

Smallholder group certification in Uganda – Analysis of internal control systems in two organic export companies

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Abstract

The organic agricultural sector of Uganda is among the most developed in Africa in terms of its professional institutional network and high growth rates of number of certified farmers and land area. Smallholder farmers are certified organic through contract production for export companies using a group certification scheme (internal control system - ICS). The ICS is a viable and well-accepted tool to certify small-scale producers in developing countries all over the world. Difficulties in certification are still stated to be among the main constraints for Uganda's organic sector development. Therefore, this paper reports a qualitative case study comprising 34 expert interviews in two organic fresh-produce export companies in central Uganda, aiming to explore the challenges which underlie organic certification with ICS. The study shows that farmers cannot be labelled as 'organic by default' but deliberately engage in organic production as a marketing strategy. The small quantities purchased by the organic companies lead to a difficult marketing situation for the farmers, causing production and infiltration risks on the farm level. These risks require increased control that challenges the companies organizationally. The risks and control needs are a reason to involve farmers in ICS procedures and innovatively adapt the ICS by means of a bypass around formal perspective restrictions. The paper discusses different perspectives on risks, risk control and certification.

Keywords: contract farming, group certification, internal control systems, organic agriculture, organic certification, qualitative research, Uganda

1 Introduction

Certified organic agriculture for niche export markets is an opportunity for 'developing' countries like Uganda to increase the income of smallholders, to access modern agricultural knowledge, and to preserve the environment (Lyons & Burch, 2007; Johannsen *et al.*, 2005; UNCTAD/UNEP, 2008). The organic agricultural sector of Uganda is considered one of the most developed in Africa in terms of its professional institutional network, high growth rates, large area with 212,304 ha certified land, and 180,746 certified small-scale producers in 2008 (Willer & Kilcher, 2010).

The social and environmental effects of sustainability certification schemes have been documented extensively. For example, Bolwig *et al.* (2009) have proven income advantages of organic coffee farmers under contract production in Uganda. Taylor (2005), Tovar *et al.*

(2005) and González & Nigh (2005) have given examples of how the world market structures and the certification process can lead to the risk of exclusion and disempowerment of smallholder producers from sustainability-oriented niche markets. Certification may also act as a non-tariff barrier for exporting countries (Martinez & Bañados, 2004). Group certification systems reduce certification costs by an estimated ten times (AgroEco & Grolink, 2008, p.76). Barrett *et al.* (2001) have argued that these systems can provide a space for organizational learning, building trust and developing internal monitoring and verification systems required for accessing export markets. Therefore, the key requirement for linking smallholders in developing countries to organic export markets is certification through group certification schemes based on an internal control system (ICS). This locates the responsibility for regular trainings, inspections, documentation, produce separation and tracing in the hands of producer organizations, be it cooperatives or export companies working with contract farmers. The international federation of organic agriculture movements, IFOAM (Lechleitner &

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Eisenlohr, 2004), has defined the ICS procedures and developed clear producer guidelines.

Most certification-related research has focused on the role of the organic and other certified niche markets in the economic and political system, while concentrating on coffee production by cooperatives in Latin America (compare González & Nigh, 2005; Mutersbaugh, 2002; Reynolds, 2009; Taylor, 2005; Tovar *et al.*, 2005). However, little research has been conducted in Africa, with the exception of the mentioned study by Bolwig *et al.* (2009), on fresh high value products or in contract production. Mutersbaugh (2002) has described the effect of an ICS on the social relations among farmers in a Mexican coffee cooperative, outside of this, not much has been documented on the functioning of group certification within the producer groups.

A starting point for interpretations concerning organic certification in Uganda is the notion that farmers are 'organic by default' (e.g. Gibbon, 2006), which implies that they are subsistence oriented, apply traditional production techniques and can not afford or access external inputs, thus having no alternative to organic production. However, this concept is neither defined, nor is it proven that it adequately reflects the situation of certified organic farmers. On the other hand, increased and long-standing difficulties with group certification have been perceived by the professionals involved in certification and stated as a constraint for the development of the organic sector in Uganda. A difference between the formal perspectives taken by different institutions such as certification bodies and ICS management could cause this persistence of certification difficulties. The framework for interactive policy-making by Wagemans (2002) is a tool for analysing formal perspectives of institutions and their consequences.

Therefore, this study follows an explorative approach to understand the challenges which underlie organic certification faced by fresh-produce exporters in Uganda and their contract farmers. We answer this question by examining the following sub-questions:

- (1) Does 'organic by default' adequately describe the situation of the participating farmers?
- (2) What risks on the level of production and purchasing of organic products from farmers do the companies need to control?
- (3) How do the companies manage the ICS to handle these risks?
- (4) How does the formal perspective of the involved institutions influence the organic certification in the sample companies?

This paper concentrates explicitly on challenges, and is not a balanced representation of the functioning of ICS in general or the sample companies.

2 Methods

2.1 Research approach

Following the constructivist paradigm, meanings are bound to an organizational and cultural context, i.e. they are "...not in reality but in people" (Wagemans, 2002, p.246). Qualitative research methods accommodate this perspective by being open to the way people interpret and structure a problem (Froschauer & Lueger, 2005, p.225; Snape & Spencer, 2003, p.5), which is very relevant for research within a producer organization. Qualitative research that is open to emergent ideas is especially appropriate when the aim is explorative, i.e. to provide initial understanding about a problem (Koschnik, 1992, p.1221). The qualitative approach stimulated us to formulate open-ended research questions, focus on two sample case studies, emphasize a circular research process (see Flick, 1995, p.61) and validate the results by consulting with the participants.

2.2 Sampling and Data Collection

We analysed the certification letters issued to eight Ugandan organic export companies from 2005 to 2007 (provided confidentially by an international certification body). The incompliances identified by external inspectors were grouped into three severity levels and six thematic categories (Figure 1). Two of these companies (further referred to as companies A and B) were selected as case studies because they showed an average distribution of certification challenges. Since the companies were active in two overlapping growing areas, the case studies focused on two farmers' groups from each company (further referred to as farmers' groups A1, A2, B1 and B2), one in each of the two overlapping districts (Table 1).

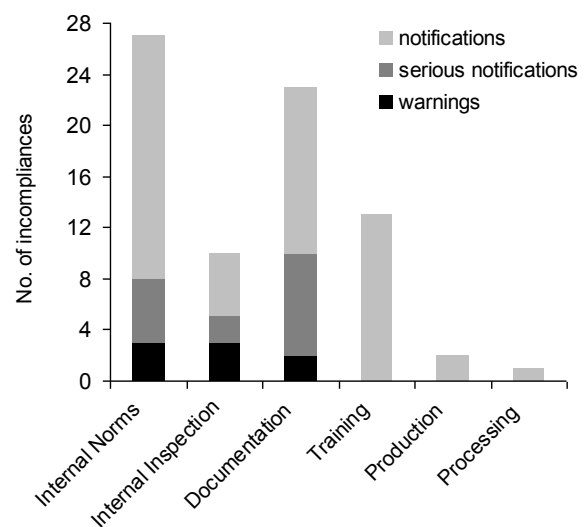


Fig. 1: General description of farmers growing pineapple and other diversified crops

Table 1: Interviewees in the case studies.

	<i>Personnel</i>	<i>Farmers district 1</i>	<i>Farmers district 2</i>
Company A	General manager & field officer	6 of group A1	9 of group A2
Company B	General manager, production manager & field officer	8 of group B1	7 of group B2
Others	External inspector 3 consultants (A, B and C) 3 company managers (C, D, E)	(8 of two groups for pilot study) Double registered farmers	

The individual interviewees were selected by theoretical, purposive sampling based on their “expert knowledge and judgments about the research subject” as described by Meuser & Nagel (1991, p.73, translation). An expert is defined as someone “who is in any way responsible for the draft, implementation and control of problem solutions or who has privileged access to information about groups of persons or decision making processes” (Meuser & Nagel, 1991, p.73, translation). We grouped the participants into three types of experts according to a distinction by Froschauer & Lueger (2005, 228pp): Farmers participate in the ICS and have thus obtained expertise on the ICS practices through their own experience. Out of the four farmers’ groups, we selected six to nine farmers representing different age, gender, economic status and responsibilities within the groups and contacted them through the companies’ field officers. The employees and managers of organic export companies have obtained expertise through their contact with the experience of others and different departments of the organization. All staff members directly involved in the ICS procedures were interviewed. As a third group, the external experts provided theoretical expertise supported by secondary experience. The interviews with consultants, an external inspector and managers of other companies focused on specific questions arising from the case studies and aimed at illustrating and commenting on the research findings.

The in-depth interviews were oriented at the problem-centred interview following Witzel (2000). This interview type stimulates narratives on the subjective approach to a problem that are enriched by dialogues, thereby it deals with and revises the comprehension (information, interpretations) on the side of the interviewer (see also Helfferlich, 2005, p.74). We conducted the interviews from June to August in 2008 using a flexible topic guide and a digital recorder, and in the case of farmers together with an interpreter. We interviewed the managers of both sample companies twice, once at the beginning and a second time at the end of the case studies to discuss the findings from the field. In these interviews, we increase their openness by confronting them with our findings and desisting from digital recording.

2.3 Data analysis

The audio records of the interviews, including notes and observations, were transcribed combining verbatim and paraphrased transcripts, as described by Meuser & Nagel (1991, p.83).

For data analysis, we used the software MAXQDA2007 (VERBI Software. Consult. Sozialforschung. GmbH Marburg 2007) and followed the procedures described by Ritchie *et al.* (2003, 229pp) for descriptive and explanatory analysis. First, descriptive analysis was conducted in an iterative process by labelling text segments into categories of a flexible, subsequently refined index and developing a descriptive synthesis for groups of interviewees. Indexing and labelling refers to thematic categories that are, in contrast to codes, neither predefined nor interpretative. The synthesis distilled the essence of the original material while maintaining largely original language and avoiding interpretation. Second, explanatory analysis identified explicit and underlying reasons and inferred an underlying logic. Specifically, we contrasted the views of the different types of experts and the certification records (representing the external inspector’s formal view) to come to explanations where appropriate. This process avoided inferring interpretations on the material before a thorough understanding had been reached, which is crucial in exploratory research (Ritchie *et al.*, 2003, 229pp).

2.4 Description of the Case Studies

The two sample companies both purchase, process and export tropical fruits that are produced by contracted outgrowers in several districts in the central region of Uganda. The interviewed farmers are small to medium sized, cultivate manually between 0.08 and 4 hectares (certification documents), and produce a combination of subsistence food crops with a number of cash crops for the export and local markets. The organic farmers of each locality form groups with 11 to 36 members, 10% of whom are women (certification documents). Both companies are rather small with less than 200 contracted farmers, and they received consultation

and initial financial support from the development aid program 'Export Promotion of Organic Products from Africa' (EPOPA). Company A has been active in the organic market for a longer time and finds itself in a good market situation with the demand exceeding supply, while company B is in the opposite situation.

The companies' ICS manuals specify the ICS procedures and organic production rules; they follow the requirements of importing countries but adapt them to the local situation and the companies' specific quality demands. The producers are given the responsibility to follow these production rules, to sell only their own certified produce and to keep sales receipts and a contract, these responsibilities do not require them to be literate. The organization of farmers into groups is not required for the certification process, rather it has been promoted by the EPOPA consultants and other NGO's with the objective to simplify purchasing, training, and inspection of large numbers of small-scale farmers. The company staff performs the main formal ICS procedures as described by the guidelines (Lechleitner & Eisenlohr, 2004); inspections are carried out annually/biannually for company A and B, respectively; trainings and yield estimations are carried out annually.

According to the document analysis, the annual external inspections of the years 2005-2007 have marked most notifications and warnings in the categories 'internal norms' (incomplete, not updated and missing ICS documentation), 'internal inspection' (inadequate quality, scope or documentation of the inspection) and 'traceability' (missing or incomplete records of the product flow, inadequate maps). The categories 'Training' (insufficient knowledge of farmers), 'production methods' and 'processing' (deviation from production or processing rules) have received only a few notifications but no serious notifications or warnings.

3 Results and interpretation

3.1 Are the farmers organic by default?

The organic companies have approached the farmers through contacts from traders on the urban markets and have mostly selected farmers with no history of agrochemical use. Because of the approach through commercial channels, there is a higher proportion of market-oriented farmers among the organic farmers. All farmers have been growing at least one export crop (coffee) before joining the organic programs.

Traditional production techniques for the two export crops have not been developed because they have only been cultivated for five to eight years. Instead, farmers narrate how they have learned the specialized growing techniques associated with these fruits from friends and family members. Also for crops with a longer growing history, the traditional production methods are of decreasing value to the farmers as newly introduced

pests and diseases affect these crops. The sources of knowledge on organic production methods are two innovative farmers in each group, and the trainings provided by the organic exporters and a few NGO's. Consequently, female, married farmers have difficulties in accessing this knowledge, as they often do not participate in trainings. The 2006 external inspection report for company B even criticized that the internal inspector interviewed farmers' wives for internal inspection, because of their lack of knowledge. One reason is that married women are normally not registered, but are regarded as part of the household represented by the husband, who is mentioned on the registration list. He attends the group activities and trainings, even though field staff members verbally encourage women to participate. Farmers themselves find that they need to learn more about organic plant protection, weed management and animal husbandry, while the managers of company A and C and consultant C identify a lack of knowledge on organic cultivation of non-export crops and organic requirements beyond "not spraying".

The farmers find that profitable organic production requires a good amount of external inputs, namely coffee husks and animal manure for fertilizing organic fields, as well as locally unavailable seeds and planting materials of the new fruit crops. Furthermore, the labour requirements in organic agriculture are increased, especially for transporting mulches and manures and weeding; only group B1 grows a cover crop promoted by the organic exporter to suppress weeds. Underlining the importance of labour limitations, one farmer states: "you cannot expand the garden when you are dealing with organic" and another farmer has even reduced the size of her field to cope with weeding. Most farmers hire labourers from time to time, but especially farmers who cultivate larger fields or who have a small own working capacity (for example single women or elderly) rely strongly on hired labour. For farmers who use a high proportion of hired labour, the costs for manual weeding are up to five-fold those of applying all-round herbicides (125,000 USH ~ 50 € as opposed to 25,000 USH ~ 10 € per hectare). Labour prices have doubled in the last four years (from 2,000 to 4,000 USH per day, ~ 0.80 to 1.60 €), while the price for organic produce has stayed constant in the same time period. Herbicides are available in all small trading centres and used by several non-organic farmers. Because of the costs for planting material, labour and organic fertilizers, the organic production requires capital while first yields and earnings of the perennial fruit crops begin after one to five years, depending on the crop.

Consequently, even though most farmers have never used agrochemicals, they cannot be labelled as organic by default, rather they have deliberately decided to engage in organic production as a marketing strategy. They assess the option of organic production and the re-

quired high financial and labour investments following pragmatic arguments like practicability and profitability.

3.2 Risks and control needs for the companies

The companies as ICS operators perceive and deal with a number of risks for the organic product integrity on the farm level. For the organic crop itself, some farmers consider using herbicides for the above-mentioned cost reasons; companies find this highest on-farm risk. Most of the 21 farmers who have been noted to use herbicides in the last two years (certification records 2006 to 2007), have sprayed because they have deliberately been converted to conventional farming (farmers group B2). Moreover, farmers might apply agrochemicals in their other crops, especially in beans, maize, or exotic vegetables, for example in the form of treated seeds. In general, the risk for contaminating the export crops by agrochemical application on other crops ('split production') is low (external inspector). However, both companies require whole farm conversion and certify all plots in order to allow for crop rotations, thus the practices with other crops are relevant for certification. The manager of company A even tells farmers that they cannot sell organic produce if they grow vegetables; since agrochemicals are seen as indispensable to their cultivation, for example when only treated seeds are available. In contrast, farmers find that their practice with other crops does not affect the organic fruit crop.

The market situation for the organic fruit crop is critical to the farmers' commitment and interpretation of the organic rules (consultant C, external inspector). Considering the above-mentioned high costs involved in organic production, the profitability remains low when farmers can only sell a small proportion of their produce as organic, even if price premiums are lucrative. The groups A1, A2 and B2 can only sell 10-15% of the available produce to the organic companies, because the companies' export orders are less than the number of registered farmers produce. Keeping a high number of farmers registered allows the companies flexibility in case their demand increases, as it has happened for the fruit produced by group B1, but it is also advantageous in the competition with other organic exporters for farmers in the same area, since formally farmers may be registered with only one company.

The groups in district 2 are able to cope with the low demand from the organic exporters by selling their produce to traders, especially those from neighbouring countries. These conventional buyers, who pay immediate, high, "abnormal" prices (manager company A) for large volumes during off-season are a problematic competition for the organic exporters. Furthermore, their demand motivates farmers to produce one crop in both organic and conventional quality for different buyers ('parallel production'), which group B2 has commonly agreed to allow to its members in future, although none of the farmers practice it yet.

In the product flow, the companies perceive and experience a high risk for infiltration of uncertified produce: it is mentioned in both companies' risk assessments, is considered a "much greater" risk than all on-farm risks by company B, and was experienced by companies B, D and Ef. Infiltration of conventional produce has happened twice in farmers' group B1, the only group of which the company demands more produce than their production capacity. The company had repeatedly scheduled the dates for bulk purchases too late after the main harvest, such that a majority of the produce had spoiled and a small proportion was sold to traders. This brought both the purchaser and the farmers into a conflict of interest: the purchaser needed to find enough produce to fulfil his order and some farmers opted to compensate their lost profits.

These incidents illuminated gaps in the tracing system because the purchaser made the infiltration untraceable in the documentation by forging purchase receipts. He was not controlled by other company staff, which gave him "many ideas" for misuse (manager company B). Both companies allow purchasers to perform their work alone without any supervision. In company A, even the chairperson of one farmers' group purchased and transported produce to the company by himself, using public transportation.

According to the ICS guidelines, yield estimates are the main measure to avoid infiltration, these are made annually and restrict the maximum amount of purchases from a specific farmer. However, in the described case the estimates were not effective because they do not reflect the availability of certified organic produce. Outside sales are not documented (and farmers hold back information about their marketing activities), and it is not clear how much produce is actually harvestable at a given moment. Therefore, infiltration is possible without oversupplying the quantities estimated for the entire harvest. Consequently, company B has changed the procedures to something we like to term 'field estimates': The field officer determines the quantity of produce that is actually in the certified field just one or two days before the company comes to purchase from the farmers.

The ineffectiveness of the tracing system is further illuminated by the farmers in group B2, who are secretly registered with three organic companies at the same time and even sell their certified organic fruits to company D through its registered organic farmers and vice versa. Furthermore, four farmers of groups A2 and B1 have contracts with two and three organic exporters, in order to increase the quantity they can sell to organic companies, and are thus certified multiple times by various ICS. In district 2, where farmers are more market oriented and many organic companies are present, this practise is very common (underlined by the external inspector). Although the farmers take care to sell only certified organic fruits, the companies, external certifiers and consultants (A and B) disagree with this practise be-

cause it impairs the traceability. As the external inspector states: "... it creates room for the producers to go and play this game [selling inorganic produce]", for example if only one of the companies detects a non-compliance of a double-registered farm household. Since farmers register different household members with the different companies, only spot checks of external inspectors can detect this practise. On the other hand, the companies tolerate some known cases and consultants and certifiers have different opinions about handling this issue.

3.3 ICS management

In consequence of the above-described risks, the companies have intensified the internal control when compared to the documented ICS procedures. In addition to the formal annual or biannual inspections, all the visited companies carry out frequent informal checkups (for example company B every 6 weeks, company D every month, others irregularly). Furthermore, company B has changed the procedures and increased the frequency of the yield estimates, and it requires at least two staff members to purchase the products of the farmers' jointly. Additional inspections and control measure for purchasing staff are neither assessed by the external inspection (certification records), nor required by the ICS minimum requirements. Thereby the organic companies have greatly increased the workload for the field staff and employ many field staff, one field staff member is in charge of less than 100 farmers. Consultant C seems to be unaware of this workload as he finds that field officers work efficiently and cost-effective when they are assigned to 300 to 500 farmers, which cannot cover the additional controls. Besides a high workload, the field staff members have poor employment terms such as the employment on a daily basis (in company A).

Both companies have experienced a constantly high degree of staff turnover in the last three years, such that achievements in staff management and trainings are regularly lost. In company A this is the case for field officers and in company B it occurs even in higher staff levels. For example, one staff member has changed from company B to company A and then to company D. Reasons are changes in management (company B), conflicts and adaptations after the end of EPOPA support (company A) or deviations by staff members (both companies). Therefore, companies A and B work with only two and three ICS-staff members, and had each an equal number under training. Along with competition for trained personnel, staff fluctuations and difficult transitions from EPOPA support to own management can be found in many Ugandan organic companies (external certifier, consultant B).

The high workload and the apparently never-ending transitional situation, which lead to a reliance on few staff members, help to understand the shortcomings in the ICS management that are reflected in the certification documents. In both companies responsibilities are

not clearly separated, conflict of interest, for example between training and inspection, is not avoided, and the internal inspections are insufficient in terms of quality and scope, for example when a field officer inspects up to 13 farmers in one day.

All five interviewed companies have developed another strategy to cope with the perceived need for frequent control. They involve farmers in the control activities, i.e. encourage a social control among farmers to balance their own control gaps. Both interviewed farmers' groups of company B have an elected officer for that task, called 'policeman' or 'discipline officer'. They visit the group members in at least monthly intervals and collect information from fellow farmers, and so far, they unsuccessfully demand compensation for time and fuel from the company. Company A, on the other hand, hardly draws on the official group organization, but works with a parallel structure of selected individual farmers. It has assigned the former group chairpersons to inspect fellow farmers and to organise purchases and training, and it compensates their efforts. The lack of these farmer inspectors' legitimation by a group decision may be a risk for internal conflicts. Farmer control has lead to reporting of a number of deviations, for example group B1 has found a farmer applying herbicides and a double certified farmer. However, conflict may arise between a shared interest of the group such as the collective marketing interests in group B2, and the need to report deviations, such as parallel production.

Consultants A and B stress that a strong internal organisation and social cohesion is required for dealing with the above-mentioned risks for conflict, and for creating social pressure based on the knowledge that "the whole group suffers when there is a problem" (Farmer of B1). However, these social capacities are not of special concern to the companies or part of the trainings. The degree of internal organization varies among the groups, as indicated by group constitutions, legal registration, membership rules, number of group offices, regularity of meetings, and projects going beyond the organic business. The social cohesion suffers from the leaving-out of married women, conflicts in financial matters and a high dependency on and resulting mistrust in the chairpersons, who have usually been group founders and are in office since then.

So far, the inspection by farmers is neither defined in the ICS-manuals, nor regulated, and therefore the frequency of the visits, the documentation or reporting procedures and the definition of responsibilities are not transparent. The inspecting farmers do not receive training or supervision, so their reliability is not ensured. For example, the most outlying farmer in group B2 is never inspected. Consultant B and C underline the need for documentation, at least showing when a farmer was visited and found compliant or when deviations were found. Otherwise, inspectors might reduce their informal inspections to the extent that they loose

control instead of increasing it (for example manager of company B).

3.4 Formal perspectives of institutions

The analysis of the fourth sub-question draws on the framework for interactive policy-making by Wagemans (2002). Supposing that institutions such as the government act “in the same way as a human being in terms of sense-making”, they perceive only a limited proportion of society that is meaningful within their formal perspective. Needs and opportunities for change from outside this perspective are not meaningful to the institution; therefore, problems are reinforced as long as no ‘bypass’ structure is created where new solutions can be found. In the presented study, the company managing and implementing the ICS represents an institution with a limited, formal perspective on the farmers’ activities and values related to the certification process. The risks and their causes described in section 3.3 are not perceived by the formal perspective of the ICS and are therefore not controlled or counteracted, partly due to the underlying assumption that farmers are organic by default. However, the company staff measures their success not only within the formal perspective but also by the companies’ business activities. Additionally, company staff has a more personal relationship to farmers and their locality. Therefore, they perceive problems beyond the formal perspective, such as the not externally checked need for purchaser control, and develop adaptations and problem solutions to compensate gaps in the formal control system.

However, the ICS management does not formalize these adaptations in the ICS procedures in the risk assessments or the internal regulations, but treats them like a ‘bypass’ structure around the formal perspective. This allows them to try out new procedures more flexibly, to avoid increased control pressure from the external certifier’s side and to withhold information on these internal weaknesses from importers and consumers. The shortcomings of the initial set-up in controlling risks may have lead the companies to use the ICS as a “marketing tool” (mentioned by all managers) rather than a “management tool” for actively developing an internal quality management.

The external certification bodies, on the other hand, are an institution with a different formal perspective, they are only to a small extent receptive for things happening in the ICS internally. The problems that the external certifiers perceive have to be handled within the formal procedures, but since the causes of these problems go beyond the formal perspective, they are not addressed and the same incompliances are reproduced. Furthermore, there is a lack of capacity for the necessary formal documentation because all human resources are engaged in the bypass structure. In contrast to the certifiers, the company staff does not consider documen-

tation a problematic aspect. As a result, many certification conditions given to the companies have been open since 2003 and 2005; and the comparison of the two companies and the experience of the external inspector do not indicate improvement of the formal ICS performance over time.

Consequently, the interviewed external experts and certification documents stress documentation and internal norms as major constraints and do not perceive the efforts and struggles of the companies to ensure the organic integrity of their produce. The gaps in the external certifiers’ formal perspective explain different ideas about the number of field staff members needed, and the use of not adapted, sometimes impractical standard documents by some consultants (consultant A, external inspector).

However, the company staff still has a different interpretation framework than the farmers, for example they perceive the farmers as mostly ‘traditional’ rather than ‘commercial’. Consequently, ICS staff is still not aware of all issues possibly affecting the ICS, such as multiple registration with other organic companies and crop infiltration. Communication problems between actors with different interpretation frameworks are evident. The relationship between staff and farmers is characterized by top-down, persuasive communication and mistrust. Company managers repeatedly criticize the “slow take-up” and “closed minds” of the farmers, train them by “telling them things at least twelve times” (company B) and find the cooperation “difficult and tiresome”. This distrust negatively affects the involvement of farmers in the ICS.

4 Discussion and conclusions

We have shown that ‘organic by default’, as defined in the introduction, does not adequately describe the situation of the producers we have studied (section 3.2). Chongtham (2008) has classified farmers in a similar study area in Uganda supporting this assessment. Gibbon (2006, p.9), in contrast, has argued that “the ‘organic by default’ nature of most agricultural production in Uganda” makes certification problems unlikely, however the organic export companies in his interviews have mentioned agronomic issues and higher risk for supplier fraud as challenges in organic certification. Moreover, organic production in the studied situation is more costly in terms of inputs, while specific organic production methods are insufficiently known and applied. This might be specific to fruit crops, since Bolwig *et al.* (2009) have reported a different situation in a coffee out-grower scheme, where 80% of the producers used such practices and thereby realized positive revenue effects. We suggest that due to the wrong perception of farmers, external experts such as consultants, inspectors and certifiers, underestimate the investments required for developing organic farmers or ensuring organic production.

The companies as ICS operators perceive and deal with a number of production and infiltration risks, which depend greatly on the marketing situation of the farmers (section 3.3). A lack of demand from the company side motivates farmers to reconvert and engage in parallel production while a high, unreliable or badly timed demand motivates some farmers and purchasers to involve in infiltration. Seasonal availability of produce and non-traceability of outside sales make yield estimates ineffective in controlling infiltration. Although the companies studied are in contrasting market situations, the procurement is problematic for all their farmers, irrespective of the 10%-25% mean organic price premiums in Uganda (AgroEco & Grolink, 2008).

It is a common problem that niche markets cannot absorb all produce of the certified exporters, for example for fair trade companies (Taylor, 2005) and for other organic exporting companies in Uganda (Gibbon, 2006). However, when dealing with commodities that are storable and widely demanded, exporters are able to buy regularly all produce from the farmers and sell surpluses later and through conventional market channels; also yield estimates are more easily applied such that crop infiltration plays a minor role, like Bolwig *et al.* (2009) have reported. Specialized fresh produce exporters lack both options to buffer demand instabilities, which then directly affect the producers. Processing does not improve the regularity of procurement, because the studied companies process on demand due to a lack of financial and infrastructural capacities required for regular, in advance processing. Competition by conventional traders for produce, which we have shown to limit the effect of yield estimates, is also well known from Mexican coffee cooperatives (Schuster, 2006) and has been described by Coulter *et al.* (1999, cited in Barrett *et al.*, 2001) as 'side selling' in conventional contract production of high value horticultural products in Zimbabwe. Furthermore, this study has described for the first time that farmers register with more than one organic company at a time and are thus part of several ICS. Clarification of traceability ambiguities will likely be required in future, but should take the importance of farmers' marketing opportunities into account. The registration of both, male and female household members is an essential measure with positive side effects on women's access to services.

As a result, companies trading non-commodities deal with higher risks while relying on less powerful infiltration control. The effect of produce characteristics on risks and risk control measures may reward a survey-type research. More importantly, options need to be found by which companies ensure a regular procurement of appropriate quantities, which concerns logistics, export marketing and finances.

To control the described risks, the studied companies have informally intensified ICS procedures beyond minimum requirements and have employed significantly

more field staff members per number of farmers than advised by a consultant (section 3.4). That is an additional explanation for the 'overstaffing' that Gibbon (2006, p.27) has identified common in smaller companies and has attributed to their spread-out working areas. The specific measures reported here, namely increasing informal inspection frequency, involving farmer control, changing the yield estimation, controlling purchasers, and adapting the staff structure frequently, are a promising innovations to consider for other companies and their consultants. Yet the increased control challenges the human resource management, especially in terms of staff fluctuations. Thus, investment in specialized organic management staff is required but commonly lacking in Uganda's organic sector (Gibbon, 2006, p.25) which has also been described by Schuster (2006) for Mexican organic coffee cooperatives.

We have shown different ways in which the companies use farmers for additional control and some possible difficulties with it (section 3.4). Social control can be approached and conceptualized in different ways (see Chriss, 2007) but a more detailed investigation of this aspect of the ICS is beyond the scope of this research. Further research could help to assess the potential for greater farmer participation (demanded for example by González & Nigh (2005) and for integration of social control and certification (suggested by Källander & Rundgreen, 2008, p.48); and it could clarify the role of organizational and social capacities and ways to build them. There are no measures to avoid conflict of interest in the present set-up of informal inspections, such that groups may "unite against an outside 'enforcement body'" (Källander & Rundgreen, 2008, p.78). We argue along with Mutersbaugh (2002) that support to responsible individuals and group structures in the form of trainings, compensation and for example assistance with official group registration, is necessary.

The concept for interactive policy-making by Wage-mans (2002) has illuminated the formal perspectives of the institutions ICS and external certifiers and has shown that restrictions of these perspectives lead to self-reinforcing certification problems (section 3.5). Beyond the concept, we have highlighted that company representatives take up additional roles and perspectives, thereby enabling innovations by means of a by-pass around formal structures. Certifiers and consultants stress documentation and internal norms as the main certification constraints, because they do not formally perceive the efforts and struggles taking place within the companies and producer groups. The conclusion that complying with the organic regulations in Uganda is rather easy and only the demonstration of compliance is difficult (for example by Van Elzakker, 2007), or that the ICS is too rigid and needs simplification (AgroEco & Grolink, 2008, p.75) does not fit the way the situation is perceived by the organic companies.

4.1 Conclusions

The ICS concept has proven a viable certification tool that guarantees traceability of the organic products. The challenges underlying the ICS application depend upon the farming system, the situation of the producers, the companies' procurement, and their human resource management. Fresh-produce exporters that contract not by-default organic farmers face more risks than frequently assumed, and therefore apply different and more staff intensive control procedures. The study has shown different perspectives on risks, risk control and certification. It has additionally illuminated unnoticed, non-formalized company innovations that await exchange of experiences and interactive innovation management.

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