbst noch besser zugänglich gemacht werden müssen. Darüber hinaus muss ihr höherer Preis stärker gerechtfertigt werden.

Schlagnworte: Nachhaltige Lebensmittel, Konsum, Barrieren

1. Introduction

Sustainability is being increasingly recognized as a major issue for most industries, but especially in the agribusiness and food industry where it has become an important marketing topic (VERMEIR and VERBEKE, 2006, 169; GRUNERT, 2011, 207; VERAİN et al., 2012, 123).

Sustainable food consumption considers not only individual needs and desires, but also the environmental and social responsibility of each consumer (VERMEIR and VERBEKE, 2006, 170; REISCH, 2011, 1). Today, sustainable food products are in demand because environmentally conscious consumption, as well as social responsibility, plays an increasing role for many consumers. This is also reflected in the growing number of labels certifying the positive ecological or social attributes of food products (FRANZ et al., 2010, 417). On the German food market however, there is no comprehensive sustainability label yet.

The question of which target groups may have a particular relevance for sustainable food has already been addressed by a number of studies. However, most of them analyse single sustainability aspects such as environmental friendly or organic consumption (i.e. ROBERTS, 1996; LOUREIRO et al., 2001; HONKANEN et al., 2006; AERTSENS et al., 2009), or look at ethical aspects of consumption such as fair trade (i.e. MCCLUSKEY et al., 2009; ADAMS and RAISBOROUGH, 2010) and animal welfare (i.e. HONKANEN and OLSEN, 2009; LAGERKVIST and HESS, 2011). Surprisingly, to our knowledge, no published study has yet analysed different sustainability dimensions from a consumers' point of view simultaneously. Thus, this paper focuses on sustainable food consumption by analysing the importance of four specific sustainability dimensions (4D=Environmental Protection, Climate Protection, Fair Trade, Animal Welfare). Three research questions are posed: How

important are different dimensions of sustainable food production and trade for consumers? How often do consumers buy sustainable food? Which barriers hamper the purchase of sustainable food?

2. Introduction of the analysed sustainability dimensions

Today, sustainability is a widely used claim in the agri-food industry. Based on the idea that it is a composition of at least three major pillars (economic, environmental, ethical), this study analyses the environmental and the ethical pillar: environmental sustainability dimensions (Environmental-/Climate Protection); ethical dimensions (Fair Trade/Animal Welfare).

Among the analysed 4D, Environmental Protection (E) is the most traditional because the concept has entered the daily lives of Germans in many different ways, i.e. through recycling or the consumption of organic food (EUROPEAN COMMISSION, 2009). The market share of organic products in Germany has grown enormously in recent years, and the awareness of organic labels is quite high (von MEYER-HÖFER and SPILLER, 2013, 4). Nevertheless, in absolute terms, their market share remains on a very low level (4%) (BÖLW, 2012).

In contrast, Climate Protection (C), while very important for business and policy actors, has not reached this wide acceptance or consciousness among German consumers yet and there is no label for climate friendly food so far (EUROPEAN COMMISSION, 2008; WWF, 2012). Fair Trade (FT) initiatives seek better prices, decent working conditions and fair terms of trade for farmers. In Germany, the Fair Trade label is well known, but the overall market share even of the most prominent fair trade product coffee is still very low (2%) (FAIR TRADE DEUTSCHLAND, 2013; HENSELEIT, 2012, 138; von MEYER-HÖFER and SPILLER, 2013, 4).

For a majority of German consumers, Animal Welfare (AW) is an ethical concern of great importance (SCHULZE et al., 2008, 482). In addition, it is a topic with major discrepancies in the opinions of consumers and producers (BÖHM et al., 2010, 265; KAYSER et al., 2012, 421). During the period of data collection, there was no comprehensive animal welfare label for meat products available in conventional German supermarkets.

3. Methodology and Data

This exploratory study was conducted to gain first insights into the characteristics and barriers of sustainable food consumption in Germany. The questionnaire was structured following the Theory of Planned Behavior (TPB) so that the constructs attitudes, behavior and barriers could be analysed (AJZEN, 1985, 1991). Attitudes were measured with the following question: "How important it is to you that the food you buy has been [produced/traded according to the 4D]?" Answer options laid on a five point Likert-Scale from "not important at all" (-2) to "very important" (+ 2). For the measurement of buying behaviour the following question was used: "How often do you buy [food produced/traded according to the 4D]?", with the answering options: "very often"; "often"; "sometimes"; "rarely"; "never"; "I am not sure".

The barriers of sustainable food consumption were measured on two different levels using the most often mentioned barriers by consumers with regard to sustainable food consumption (AERTSENS et al., 2009, 1150). First respondents were asked whether they know where to buy sustainable food and how to identify such products with regard to the 4D. In a second step, they were asked about more detailed barriers not differentiating between the 4D anymore: "I think such products are too expensive." "I don't know why I should buy such products." "I don't think such products do really exist." "I would buy such products, but I often forget it while shopping."

During spring 2012, data was collected in an online consumer survey. With the help of a private marketing research organization, the standardized questionnaire was sent to 2.530 respondents without any quota or regional restrictions. The final sample size for analysis was 300. A pre-test with 20 volunteers was done before the actual start of the study. In the sample, 52% respondents are female, 44% are male (4% missing). The mean age of the respondents is 45. The level of education in the sample is comparatively higher than the German average. Due to the sample characteristics, the results of this study should not be generalized, but interpreted as first exploratory insights.

4. Results

4.1 Importance of 4D from a consumer's point of view

In order to analyse the relevance of the 4D from a consumers' perspective, it was counted whether, and if so, how often, the 4D were mentioned as very important/important. 19% of the respondents do not find any of the 4D important. About one third (36%) does find 1 (9%), 2 (13%) or 3 (14%) of the 4D important. Nearly half (N=136; 45%) of the respondents evaluate all 4D as important to them when buying food. Animal Welfare is the most frequently mentioned dimension, while in comparison, Climate Protection does not matter to consumers.

4.2 Conversion of positive attitude into buying behaviour

The above described results show that German consumers care about sustainability when they buy food. The question arising from this is whether the positive attitude 136 consumers have towards the 4D is also translated into sustainable food buying behaviour.

The results show that out of the 136 respondents stating all 4D are important, only 26 also state to buy products that have been produced accordingly very often/often. The small number of these so called "Sustainable Food Consumers" reveals a clear Attitude-Behavior Gap (ABG) (FISHBEIN and AJZEN, 1975). 110 respondents, hereinafter "Indifferents", state they value all 4D as important for them, but they do not buy such products often. Moreover, there is another group identified as the "Conventional Food Consumers" (N=164) that do not think that any of the 4D are important to them and thus do not buy such products.

4.3 Barriers that hamper sustainable food buying behaviour

Research question three is analysed in order to reveal the barriers hampering sustainable food consumption in Germany. With the help of ANOVA-Tables mean value comparisons are used to show the differences between the three consumer groups.

The identification of food products that have been produced according to the 4D and the knowledge where to buy such food were analysed at first. The overall results are displayed in Table 1 and 2.

Respondents seem to have difficulties in identifying sustainable food which is especially true for environmental and climate friendly produced food. Also, when looking at the knowledge where to buy sustainable food, they seem to have bigger difficulties to find food that has been produced according to these ecological aspects. The group of "Sustainable Food Consumers" has fewer problems with the two tested barriers, while in the other two groups the barriers augment.

Tab. 1: Identification and Availability Barriers

		E	FT	AW	C
It is easy for me to identify food that has been...					
<i>Significance of mean value differences</i>	<i>Sig.</i>	<i>.000</i>	<i>.000</i>	<i>.000</i>	<i>.000</i>
Sustainable Food Consumers	MV	0,42	0,85	0,65	0,31
	SD	0,809	0,925	1,018	0,970
Indifferents	MV	0,10	0,41	0,26	-0,05
	SD	0,928	0,989	0,945	0,913
Conventional Food Consumers	MV	-0,27	-0,02	-0,08	-0,50
	SD	0,921	1,074	1,039	0,869
<i>Total</i>	<i>MV</i>	<i>-0,07</i>	<i>0,21</i>	<i>0,11</i>	<i>-0,26</i>
	<i>SD</i>	<i>0,940</i>	<i>1,066</i>	<i>1,027</i>	<i>0,933</i>
I know where to buy food that has been...					
<i>Significance of mean value differences</i>	<i>Sig.</i>	<i>.000</i>	<i>.000</i>	<i>.000</i>	<i>.000</i>
Sustainable Food Consumers	MV	1,12	1,19	1,23	0,92
	SD	0,653	0,694	0,710	0,688
Indifferents	MV	0,48	0,65	0,68	0,27
	SD	0,974	0,963	0,976	0,957
Conventional Food Consumers	MV	0,05	0,23	0,25	-0,22
	SD	1,061	1,142	1,104	1,039
<i>Total</i>	<i>MV</i>	<i>0,30</i>	<i>0,46</i>	<i>0,49</i>	<i>0,06</i>
	<i>SD</i>	<i>1,049</i>	<i>1,086</i>	<i>1,071</i>	<i>1,042</i>

Sig. = Significance; MV=mean value; SD=standard deviation

Scale: -2=does not apply at all; -1=does not apply; 0=partly; 1=applies; 2=fully applies

Source: Own calculations.

Apart from the barriers that were tested for all 4D, there were four more general barriers tested (Table 2). The results again display that there are significant differences between the three consumer groups.

Tab.2: Availability Barriers

		High price	Lack of idealism	Lack of trust	Fix routines
<i>Significance of mean value differences</i>	<i>Sig.</i>	<i>.000</i>	<i>.000</i>	<i>.005</i>	<i>.015</i>
Sustainable Food Consumers	MV	-0,08	-0,92	-0,08	-0,58
	SD	0,891	1,017	1,129	0,902
Indifferents	MV	0,35	-1,05	-0,17	-0,14
	SD	0,894	0,811	1,030	0,903
Conventional Food Consumers	MV	0,71	-0,54	0,22	0,01
	SD	0,912	1,059	0,940	1,012
<i>Total</i>	<i>MV</i>	<i>0,51</i>	<i>-0,76</i>	<i>0,05</i>	<i>-0,10</i>
	<i>SD</i>	<i>0,934</i>	<i>0,999</i>	<i>1,005</i>	<i>0,975</i>

Sig. = Significance; MV=mean value; SD=standard deviation

Scale: -2=does not apply at all; -1=does not apply; 0=partly; 1=applies; 2=fully applies

Source: Own calculations.

The “Sustainable Food Consumers” do not perceive any of the tested barriers as such, while for the “Indifferents” and the “Conventional Food Consumers” price constitutes a clear barrier for sustainable food purchases. Apart from this, the low mean values of the barriers concerning the lack of trust in the certification of such products and the difficulty to change fixed routines hint at important additional reasons why these two consumer groups do not buy sustainable food products frequently.

5. Discussion

The market for sustainable food in Germany is still a niche market, but steadily growing. Many consumers care about the sustainability of food products, although this positive attitude is not always translated into purchasing behaviour. There is a big group of consumers that believes in the importance of all 4D (45%), but only occasionally buys such products. This group should be the target group for a more effective marketing of such food. Consumers still have difficulties to identify sustainable products and to know where to purchase them, although there are well known labels such as Fair Trade. Specifically, respondents had clear difficulties identifying environmental friendly

food, which might be due to the fact that occasional consumers tend to associate organic products not exclusively with environmental aspects but more with health aspects (WIER et al., 2008, 412). Animal Welfare is the dimension most consumers care about and thus it would be a good topic for supply chain actors to focus on when they want to profit from the possibilities of the sustainable food market. Climate friendly food production however does not seem to get much attention from consumers. The perception that the price for sustainable food is too high is a major barrier for consumers even if they have positive attitudes towards sustainability.

For policy as well as marketing actors, the results of this study hint at the importance of better communicating the additional qualities of sustainable food in the future. If the niche market is supposed to be mainstreamed, information about sustainable products, as well as the products themselves, needs to be made easily available and comprehensive, i.e. via labels. Moreover, it is crucial to educate and motivate consumers that their consumption impacts the overall sustainability the premium price is justified.

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References

- ADAMS, M. and RAISBOROUGH, J. (2010): Making a difference: ethical consumption and the every day. *The British Journal of Sociology*, 61, 256-274.
- AERTSENS, J., VERBEKE, W., MONDELAERS, K. and van HUYLENBROECK, G. (2009): Personal determinants of organic food consumption: a review. *British Food Journal*, 111, 1140-1167.
- AJZEN, I. (1985): From intentions to actions. A theory of planned behaviour. In: Kuhi, J. and Beckmann, J. (eds.): *Action-control: From cognition to behaviour*. Heidelberg: Springer, 11-39.
- AJZEN, I. (1991): The theory of planned behaviour. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- BÖHM, J., KAYSER, M. and SPILLER, A. (2010): Two Sides of the Same Coin? - Analysis of the Web-Based Social Media with Regard to the Image of the Agri-Food Sector in Germany. *International Journal on Food System Dynamics*, 1, 264-278.

- BöLW (Bund Ökologische Lebensmittelwirtschaft e.V. (2012): Zahlen, Daten, Fakten: Die Bio-Branche 2012. Berlin.
- CASWELL, J. A. and PADBERG, D. I. (1992): Toward a More Comprehensive Theory of Food Labels. *American Journal of Agricultural Economics*, 74, 460-468.
- EBERLE, U., SPILLER, A., BECKER, T., HEIßENHUBER, A., LEONHÄUSER, I.-U. and SUNDRUM, A. (2011): Politikstrategie Food Labelling. Gemeinsame Stellungnahme der Wissenschaftlichen Beiräte für Verbraucher- und Ernährungspolitik und Agrarpolitik beim BMELV. Berlin.
- EUROPEAN COMMISSION AND EUROPEAN PARLIAMENT (2008): Special Eurobarometer 300: Europeans' attitudes towards climate change.
- EUROPEAN COMMISSION AND EUROPEAN PARLIAMENT (2009): Flash Eurobarometer: Europeans' attitudes towards the issue of sustainable consumption and production.
- FAIR TRADE DEUTSCHLAND (2013): Absatz Fairtrade-Produkte im Einzelnen. URL: <http://www.fairtrade-deutschland.de/produkte/absatz-fairtrade-produkte/> (10.01.2013).
- FISHBEIN, M. and AJZEN, I. (1975): *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- FRANZ, A., von MEYER, M. und SPILLER, A. (2010): Diffusionsstrategien für Nachhaltigkeitslabel. *Zeitschrift für Umweltpolitik*, 4, 417-443.
- ROLLEAU, C. and CASWELL, J. A. (2006): Interaction Between Food Attributes in Markets: The Case of Environmental Labeling. *Journal of Agricultural and Resource Economics*, 31, 471-484.
- GRUNERT, K. G. (2011): Sustainability in the food sector: a consumer behavior perspective. *International Journal of Food System Dynamics*, 2, 207-218.
- HENSELEIT, M. (2012): Die Nachfrage nach Fair-Trade Produkten in Deutschland – eine empirische Untersuchung unter Berücksichtigung von Präferenzen für Bio-Produkte. *Schriften der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Ladbau e.V.*, 47, 137-149.
- HONKANEN, P., VERPLANKEN, B. and OLSEN, S. O. (2006): Ethical values and motives driving organic food choice. *Journal of Consumer Behaviour*, 5, 420-430.
- HONKANEN, P. and OLSEN, S. O. (2009): Environmental and animal welfare issues in food choice: the case of farmed fish. *British Food Journal*, 111, 293-309.
- JAHN, G., SCHRAMM, M. and SPILLER, A. (2005): The reliability of certification: Quality labels as a consumer policy tool. *Journal of Consumer Policy*, 28, 53-73.
- KAYSER, M., SCHLIEKER, K. and SPILLER, A. (2012): Die Wahrnehmung des Begriffs „Massentierhaltung“ aus Sicht der Gesellschaft. *Berichte über Landwirtschaft*, 90, 417-428.
- LAGERKVIST, C. J. and HESS, S. (2011): A meta-analysis of consumer willingness to pay for farm animal welfare. *European Review of Agricultural Economics*, 38, 55-78.

- LOUREIRO, M. L., MCCLUSKEY, J. J. and MITTELHAMMER, R. C. (2001): Assessing Consumer Preferences for Organic, Eco-labeled, and Regular Apples. *Journal of Agricultural and Resource Economics*, 26, 404-416.
- MCCLUSKEY, J. J., DURHAM, C. A. and HORN, B. P. (2009): Consumer Preferences for Socially Responsible Production Attributes Across Food Products. *Agricultural and Resource Economics Review*, 38, 345-356.
- VON MEYER-HÖFER, M. and SPILLER, A. (2013): Anforderungen an eine nachhaltige Land- und Ernährungswirtschaft: Die Rolle des Konsumenten. *KTBL-Schrift*, 500, 1-9.
- REISCH, L. (2011): A Definition of Sustainable Food Consumption. URL: <http://www.scp-knowledge.eu/knowledge/definition-%E2%80%9Csustainable-food-consumption%E2%80%9D> (23.07.2013).
- ROBERTS, J. A. (1996): Green consumers in the 1990s: Profile and Implications for Advertising. *Journal of Business Research*, 36, 217-231.
- SCHULZE, B., LEMKE, D. and SPILLER, A. (2008): Glücksschwein oder arme Sau? Die Einstellung der Verbraucher zur modernen Nutztierhaltung. In: Spiller, A. and Schulze, B. (eds.): *Zukunftsperspektiven der Fleischwirtschaft - Verbraucher, Märkte, Geschäftsbeziehungen*. Göttingen: Universitäts-Verlag Göttingen, 465-488.
- VERAIN, M. C. D., BARTLES, J., DAGEVOS, H., SIJTSEMA, S. J., ONWEZEN, M. and ANTONIDES, G. (2012): Segments of sustainable food consumers: a literature review. *International Journal of Consumer Studies*, 36, 123-132.
- VERMEIR, I. and VERBEKE, W. (2006): Sustainable food consumption: exploring the consumer "attitude-behavioral intention" gap. *Journal of Agricultural and Environmental Ethics*, 19, 169-194.
- WIER, M., O'DOHERTY JENSEN, K., ANDERSEN, L. M., MILLOCK, K. and ROSENKVIST, L. (2008): The character of demand in mature organic food markets: Great Britain and Denmark compared. *Food Policy*, 55, 406-421.
- WWF (World Wildlife Fund for Nature) (2012): *Klimawandel auf dem Teller*. Berlin.

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