

Fundamental value positions and *guānxi*-relationships as determinants for Chinese farmers' decision-making

Grundlegende Werthaltungen und *guānxi*-Beziehungen als Faktoren zur Entscheidungsfindung bei chinesischen Landwirten

Daniela WEBER and Holger BERGMANN

Summary

Agri-environmental policies require approaches that include actors at micro-level to implement innovative practices. Recent economic studies increasingly focus intrinsic motivation as flow-promoting determinants for a sustainable adaption of optimized technologies. This contribution reports key results from a farmers survey in intensive agricultural area of North China Plain (n=394). The analyses reveal that farmers' agri-environmental decisions are influenced by values and *guānxi* traits that underly societal changes and need dynamic concepts.

Keywords: China, farmers, decision-making, values, *guānxi*

Zusammenfassung

Die Umsetzung innovativer Agrarumweltprogramme erfordert den Einbezug lokaler Akteure. Neuere ökonomische Studien konzentrieren sich, im Zuge einer nachhaltigen Akzeptanz von Programmen, zunehmend auf den Einfluss intrinsischer Motivationsgründe. Dieser Beitrag stellt die Bedeutung von Werthaltungen und sozialen Normkonzepten im landwirtschaftlichen Entscheidungsverhalten heraus. Die Ergebnisse basieren auf einer Befragung von Landwirten in der intensiv genutzten Nordchinesischen Tiefebene (n=394). Die Analyse weist darauf hin, dass Entscheidungen im Agrar/Umwelt-Bereich von Werten und Cha-

rakteristika der *guānxi*-Beziehungen beeinflusst sind, die einem Wandel unterstehen und dynamische Konzepte erfordern.

Schlagnvorte: China, Landwirte, Entscheidungsfindung, Werte, *guānxi*

1. Introduction

China's demographic and economic growth has had a harmful impact on the natural resources. In order to meet the food demand, policies have successfully increased agricultural production through advertising an intensive use of external inputs at significant negative external effects (ASH and EDMONDS, 1998). In addition, agricultural extension services do not work efficiently (HUANG et al., 1999) and there is certain scepticism regarding the application of less agricultural inputs since they experienced yield increases in the last 30 years (JU et al., 2004). Thus, well-grounded approaches focusing the farmers' adoption of optimized technologies are of significance. In this regard the influence of social and cognitive aspects has increasingly been recognized by a range of studies (DECI and RYAN, 1985). However, very few articles are available about such particular inherent decision-making factors of Chinese farmers. Furthermore environmental measures often have a low adoption rate (WANG et al., 2003). The conducted farmers' survey focuses on values and *guānxi*-networks as decision-making determinants.

2. Theoretical background

2.1. Fundamental value positions

Fundamental values predict attitudes and choices as well as preferences and even a particular behaviour (STRACK et al., 2008). As such, they are relevant impact factors of decision-making (GASSON, 1973). By knowing farmers' underlying value positions, their behaviour could be systematically directed to an intended change, via alternative need satisfaction. Groundbreaking research was done by SCHWARTZ (1992) who mapped ten value types, assuming that those values are inherent to every social group, but in different constitutions (see Fig. 1). The cycle represents a continuum. The closer any two values are the more similar are their underlying motivations. Hence, two dimensions structure the

cycle like a coordination system according to the major polar value opposites: Openness to Change to Conservation (“Traditional-Axis”) refers to the conflict between traditional stability to independent action, Self-Transcendence to Self-Enhancement (“Universalism-Axis”) reflects the conflict between universal welfare versus pursuit of one’s own dominance over others (SCHWARTZ, 1996). Any correlation is an intersection of the axes with the value cycle, e.g. a positive correlation with both, “Universalism-“ and “Traditional-Axis”, refers to a value position that is situated in the first quadrant of the coordinate system, i.e. values of benevolence, tradition and conformity.

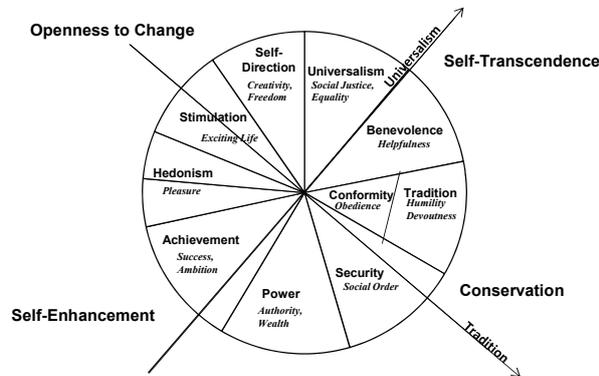


Fig. 1: SCHWARTZ' universal value cycle
Source: modified according to SCHWARTZ, 1992

2.2. *Guānxi*-relationships

Guānxi is defined by personalised relationship networks of influence (DUNNING and CHANGSU, 2007). It is an integral part of social life in China and also has a crucial impact on the farmers' daily decisions. Knowing its traits is important to find a norm-conform way for the adaption of optimized practises. *Guānxi* relationships are rooted in Confucian doctrines, e.g. seeking for harmony, being respectful, etc. It is more than a Chinese ideom of social capital; it is more hierarchically structured and focussed on personal gain (FAN, 2002, 371). LUO (2000) as well as DUNNING and CHANGSU (2007) pointed out that *guānxi* is a utilitarian concept that bonds two persons through exchange of favours rather than through sentiments. It implies reciprocity and the perpetual obligation to favour the weaker partner (ALSTON, 1989). *Guānxi* is trans-

ferable to third persons if the middleman feels satisfaction about his *guānxi* with both persons. Loyalty is given through trust, honesty, respect and social status (DAVIS et al., 1995) which is often more important than organisational affiliation or legal status. Due to its long-term orientation *guānxi* is regarded as a stock of relational capital which is to be conserved or augmented in times of abundance, but drawn upon in times of need. Lastly, people who share *guānxi* are maintained by an unspoken commitment. Disregarding these devotion, respectability and social standings are seriously damaged (DUNNING and CHANGSU, 2000).

3. Empirical methodology and data analysis

In order to analyse the Chinese farmers' value positions and *guānxi* traits, farm households (n=394) were surveyed in Shandong Province. This agricultural area is characterised by intensive winter wheat/summer maize crop rotations and nitrogen application rates of more than 500 kg N/ha (CUI et al., 2010). Guided by the literature, a number of opposed items were selected for the questionnaire, as basis for the measurement of the farmers' varying agri-environmental attitudes, *guānxi* specifications and value positions (see VOGEL, 1996; DUNNING and CHANGSU, 2007; WORLD VALUES SURVEY, 2007; SCHWARTZ, 2006). The data analysis was conducted via PASW Statistics 18. Univariate analyses show frequencies of the respondent's decision-behaviour; bivariate methods are used to correlate variables and factors to analyse statistical relationships between values, *guānxi* and different attitudes, and structure discovering multivariate analyses facilitate a reduction of the large number of items for underlying decision-determinants.

3.1 Farmers' decision-behaviour

Univariate analysis showed that farmers' decision-making on annual production is apart from own experienced practices (42.1%) guided by the neighbours' practice (11.8%) and only to a very low extent by advices of extension services (1.3%). A similar picture was given when asking about farmers' support on nitrogen and manure management: 61.2% stated that established habits and traditions play an important role and only 7.9% rely on information of the agricultural extension services, which indicates that *guānxi* is important for their decisions.

3.2 Factor analyses of *guānxi* and agri-environmental attitudesTab. 1: *Guānxi*-traits (Principal Component Analysis, Varimax Rotation)

Principal Components	<i>Guānxi</i> traits	1	2	3	4	Cronbach's α
Collectivism	I put group harmony above my own opinion.	.891				.739
	It's fair that group interests prevail over individual interests.	.883				
	Related to work alone, I like to work in a group.	.541				
Personal ties	A personal connection is developed and reinforced through personal care and commitment.		.734			.607
	In my network of contacts, people depend on one another.		.714			
	People should help one another; you never know when you might need their help.		.641			
	A personal relationship with others is part of daily life.		.545			
Utilitarian	It is fair that people gain benefits by depending on their network of contacts.			.883		.704
	It is natural that I give favours to and receive favours from my network of contacts.			.844		
Transferable	My limited contacts do not matter; my contacts are able to introduce me to their network.				.871	.623
	I can make use of my contacts' contacts as long as I have a good relationship with my contacts.				.789	

Source: Own calculation, KMO-Measure of Sampling Adequacy: 0.675

The initial number of items was reduced by means of factor analysis in order to suggest underlying variables (Tab. 1). Four factors were set referring to the guiding principles of *guānxi* relationships: (1) Collectivity takes precedence over individual interests. As such, Confucian doctrines of harmony and communitarism are highly valued. (2) Personal ties are set out to be longterm oriented. They are defined by reciprocal interdependency and personal commitment in daily life. (3) The utilitarian trait of *guānxi* is rational motivated and linked to an expected

benefit from any relationship. (4) Transferability of contacts enables the navigation of the relationships in order to enlarge the own scope of action. Further extracted two factors show directives of farmers' agri-environmental attitudes (Tab. 2): (1) Neither a critical nor a differentiated perception of environmental issues, since fertilizers are not regarded as harmful. (2) Concern about economic risks resulting from a reduction of nitrogen and the families' financial security. The share of cumulative agreements shows that more than two third of the farmers consider these statements as important. Regarding the response style of factor 1, agreements and disagreements to single items split up nearly equally, meaning that farmers indeed have different states of information and that this field of knowledge is not yet implemented.

Tab. 2: Environmental attitudes (Principal Component Analysis, Varimax)

Principal Components	Environmental attitudes	1	2	Cronbach's α
	[in brackets: share of cumulative agreements/ disagreements; neither agree nor disagree ignored]			
High input agriculture/ No environmental awareness	Environmental problems are not related to my behaviour in fertilizer usage. [44/43]	.782		.604
	I don't think about environmental aspects, I just do my work on the farm. [44/45]	.715		
	Commercial fertilizers and pesticides promote high quality. Beside they've no harmful effects. [46/36]	.623		
	The groundwater burden resulting from the washing out of fertilizer not worse. [29/22]	.551		
Economic security prior environmental issues.	If I stop N-use in order to reduce the harm of the environment, it would be too risky for the income. [64/22]		.895	.750
	For the sake of the environment, stopping N-use is too risky for the household's annual income. [74/17]		.880	

Source: Own calculation, KMO Measure of Sampling Adequacy: 0.602

3.3 Ordination analysis of the Chinese farmers' value position

In order to analyse value positions of Chinese farmers, STRACK's (2010) formula is used to generate two axes in the value cycle of SCHWARTZ

(1992)¹. The intersection of the mean values on both axes results in the farmers' particular value position on the value cycle. A multivariate ordination compares the farmers' value position with that of other countries investigated for the European Social Survey (ESS, 2010). This is possible, because replicability of fundamental values in different cultures is proven (SCHWARTZ, 1992; STRACK, et al., 2008). Fig. 2 shows that compared to western and northern European countries, Chinese farmers are more likely to agree to traditional and egocentric values, since family and its security is traditionally more valued than universal issues out of individuals' relationships. Referring to eastern European countries, their value position is more universal which refers to Confucian roots and its pursuit of the collective's harmony.

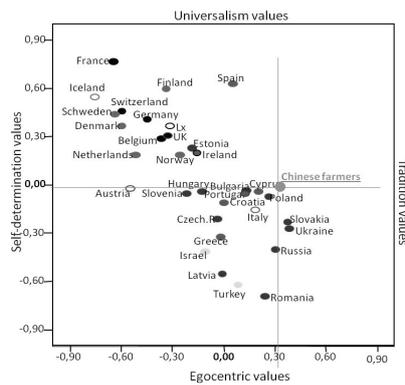


Fig. 2: Chinese farmers' value position

Source: formula according to STRACK, 2010; EU country data of ESS, 2010, 1-4.

3.4 Correlation between *guānxi* and fundamental values

The correlations show that each *guānxi* trait could be traced to the value axes. The overall *guānxi* factor significantly correlates with the universal value axis, but is not affected by the traditional value axis. Thus, there is evidence that *guānxi* is mainly influenced by universal value

¹ The formula was determined factoranalytically from the four rounds of the European Social Survey (ESS 2002-2008/9) and includes weights for each of the 21 ipsated value items. The ipsated scores give Eigenvalues that show the elbow according to the Scree-Test; the base to extract those two factors (STRACK 2010).

orientations. Traditional stability or independent actions (“Traditional value axis”) do not play a role for the concept. So, there must be other driving forces for the maintenance of *guānxi* relationships.

Tab. 3: Results of the Correlation matrix (Pearson, *t*-tailed).

	Universal value axis	Traditional value axis
Collectivism	.154**	-.091 ⁺
Personal ties	.136**	.145**
Utilitarian	-.051	.089 ⁺
Navigating relationships	-.200**	.035
<i>Guānxi</i>	.257**	.019

Source: Own calculation, ** $p < 0.01$; * $p < 0.05$; ⁺ $p < 0.1$

A breakdown to single factors highlights the different value weights in the farmers’ general *guānxi* forming: The factor “Collectivism” correlates significantly positive with the universal value axis and slightly negative with the traditional value axis. Thus, farmers with strong focus on collectivity in their personalised relationships are more influenced by universal values, like harmony and social justice. Similar value motivations influence “Personal ties” within the *guānxi* relationships. This factor correlates also with the universal value on the axis but as well on the other axis with traditional values like loyalty and trust, which are still relevant for personal ties. In contrast to collectivism, this is a typical and important trait for modern, open and self-directive thinking farmers. Less universal, but more self-/family-centred and traditional values shape the “Utilitarian” factor that is characterised by exchange of favours and the pursuit of security for personal requests. The factor “Navigating relationships” shows the highest numerical values on the “Universalism-Axis” towards egocentric values (negative correlation), as this characteristic is practised in order to gain new personal relationships for more influence, achievements and social power, thus for the individual benefit.

4. Concluding remarks

The results reveal that both, underlying value positions and *guānxi*-relationships are decisive for Chinese farmer’s agri-environmental attitudes and decision-making. Especially in surroundings where farmers do not trust the consultants, they rely – next to their traditional practice

- to a great extent on informal personal networks like e.g. their *guānxi*-relationships. As social norms and values are not static, closer analysis gave evidence that some of the primarily traditional based traits of *guānxi* became less important or rather changed towards more open and self-enhanced valued meanings. They also aim at more personal influence and power as well as social recognition, in order to comply with the rising focus on egocentric values. Compared to the Chinese farmers' position in the value cycle this change of meaning is attended by an apparent becoming value shift of some farmers towards more self-centred and self-determined values. Thus, they could be open for innovative and convincing changes in their agricultural production systems. Nevertheless, most farmers still rely on traditional values and Confucian based concepts like group harmony and collective values, in particular aiming the economic security of their families. They are mainly risk averse and do not yet think in very individualistic categories. Hence, effective trainings must focus on the added value of environmentally-adapted farming techniques and should not denote income losings. To conclude, China's increasingly open economy offers an infrastructure for a more open society. Some farmers are already open for innovative and convincing changes in their agricultural production. They could act as multipliers in optimized agricultural trainings in order to meet the challenge sustainable strategies.

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Affiliation

Daniela Weber and Holger Bergmann
 Department of Agricultural Economics and Rural Development
 Georg-August-Universität Göttingen
 Platz der Göttinger Sieben 5, 37073 Göttingen, Germany
 Tel.: +49 551 3920128, eMail: dweber2@gwdg.de