

The Unmaking of the Cocoa Farmer: Analysis of Benefits and Challenges of third-party audited Certification Schemes for Cocoa Producers and Laborers in Ghana

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Problem statement

There are two important factors that raise the current demand for certified cocoa. On the one hand, it is the globally rising demand for cocoa, which also triggers the demand for certified cocoa (Hütz-Adams and Fountain 2012). Potts et al. (2010) report a growth rate for cocoa under a sustainability certification of 248% in five years between 2005 and 2010. On the other hand, chocolate companies worry for the long-term supply of cocoa, as productivity in many producing countries is low and the farms as well as the cocoa farmers are ageing (Barrientos 2011, KPMG 2012).

In Ghana, which accounts for the second largest cocoa production in the world (ICCO 2012), a veritable competition for sourcing with certified cocoa has emerged. The market has doubled from 3% in 2009 to 6% in 2010 (KPMG 2012). Potts et al. 2014 estimate the cocoa production in Ghana under third-party audited certification already at 16% in 2012, when corrected for multiple certification. On the ground, this is visible in the labels such as Rainforest Alliance, UTZ Certified, Organic and Fairtrade competing to build up farmers' groups, which are trained in sustainable cocoa production according to their respective standards. Some private sector actors rather promote own sustainability programs. But in contrast to the third-party audited certifications, their standards are not open to the public. As the marketing of certified products is based on the enhanced social, economic and ecological sustainability in the producing communities, questions are raised about the effective changes at the producer level. Therefore, many studies currently focus on the impact of certification schemes. Some authors observe that many of them rather describe outputs and outcomes than impacts on the level of broad economic development (CeVal 2012, Paschall 2013). According to Paschall (2013), many questions remain about how certification works in practice.

Moreover, impact studies often refer to "farmers", but the rural structure is more complex and consists of more categories, including short- and long-term laborers. It has also been observed that there is a lack of studies on hired work in the context of certification (Cramer et al. 2014, Vagneron and Roquigny 2010). In Ghana, a considerable amount of small-holder producers of cocoa rely on hired work during specific peak labor times. Although the certification standards refer to rights of laborers, not much is known about the amount and costs of hired work in cocoa production, and about the working conditions of laborers. In addition, as the certification bodies refer to "farmers", the complexity of the sharing of monetary and non-monetary benefits from certification among all kinds of producers is sometimes overlooked.

Objectives

The interest of this study was to take a closer look into third-party audited certification schemes in the cocoa sector in Ghana. This means that the standards of these certification schemes are publicly available. Currently, the most important third-party audited certification schemes in the cocoa sector are UTZ Certified, Rainforest Alliance (RA), Fairtrade and Organic (Potts et al. 2014). The present study concentrates on these four certification schemes. Despite of different histories and partly different emphasis of each

scheme, they all aim at enhancing the sustainability of the cocoa production (Potts et al. 2014). They are also subsumed sometimes under the term voluntary certification, in order to emphasize the additional efforts taken over government regulations.

Specifically, this study assessed the importance of hired labor in the third-party certified cocoa production in Ghana. In addition, it was assessed how the certified producers assess the functioning of the distribution of premiums from certification and what were the suggestions to improve it. Also, data on selected livelihood indicators of certified and non-certified cocoa producers were collected in order to find out where certified producers can, if ever, benefit from the system.

In doing so, it was intended to “unmake the cocoa farmer” in order to better understand if some categories of farmers might benefit differently from cocoa certification. The ultimate goal of this study was to contribute towards a better understanding of the mechanisms of access to certification and certification benefits and how it can contribute to the improvement of the situation of cocoa producers.

The article sets out to describe results from available impact studies, gives some background on the categories and the methodology the study used, before describing the results. They are summarized in an overall discussion, preceding the conclusions.

Current studies on the impact of certification

Third-party audited certification can be defined as a system that works according to a “codified set of standards for production and management practices” (COSA 2013).

Auditing through an independent, governmentally accredited certification body assures that standards are met (Dankers 2003). Each certification works in a particular context of a country and a commodity. Therefore, it is difficult to draw conclusions about certification in general. A number of common results can however be detected when analyzing comparative studies.

A majority of studies find that third-party audited certification leads to an improvement of the economic opportunities of farmers (COSA 2013, KPMG 2012, Man-Kwun and Pound 2009). Under certain conditions, livelihood indicators also improve (ITC 2011, Paschall 2013, KPMG 2012). However, circumstances and concrete effects are very different between products, specific labels, countries and regions. Therefore, also contrary examples can be found where certification has minimal or no effect on the economic opportunities of producers. The mechanisms certification can impact on improving the situation for farmers are better access to markets (Man-Kwun and Pound 2009, Vagneron and Roquigny 2010), diversification of income sources and access to credit (Man-Kwun and Pound 2009), improved skills and knowledge (COSA 2013, ITC 2011, Man-Kwun and Pound 2009, Vagneron and Roquigny 2010), strengthening of producer organizations (Vagneron and Roquigny 2010) and increased transparency in the value chain (Man-Kwun and Pound 2009). It is also observed that certification leads to better environmental conditions and practices (COSA 2013, KPMG 2012). In addition, certification raises the bars for sustainable production in the non-certified sector (Paschall 2013).

However, there are also important critical factors observed. Vagneron and Roquigny 2010, in their review of 77 studies, conclude that certification of a particular commodity can result in a decrease in crop diversification. This can be seen as a risk in the long-term. A number of studies emphasize that certification can also lead to increasing social inequalities (KPMG 2012, Lyon and Moberg 2010, Vagneron and Roquigny 2010), which puts social sustainability of certification in question.

Specific studies on the cocoa sector in Ghana have found mixed results. According to Laven 2010, economic benefits of the Fairtrade certification to the individual farmer can be seen as rather marginal, but community projects help improving the local socio-economic situation. Another study on Rainforest Alliance and Fairtrade schemes however assesses an increase in

financial capital mostly through yield improvement (Bethge 2012). Improved knowledge on production practices is also seen as a means to improve the yield and consequently the economic means of farmers through certification (Bethge 2012, KPMG 2012, Dengerink 2013).

According to Potts et al. 2014, the certified Organic production makes about 0.2% of production in Ghana in 2011, and Fairtrade about 4.5%. For UTZ Certified, the percentage of the national production in 2012 was about 9.8% and 7.6% for Rainforest Alliance certified cocoa.

Unmaking the cocoa farmer

In their standards or publicity material, certifiers, as well as academia, most often refer to the “cocoa farmer” in order to describe the producers of cocoa. However, cocoa farmers are not a homogenous group (Baah and Wireko-Brobby 2011). The category surely enables communication, but in some respects it reduces complexity to a degree that does not always do justice to the realities in the field. For the purpose of assessing who exactly is able to benefit from certification, the cocoa farmer is “unmade” in order to look deeper into the different categories of cocoa producers, including short- and long-term laborers.

As it will be demonstrated, a considerable amount of smallholder producers of cocoa rely on hired work during specific peak labor times or intensive labor as weeding. Although the certification standards refer to rights of laborers, not much is known about the amount and costs of hired work in cocoa production, and about the working conditions of laborers.

What is commonly called a “cocoa farmer” can include the following categories or labor arrangements (Takane 2000):

- Farm owners living in urban areas (often called „absentee-farmers“),
- Farmer-owners who live near the farms and work on them,
- Sharecroppers who cultivate the cocoa and get a part of the output (one third in the “abusa” and half in the “abunu”-contract form), and
- Temporal hired worker (on long- or short terms of 1 month to 1 year, or daily).

In addition, leasehold contracts are also common in some regions of Ghana (Damnyag et al. 2012). In these arrangements, farmers lease land in long-term contracts of up to 99 years from the community authorities.

In the following, the term cocoa producers will be used in order to include cocoa farm owners who work on the farms themselves as well as sharecroppers. Non-present landowners were not included in the study due to its limitations in resources. The survey concentrated on farmer-owners, sharecroppers and daily laborers. It is important to notice, in addition, that the categories are often not clear-cut. There are farmers who have their own farmland, but also cultivate cocoa under a sharecropping contract, or sharecroppers who have different contracts of output share. Sharecroppers are sometimes also named operators. Tenants and caretakers are often long term labor arrangements for absentee farmers.

Following this working definition of cocoa producers, it is important to note that the largest part of labor contribution to the cocoa cultivation normally is provided by the spouses and other adult family members (Baah and Wireko-Brobby 2011, Takane 2002)¹.

Moreover, an important part of the labor on cocoa farms is also done in communal labor or the even more strictly organized local form “nnoboa” (Takane 2002,13). These gender-separated groups are formed between neighboring farmers. The groups perform laborious tasks together, which are normally to be accomplished in one day, like the breaking of harvested pods. Moving from farm to farm to perform the task, “nnoboa” helps the groups’

¹ It was not the scope of this study to find out if child labor still exists. In addition to more time and resources, this issue would in particular have required a very different set of methodologies. Moreover, we found the level of consciousness regarding child labor among producers was high.

members saving on labor costs (Takane 2002) and is an example of local farmers' organization.

Approach and Methodology

The study used a multi-stage approach, which comprised two empirical research phases. In a first phase in October/November 2012, focus group interviews (13), expert interviews (14) and semi-structured individual farmer interviews (13) were used in order to define pertinent challenges in the certification mechanisms. We used simple transcriptions for the group and expert interviews and analyzed them with clustering methods (Friedrichs J, 1990).

The outcome of the first phase was to look into the challenges of hired labor and benefit sharing, including differences between farm-owners and sharecroppers. This implied an analysis of the four dominant voluntary, third-party audited certification schemes.

For the second empirical phase in July/August 2013, we chose a contrastive study methodology, as no corresponding baseline data was available. Structured interviews were conducted with 228 persons, comprising 112 certified and 69 non-certified producers as well as 47 laborers in order to assess distributive implications of instruments. The research was carried out in eight selected communities. The aim was to select the communities as independently of certification organizations as possible, in order to minimize potential effects of "positive selection". The eight communities were Apononoso, Amoakokrom, Montonsua, Bayerebon II and Adebowara in the Ashanti, Sewum and Kramokrom in the Western and Kromameng in the Eastern regions of Ghana. In each community, the interviews, which were completed by a semi-structured interview with a person in political and/or traditional leadership position, were carried out in two to three days. This methodology also allowed for observation of the community characteristics. The interview partners were selected in random sampling through lists from group leaders or drawn by lot; for non-certified farmers snowball selection had to be used. Two trained postgraduate students assisted in the collection of field data. Thus, the study used methodological triangulation in including both qualitative approaches in an iterative process of research, as well as researcher triangulation. Finally, preliminary results were presented to several experts before leaving Ghana, which was a helpful first validation of the data.

The survey data was analyzed using the software "R", version 3.0.2. Besides descriptive statistics for basic analysis of frequencies, non-parametric testing of survey data was used. In addition, linear regression models were used to test correlations between different indicators of cocoa production. Finally, statistical results were again triangulated with qualitative research results.

Aspects of livelihood of cocoa producers

In the table below, key demographics in the surveyed communities (certified and non-certified respondents) are presented in tabular form. The regions communities were surveyed in are the Western Region (WR), the Eastern Region (ER) and the Ashanti Region (AR). On average, 28% of interviewees in each community were women.

The present study did not aim at a comprehensive impact assessment, but to select a limited set of livelihood indicators that could be compared to existing literature in order to draw meaningful conclusions about potential differences between certified and non-certified cocoa producers. The indicators described are the income, the years of formal education, the age, access to farm land, amount of own food production, access to health facilities, access to electricity and mobile phone spending.

| <i>Community</i> | <i>Reg- ion</i> | <i>Popu- lation</i> | <i>Age median</i> | <i>Average years of education</i> | <i>Average no. of dependants</i> | <i>Average farming years</i> | <i>Av.income/ capita/year (GHS²)</i> | <i>% Income from cocoa</i> |
|------------------|---------------------|-------------------------|-----------------------|---|--|--------------------------------------|---|--------------------------------|
| Kramokrom | WR | 1,265 | 43 | 7.0 | 5.7 | 18.2 | 1380 | 88.2 |
| Sewum | WR | 2,591 | 37 | 7.0 | 4.8 | 10.6 | 1077 | 69.4 |
| Adebowara | AR | 1,603 | 46 | 9.5 | 6.3 | 15.3 | 1548 | 57.7 |
| Kromameng | ER | 2,000 | 40 | 9.5 | 5.4 | 13.6 | 510 | 74.1 |
| Amoakokrom | AR | 875 | 45 | 7.9 | 5.2 | 17.3 | 584 | 80.7 |
| Aponaponso | AR | 1,769 | 46 | 7.9 | 6.3 | 17.4 | 651 | 83.6 |
| Bayerebon II | AR | 500 | 43 | 8.5 | 6.1 | 13.4 | 823 | 73.7 |
| Montonsua | AR | 373 | 46.5 | 9.6 | 4.6 | 16.7 | 1955 | 73.4 |
| <i>Average</i> | | | 44 | 8.35 | 5.6 | 15.4 | 1048 | 75.2 |

The income data in the present study show that the indicator depends on a number of factors, of which certification is only one. According to the data collected, the income of cocoa producers depends significantly on the age of a producer, the amount of persons living together with him/her, the level of formal education, the size of the cocoa farms cultivated, the ownership of land, as well as productivity. Certification though also significantly influences the income of a cocoa producer.

In order to find out about the effect of certification on the income, the income per capita was compared with the median income of the conventional producers in the respective community (control group). The so corrected data was tested with a non-parametric method in order to account for the high variation and skewness in the data. On the basis that no significant difference between the median income per capita values of the conventional farmers between the communities was found (Kruskal-Wallis test, $p=0.692$), the test of expected differences due to certification was carried out. This showed that the differences between the median incomes of certified groups are significant when compared with the corresponding values of the control group per community (Kruskal-Wallis test, $p=0.0055$). It can thus be significant for a producer, if he or she is a member of a certified producer group. However, it cannot be excluded that external factors, which we could not measure, e.g. the soil quality, have an effect on the results.

In order to define the differences in the average income per certification group, a pairwise comparison was carried out. The results of a Wilcoxon-Mann-Whitney test shows that in the Fairtrade ($p=0.021$) as well as the Organic group ($p=0.046$), producers were able to earn a significantly higher income than the conventional counterparts in the same community. For the UTZ and RA group in the sample, no significant difference for the income per capita to the control group could be detected ($p=1.00$ and $p=0.41$ respectively). A reserve about the data is that it was collected in a recall method, which can lead to certain inexactness. However, the data is comparable to other findings in the literature. Descriptive statistical values are summarized in the following table.

| Certification | Fairtrade | Organic | UTZ Certified | Rainforest Alliance | Control Group |
|----------------------|-----------------------------|---------------------------------|-----------------------------------|---------------------------------|------------------------------|
| <i>Communities</i> | <i>Kramokrom, Sewum</i> | <i>Adebowara, Kromameng</i> | <i>Amoakokrom, Aponaponso</i> | <i>Bayerebon, Montonsua</i> | <i>(all communities)</i> |
| Average income (GHS) | 1664 | 1406 | 661 | 1406 | 868 |
| Median income (GHS) | 1012 | 652 | 398 | 894 | 583 |
| Standard Deviation | 2090 | 2449 | 698 | 2117 | 1203 |

² GHS: Ghana cedi, Ghanaian currency. On 5.4.2014, 1 US\$=2.70 GHS (XE Currency Converter).

| | | | | | |
|---|------|------|------|------|------|
| Skewness | 3.28 | 4.11 | 1.99 | 3.27 | 3.72 |
| Trimmed mean (0.1) (GHS) | 1248 | 939 | 519 | 1018 | 609 |
| Per day mean income (trimmed 0.1) (GHS) | 3.51 | 2.64 | 1.46 | 2.86 | 1.71 |

In the present sample, it was tested if the educational background and the age of producers (which influences their experience in cocoa farming) influenced the results regarding the income in a way that certified farmers would be in advantage. However, the results show that the differences between the groups in years of formal education were not significant (Kruskal-Wallis test, $p=0.16$). Similarly, no significant difference was found regarding the age of farmers that would have biased our results regarding certification (Kruskal-Wallis test, $p=0.06$). The same is true for the cocoa farmland, while also for this indicator a large range must be taken into account. The majority of cocoa farmers (75%) have access to less than 10.8 acres of land for cocoa cultivation. Median farm size is between 5 and 7 acres in the present sample, which results in an overall average of 3.14 ha. There is no significant difference in the access to cocoa farmland (Kruskal-Wallis test, $p=0.36$), and the conventional farmers in the present sample are not less privileged regarding access, with 3.4 ha of cocoa farms on average. In all communities and through the groups surveyed, the respondents highly rely on own food production for their daily nutrition needs and very seldom buy food outside the house. Three quarters of the interviewees produce at least 85% of their food within their families.

Access to health facilities was practically absent in the communities surveyed, according to community leaders interviewed. Only one community out of eight had an own health centre, however without doctors or midwives. Related to health is the access to drinking water, where our results show that availability of clean water was a huge problem in the communities where UTZ Certified and Fairtrade groups were located. Over 50% had to fetch water from streams nearby. In the areas with Organic and Rainforest Alliance groups, nobody had to rely on water from streams. Statistically, both certification and the factor community have a significant influence on the access to water.

While in some communities, people have access to electricity from the national grid, the primary source of electricity are regular batteries (54% of respondents). Access to electricity depends significantly on the community somebody lives in (Fisher test, simulated p -value, $p=2e-5$). This corresponds with findings of Hainmueller et al. (2011), indication also that the influence of certification on electricity is not surprisingly only marginal.

It is assumed that the amount interviewees spend on mobile phone credit is useful as an indicator of potential differences in the average economic situation, as the use of mobile phones is very appreciated and common. In the present sample, 80% of interviewees possessed a mobile phone, 50% of them spending between 8 and 20 GHS a month on credit. The median spending was 15 GHS/month for the control group, whereas the members of the organic groups use most funds for mobile communication (20 GHS/month, median). For the other certified groups, the median was 10 GHS. Although the differences between the certified and the control group were significant (Kruskal-Wallis test, $p=0.014$), certified group members seem not to dispose more money for mobile communication on average.

In summary, the collected data first of all shows that poverty is widespread among cocoa farmers in southern Ghana, with or without certification. Only a few producers report reaching an income that is considerably over the internationally used absolute poverty line of US\$ 1.25, as limited as the significance of this amount might locally be. Cases of relatively more successful respondents in terms of income have a source additional to cocoa earnings, e.g. from plantain selling or palm oil production.

Second, the difference that certification apparently makes in terms of the livelihood indicators selected seems rather marginal for access to water and electricity, mobile phone spending or the dependence on own food production. Important determinants of the disposable income of producers are their educational background, their age, the amount of persons living in the same residential unit, the amount of cocoa land one has access to and/or possesses, the production efficiency, access to land, additional functions, as well as the place somebody lives in. In spite of this, certification also has a significant effect on the income of respondents on average. Although the disposable income cannot be regarded as an all-encompassing measure for well-being, rather as means to expand economic opportunities (Sen 1999), the result is interesting in terms of differences between the achievements of certification schemes. As the methodology used was to compare means within communities, the higher average of disposable income for members of certified groups can be regarded as an impact of certification. In comparison with the baseline study of Hainmueller et al. (2011), the mean income of all groups in the present sample for the season 2012/2013 was considerably higher. The median income per head over all certified groups (1309 GHS) was 156 GHS higher than for the conventional producers. However, the respondents with UTZ certification reported a much lower income on average than the control group, which is difficult to analyze with the data available. But the low level in the other indicators mentioned as well as the data from the community interviews suggests that the communities, where the interviewed UTZ groups work, are generally rather poor communities.

Benefits and costs of certification for cocoa producers

One of the key findings of this study is that certification positively influences the yield a farmer produces on his farms, as is visible in the table below. In a pairwise comparison with a Wilcoxon-rank-sum test, the differences to the conventional farmers in the same communities is significant in the case of Fairtrade, Organic and Rainforest Alliance ($p=0.00$). For the UTZ group, despite the higher average values shown below, the difference is not significant ($p=0.24$), which might be due to the rather short time the group is working with the UTZ certification.

| Certification | Fairtrade | Organic | UTZ Certified | Rainforest Alliance | Control Group |
|--------------------------|-------------------------|-----------------------------|-------------------------------|--------------------------------|--------------------------|
| <i>Communities</i> | <i>Kramokrom, Sewum</i> | <i>Adebowara, Kromameng</i> | <i>Amoakokrom, Aponoponso</i> | <i>Bayerebon II, Montonsua</i> | <i>(all communities)</i> |
| Mean yield in bags/ac | 2.74 | 2.58 | 2.31 | 2.49 | 1.59 |
| Mean yield per ha (kg) | 433 | 408 | 365 | 394 | 251 |
| Median yield per ha (kg) | 383 | 337 | 316 | 349 | 201 |
| Standard Deviation | 1.53 | 1.18 | 1.53 | 1.37 | 1.27 |
| Skewness | 0.89 | 1.04 | 0.93 | 0.47 | 2.00 |
| Medium age of farms | 10.0 | 19.0 | 18.5 | 13.8 | 11.8 |

The improved productivity has the additional effect that farmers feel proud about what they do, as it had been added in the interviews. “I do better farming now” was how a farmer expressed it in the focus group interviews, or “the farm had been left to chance before” another one. Correspondingly, 96 out of 104 producers reported an increase in their yield since they started to participate in one of the certification schemes. As reason for the positive yield change, producers mentioned the training in and adoption of good agricultural practices (GAP) in an overwhelming majority (85%, $n=93$).

In the following, the view of farmers on what they benefited in terms of monetary premiums and non-monetary additions is described. It is emphasized that this section is not about the policy of the certifier, but about the benefits the producers themselves perceive for the season 2012/2013. Three forms of benefits were analyzed: the monetary premiums certified farmers received per bag of cocoa sold, the non-monetary benefits in the form of bush knives or rubber boots given to the group members, and the influence certification possibly has on the yield in certified production. Respondents claimed not having received community benefits or attributed them to other organizations than the certifiers.

Starting with the monetary premiums, which the producers receive per bag of cocoa, the currently lowest amount is the one of Fairtrade group members (2 GHS), as their policy is focused on community projects. The system was transparent insofar as all farmers in both Fairtrade groups reported to receive the same amount (n=19). The picture was rather different for UTZ groups, where group members disagreed about the amount of premium they received. In Amoakokrom the median value was 5 GHS, in Apononso 8 GHS (n=31). In the RA groups, the members in Montonsua reported 8 GHS premium per bag, whereas in Bayerebon II everybody agreed it was 6.5 (n=29). Both groups, however, sold their cocoa to the same company. For the Organic groups, the premium depended very much on the implementing body of the certification scheme and was 8 GHS in Adebowara (n=15) and 20 GHS in Kromameng (n=14). The amount the premium thus directly adds to the income of the cocoa producers, but differs very much according to the label and the implementing organization.

Also in the case of non-monetary benefits like bush knives, rubber boots or protection equipment, the incentives farmers receive depend on the policy of the certifier. It is very difficult to assess them in a recall method, as sometimes interviewees might forget something, be unsure which organization brought it, have travelled when the items were distributed, or even use the situation as a protest (when saying nothing was given but other group members reported items as individual premium or for the group). However, it became apparent that the distribution of non-monetary benefits does not work well in all the groups. Thus, the degree of agreement between group members about the received benefits differed, which was especially the case in one Fairtrade and two RA communities.

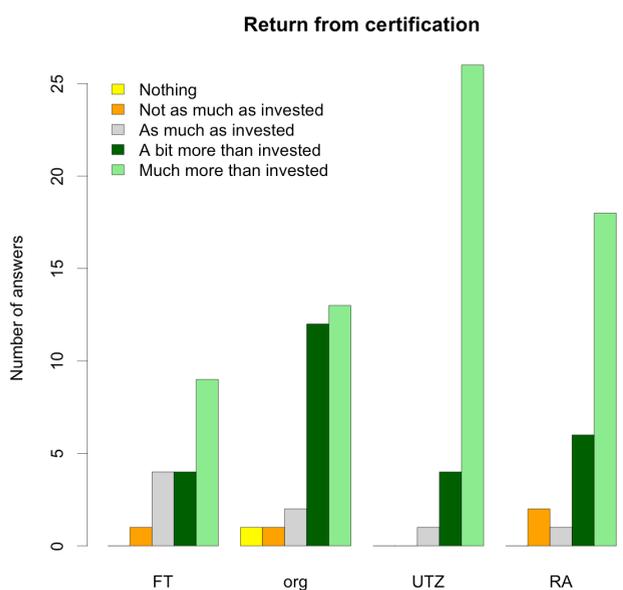
It needs to be added regarding non-monetary benefits that the companies (LBCs) who buy certified cocoa often act as credit institutions for the farmers who sell to them. In all communities, farmers said they could get credit from the LBC at no interest. Farmers who relied on private moneylenders had to pay interests of 100% per annum in more than half of the observed cases (n=37), the mean interest rate for private moneylenders being 82%.

In terms of costs of certification for them, producers were asked if they needed to invest more time in cocoa cultivation and time for group meetings than conventional farmers. An approximate calculation of yearly costs at the rate of the local daily wage medians was subsequently made from the time the producers said they would invest in addition to conventional production. A few persons interestingly said they would have to invest one or two days more of work to satisfy the requested standards. When accounting for outliers with trimmed means, the producers reported yearly investments made in addition to conventional production to be between 262 GHS (Rainforest Alliance) and 389 GHS (Organic). Producers of the UTZ Certified group reported 318 GHS in the mean (trimmed) and the Fairtrade group 309 GHS. In an approximate calculation, this would mean that the perceived additional costs to achieve standard production would on average be two to four times lower than what certified farmers earn more on average through higher yields.

Turning to reported costs of farm inputs for the season 2012/13, Organic producers spent a relatively low amount in comparison to other groups (median = 6.8 GHS/ac). They rarely buy fertilizer and no chemicals for weeding. The costs related to inputs are the highest in the

Fairtrade group (median =108 GHS/ac). However, the regional factor might strongly influence this result, as the full-sun hybrid system is particularly dominant in the Western Region (Ruf 2011). The data are also considerably skewed, meaning that a majority of farmers use rather few inputs.

The costs of hired labor in the season 2012/13 are summarized in the section about employees. The results show that the mean spending among the Organic groups (477 GHS) had been the highest in comparison to the mean amount spent by other certified group members. Thus, in addition to investing more labor themselves, Organic producers also said that they spent more money on hired labor in comparison to the other groups. However, the data collected about costs of cocoa production among certified producers have to be understood as estimations based on interview data rather than on detailed measurement or participative observation.



In spite of the costs, the vast majority of participants in all of the observed certification schemes consider certification as beneficial to them. They rate the return they get from the participation in the certification scheme higher than what they invest, as is visible in the illustration beside.

The result is also confirmed by more than 50% of the respondents affirming that they don't know any reason that would make them leave the certification group. On the contrary, reasons that would make some people leave the certification group are most importantly the failure of certifiers to fulfill promises regarding community projects, premium payments and/or

the distribution of allowed chemicals. In addition, a frequently-mentioned problem was also the lack of liquidity of LBCs in harvest time, which obliges farmers to sell their cocoa as conventional one, which means for a lower price. About 15% of interviewees also mentioned that they would leave the group if internal problems came up, such as cheating of the PC, inequitable treatment or sharing of benefits within the group, or abuse of status by group leaders.

Positively seen, the most important reason for members to stay with the certified groups was the training they get access to through certification. There is almost no exception to the certified producers confirming that the training received were the most important reason to stay with the group (see table below). The role of the training by trained field officers cannot be overemphasized. It appears that the training producers have access to through certification has a better effect than the official extension services³. As Laven notes (2010), these are often top-down and less farmer driven than the farmer support provided by NGOs and public-private partnerships. However, training is a cost to the certification organizations and is in the end deducted from the premiums the farmers directly get.

Respondents also agreed that the collective learning within their groups was one of the most important reasons to remain in it. The results also show that premiums were judged as

³ An example was the CSSVD extensionist who proudly mentioned that he told farmers to use Gramoxone for weed control, which is on the list of banned chemicals for cocoa treatment in Ghana.

important too, but only to a lesser degree. The non-monetary incentives were appreciated but less of a decisive reason to participate in certification groups. For community benefits, which could include boreholes or a school, the agreement was rather lower. This was no different for Fairtrade, which explicitly supports community projects with the aim to support communities and not exclusively individuals. However, there seems to be a number of persons who felt these projects were not the reason for them to participate in the certification group. Only a minority felt that they had a moral obligation to the PC, which made them stay with the group and sell their beans to him, e.g. in case of familiar relationships.

| Reasons to stay in certified group | Percent agreement | | | | |
|------------------------------------|-------------------|-------|----------------|--------------------|------------------|
| | strongly agree | agree | doesn't matter | don't really agree | not agree at all |
| Collective learning | 89.7 | 9.3 | 0 | 0.9 | 0 |
| Trainings/GAP | 96.3 | 3.7 | 0 | 0 | 0 |
| Premiums | 67.3 | 22.4 | 8.4 | 1.9 | 0 |
| Non-monetary benefits | 41.1 | 44.9 | 9.3 | 1.9 | 2.8 |
| Community benefits | 13.1 | 38.3 | 5.6 | 8.4 | 34.6 |
| Moral obligation to PC | 5.6 | 9.3 | 14.0 | 43.9 | 27.1 |

One critical side to the importance of training has to be added here: In the focus group interviews, it was mentioned that some people stopped their participation in the certified group because record keeping required, in their eyes, literacy. Another reason for dropping out mentioned was the cost of additional labor, as well as, in the case of a group with RA and UTZ certification the timely repayment of credits. It was reported that these difficulties concerned in particular women. In addition, we observed that the amount of sharecroppers in the certified groups is relatively lower than they are among conventional farmers. It is therefore concluded that the access to certification and services depends on certain conditions that persons with inferior economic and or social status can often not fulfill.

In analyzing the functioning of the premium distribution systems, it is noted that overall, the satisfaction was very high, despite considerable differences between the communities. Over 70% of the respondents found the system very good, though a certain fear for getting less premiums may have influenced these answers.

39% of producers think the premium system as it is should be maintained. They generally prefer systems with individual distribution of the benefits. However, conversations and focus group interviews also revealed a considerable amount of non-satisfaction about the practically received benefits. One reason for this was that the time the premiums were delivered does not correspond with the liquidity gaps the farmers have after the lean harvest season. Other reasons were the not transparent premium distribution, or the low amount itself of premiums or non-monetary benefits. Improvements suggested mainly concern, again, the timeliness of payments, the transparency of the system (some suggesting better control of the PCs if they distribute the premium money), or the selection of different non-monetary benefits (more protection equipment, a change from annually the same item).

In two communities, a high amount of producers mistrusted the group leaders in the premium distribution. This was the main cause of being unsatisfied with the system in that community. The respondents suggested that premiums should be recorded in passbooks and/or distributed by somebody else than the PC. A few proposals were made regarding an individual distribution of the non-monetary benefits, or to use bank accounts of the individual farmers for the payment of the premium money. Another suggestion was that the LBC should keep a part of the premium to buy inputs for the group members. In the focus group interviews, one of the most mentioned issues was the lack of access to approved

chemicals at the time necessary. Farmers across all labels felt that in this respect, certification implementers were not responsive to their demands.

Other suggestions for assistance in order to make sure they could comply with the standards were the availability of spraying machines, tools for pruning especially for old farmers, as well as protection equipment and rubber boots.

Within an Organic group, it was suggested that they would get support in bringing other organic products to the market. Through the cocoa certification, they have become interested in producing organically and would like to use this for other crops too.

Finally, also a few cases of non-satisfaction were reported from sharecroppers. While landowners collect the whole monetary premium per bag of cocoa sold, there was no uniform picture as to who collects the premium in the case of sharecroppers. While some stated that they would get the amount of premium according to the sharecropping contract (corresponding to one third or half of the cocoa bags sold), there was also the opinion that they would get no part of the premium while in other cases they collected the whole amount (especially when working for absentee farmers). The policy of certifiers is that the person who is registered as group member (and does the farm work) should collect the premium, but no concrete rule was discernible for the sharecroppers.

Summing results up about the costs and benefits of certification for producers, it can first be concluded that in the view of the vast majority of producers interviewed, benefits outweigh the costs. The most important factor for this was the training that certified farmers benefit from and which leads to higher yield of their farms. The farmers thus can generate more revenue. This causal relationship could be observed for all the different certification groups, but in different degrees. However, as the present data does not rely on field measurements over a certain timeline, the result is an indication but would need to be tested further. In addition, the influence of external factors in the observed eight communities cannot be excluded. KPMG 2013 and COSA 2013, perhaps the most comprehensive studies in the field to date, also find it difficult to separate effects of certification from other effects. However, they similarly observe a positive tendency of yield change under certification. A higher yield makes also prouder farmers, which is an important aspect when looking not exclusively at economic capital, but at human capabilities as a condition for development (Sen 1999). The data collected on yield also shows that even with certification the current yields are still under potential, though it is not clear-cut where the limit of sustainable production would lie. In addition, the certified groups surveyed did not report a higher yield than that found by Hainmueller et al. (2011) for the respective regions. If compared with the figure of 294 kg/ha on average measured by Baah and Wireko-Brobby (2011), the certified groups' yields would indeed exceed the conventional ones. In addition, that the comparably young farms of the control group do not translate in higher yields could also be an indicator of the influence of certification from the present data. The low yields are a reason why farmers ask for a better supply of farm inputs such as fertilizer. This can also be seen in the context of the transition to a system with more full-sun plantations with hybrid varieties, where the use of fertilizer is higher (Gockowski 2013). Nevertheless, the full-sun system would still need to prove whether it is sustainable in the long-run (Ruf 2011). However, higher yield is a strategy that cannot be pursued forever, if sustainable production is the aim as described in the respective standards. The training will thus play an even more important role to reach quality goals, which would continue to ensure a higher price in the future.

Second, the efficiency and transparency of the premium distribution systems are questionable according to the results across all the labels, maybe to a different degree according to the case. It is known that the production of certified cocoa is larger than the amount that finally can be sold as such (Potts et al. 2014). Therefore, especially in systems where the premiums are paid at the outset of the new season for last year's harvest and after

the balances calculated by the certifiers, the insecurity about the actual amount of premium is rather large. Fairtrade has no advantage in Ghana in this respect, as their minimum price and premium communicated in advance does not have the influence it can have in countries without governmentally fixed farmgate price. Although the premium payments make a small proportion of the income of certified farmers (according to Bethge 2012 it was between 2.6% and 3.2% in his study locations), it is still notable that some groups showed a disaccord in defining the premium they would get per bag of cocoa sold. In some cases, this was apparently influenced by the stage of certification standard the farmer reached, but this seemed not to be clear to the concerned farmers. The results show that the distributed premiums are not directly discernable from the policies the certifiers may officially have, but depend considerably on the practical implementation on the field. A lack of communication was assessed in some cases, especially where apparently the certification organization had not been in direct contact with the group for some time.

A lack of transparency has also been located regarding the access to benefits of certification for sharecroppers. Especially the distribution of monetary premiums in the case of sharecropping seems to be a blind spot of certification organizations, as no clear practice in this case seems to exist. The result is that the sharecroppers depend largely on the goodwill of landowners as to which part of the premium payments they receive. As already mentioned in the previous section, the access to services and benefits of certification is thus not even between the different categories of farmers.

Group internal management and communication problems in the group might exacerbate the problem of lack of transparency. Statements as to the misuse of power of group leaders as a reason for leaving the group could mean that these problems have already occurred. The influence of certification implementers might be limited, but a close following of groups and strengthening of their structures could help avoid these problems. Especially in the case of fast growing labels, the capacity for a close following of groups might be stretched. In addition, Fairtrade makes the explicit claim that farmers can participate in the decisions about premium use, but this participation of the basis seems to be very limited in the groups observed.

Employees in the certified cocoa production system

In the present study, 102 farm owners out of 125 said to use hired work for daily labor on their farms and sometimes even in addition to sharecropping contracts. This means almost 82% of farm owners interviewed use hired labor in addition to their own and family work force. Considering the cropping season 2012/13, the costs of labor reported by them vary considerably. There are producers who have no resources to hire labor, and at the other end of the range the highest amount spent is 1572 GHS (n=102). The size of farms is not the decisive factor for labor costs, as no significant association between the amount spent for hired labor and the acreage of producers was found in the considered sample (Kruskal-Wallis test, $p=0.32$). However, farm owners of certified groups tend to use comparatively more hired work than farm owners of the control group in the mean (see table below). The notable exception to this is the Fairtrade group, where the average was even below the corresponding value of the conventional producers. The median values show a similar distribution. The mean spending is highest for the Organic group. However, there are large differences of the amounts spent within the groups.

| Group | Mean amount spent on hired labor | Median amount spent on hired labor | 2 nd Quartile | 3 rd Quartile | StDev |
|--------------|----------------------------------|------------------------------------|--------------------------|--------------------------|-------|
| Conventional | 298.7 | 200 | 92.5 | 462.5 | 308 |
| Fairtrade | 270.0 | 200 | 150.0 | 300.0 | 232 |
| Organic | 477.5 | 300 | 187.5 | 590.2 | 417 |
| RA | 356.2 | 300 | 150.0 | 400.0 | 296 |
| UTZ | 419.8 | 300 | 100.0 | 642.5 | 401 |

As described previously, family labor is most important regarding work force. This support is difficult to quantify unless participatory observation is used. The activities carried out by the producer him- or herself are mostly the nursing of seedlings, planting seedlings on the farm, pruning or canopy clearing, harvesting, fermentation and drying process and finally the carting (bringing the dried beans to the Purchasing Clerk, the PC). Further, the work that is clearly most popular to outsource to daily labor is the spraying of cocoa farms against pests and diseases. Clearing and harvesting is often done or assisted by hired labor too. The breaking of the ripe cocoa pods is done in the previously explained form of community work. Weeding is the most permanent work and requires the labor force of the producer and his/her spouse as well as a considerable amount of hired labor. Hired labor is thus used most for clearing, weeding, spraying and, to a minor but also important degree, for harvesting. Interestingly, spraying is not only the most likely activity for hired labor to perform, it is also better remunerated than other works in 6 out of 8 communities. On the average over all communities, spraying was paid with 13 GHS/day, while the daily remuneration for clearing, weeding or pruning was considerably lower (7 to 10 GHS/day). In Kromameng, where Organic cocoa farmers were interviewed, this difference was not observed⁴.

In our sample, there was no statistically significant difference in remuneration if sharecroppers or laborers worked in daily labor for certified or for non-certified employers (Fisher's exact test, $p=0.43$). The daily wage was around 9.2 GHS on average. Certification has no considerable influence on daily wages.

Although the differences proved not to be statistically significant (Fisher-test with simulated p-value, $p=0.18$), the reported disposable incomes of sharecroppers employed by certified farm owners were 545 GHS to 691 GHS higher on average for sharecroppers than the reported yearly income of sharecroppers working for conventional farmers. For laborers, the difference was 340 GHS in the reported yearly income. The reasons of the differences in income of employees would have to be further investigated.

The respondents rated the fairness of daily labor arrangements differently according to their status (see table below). Employers thought the labor arrangements were rather fair for the employees. The employees, on their turn, rated the labor arrangements less positive. Especially laborers found the arrangements only fair or even worse in 27% of the cases. However, 38% of the laborers still rated the arrangements as entirely fair. If laborers rated the fairness of the employments low, in most of the cases it was because they felt the remuneration to be too low. The abusa-sharecropping arrangement was considered unfair when the employee got one third of the output but still had to pay for farm inputs and tools himself. In other abusa- arrangements the owner, who collects two thirds of the output, is with one third of the revenue responsible to buy farm inputs.

⁴ The other community with a certified Organic group surveyed could not be taken for comparison in this question as many problems with the access to organic inputs were reported.

| Rating | Not fair at all | Not really fair | Fair | Quite fair | Entirely fair | No. of Respondents |
|---------------|-----------------|-----------------|------|------------|---------------|--------------------|
| Employers | 0 % | 2 % | 4 % | 28% | 66% | 46 |
| Sharecroppers | 2 % | 9 % | 3 % | 25 % | 61 % | 61 |
| Laborers | 5 % | 12 % | 10 % | 36 % | 38 % | 42 |

Concluding from the collected data, there is slight evidence that workers employed by certified farm owners have on average a chance to get a higher income, slightly better working conditions in terms of working rights, access to protective clothing and access to training. In addition, the tendency for a lower rating of fairness in the work arrangements is higher among the non-certified group. No significant differences could though be found in terms of the remuneration for daily labor or the working time. Seen also that training on labor rights for certified farmer groups seems to be effective at least in terms of awareness among employers, differences in treatment of employees can thus most probably be influenced by certification. Other factors such as the regional economy or the personality of employers might still have a large influence in addition.

On the whole, the data reveal labor rights in general seem to be respected. In a few cases, even certified employers seem though to use certain pressure on laborers. However, the collected data regarding working rights are not of the depth to draw final conclusions. Even with the qualitative answers collected in addition to closed questions, the interview situation might not have encouraged the respondents to raise critical issues. In addition, it must be taken in account that long-term hired labor is underrepresented in the data. According to Takane (2000), they are paid far less than other laborers. Similarly, other workers in the value chain, e.g. the laborers in the cocoa depots who carry cocoa bags and load them on tracks, could not be included in this study. Nevertheless, other findings from the data allow pointing out issues that help completing the view on the work carried out for cocoa growing in Ghana.

First, it seems that there is no linear correlation between the amount employers spend to hire external labor force and their farm size. This confirms earlier results of Teal et al. (2006). The labor input thus depends on other factors, of which the disposable income might be an important one. The median value spent on hired work that is higher for the Organic, RA and UTZ groups might thus point either to a higher need of labor input, or a higher disposable income. According to the results regarding income, the latter is though less likely, as the disposable income reported is rather higher in average for the Fairtrade group. Moreover, the highest amount of expenditures for hired labor could be found in the Organic group, where also the highest cost of certification in terms of more labor was reported. Thus, standard compliance requires more labor input on the cocoa farms.

Second, the finding that laborers are mostly young men does also confirm earlier findings (Takane 2000). To do hired labor is considered inferior to a sharecropping contract (ibid.), where, as depicted above, the conditions in general are better. Daily labor is therefore often a transitional phase for young rural people. In addition, the socioeconomic background is another factor in determining someone's opportunity to get a sharecropping contract, preferably abunu (ibid.). In the current economic situation in Ghana, where urban dwellings offer many opportunities to young people, this explains also why the employers often thought it difficult to find enough labor force for work on cocoa farms.

Third, the above results reveal an interesting issue regarding agrochemicals that are used on cocoa farms. Employers and employees seem to be well aware of the dangers of their use, which results in the remuneration for spraying the cocoa to be higher than for other works laborers are hired for. Interestingly, this does not apply in the case of the Organic group in the Eastern Region, where instead of conventional spraying substances a biological treatment

is used. This allows for the conclusion that technical progress would be more beneficial for workers and producers if it went into the direction of organic treatments. Moreover, the limited access to protective clothing is an issue that especially fast expanding labels have to consider, as the risk for non-compliance with the standards increases when groups should share the protection equipment among them.

Finally, laborers have very limited access to knowledge in good agricultural practices. The knowledge transfer seems to work better in the case of sharecroppers, but is not clearly institutionalized either. Thus, the certification implementers probably have to weigh two results against one another: the costs and efforts of better institutionalizing training for all persons involved in cocoa production, and the potential loss in quality if not all actors in the value chain are aware of standards. Of course, the training of laborers involves the risk that in their insecure situation, they may seek other opportunities outside the cocoa sector and abandon it. Contrary to the sharecroppers, who will probably stay longer in the cocoa sector, the laborers are on the one hand a more risky investment from a purely business perspective. On the other hand, attractive training for young people in the cocoa villages could help combating the problem of the ageing cocoa farmers in general. In addition, seeing the particular activities that laborers carry out, it seems also rather risky to fully leave the responsibility for knowledge transfer to the certified employers.

Overall discussion

It is underlined here that the present results cannot be used for a general statement about certification or any of the labels mentioned, but only about the situation in the certified cocoa sector in Ghana. The situation for pineapple, produced in large plantations, or for cocoa in Ivory Coast, might already be different.

Despite of challenges mentioned by the surveyed cocoa farmers in our study, the emphasis with which certified group members in the majority want to remain members of these groups was notable. Farmers who can take the challenge to produce under certification standards feel in a better position than when they produced conventional cocoa before, mainly because of improvements in yield. However, they feel that their participation in the system is limited. In a situation, where rapid expansion especially of Rainforest Alliance and UTZ Certified production occurs, premiums often seem to be used as bait for farmers. The expansion also bears the danger of “cutting corners”, such as with good practices regarding chemicals’ handling. In addition, producing according to certification standards can rather become a condition. Experts confirm that certification is nowadays rather a requirement for farmers than a voluntary participation, stemming from the very strong demand of buyers (Owusu 2012, Abdul-Rahman 2012, Anglaaere 2012).

In this environment, the risk exists that some people may lose out. This concerns in the first place the people who contribute to the cocoa production, such as hired laborers, but who cannot benefit from certification services. Though their employers might be better educated in labor rights issues, laborers largely depend on the goodwill of employers if they want to learn about Good Agricultural Practices. Secondly, this concerns people who drop out of the system because they cannot fulfill the requirements, be it of economic constraints, as more work force is needed, be it because of a lack of basic education. This especially concerns women. KPMG (2012) identifies farmers with small cocoa farms (less than 1 ha) or with low potential to increase their productivity as such. In a development perspective, the approach of Fairtrade to benefit not only the members of certified groups (Ceval 2012) is thus important. However, the community benefits need to be attributed to communities in a transparent way. According to KPMG (2012) it is an open question whether the certification approach is an opportunity in order not to marginalize certain farmers.

Value chain transformation to more sustainable production does not come without a cost. Even though training can be seen as an addition to the certification system that raises the

costs, the growing global concerns and awareness of mutual dependencies on the demand side as well as the very real danger of dropping production in the case of cocoa, makes the better training of producers a self-interest of the industry. However, the question remains open as to what happens if public support for the implementation of certification schemes would end.

Conclusions

Currently, certification plays an increasingly important role in the cocoa sector in Ghana, which is proven by the high growth rates especially of UTZ Certified and Rainforest Alliance cocoa. Therefore, it increasingly gains the interest of the public sector, which is visible in the preparation of guidelines of cocoa certification by the COCOBOD. The contribution of cocoa production to the national economy of Ghana is highly important. In light of current productivity problems as well as potential climate change impacts, the strategy of strengthening sustainable cocoa production seems very timely, even more so as it proves to boost the yield. In order to meet the future needs of the cocoa market, the conventional sector can learn from the experiences with certified production.

The growth of the sector also leads to a competition in the field to involve more cocoa farmers in certified production. Therefore, it is important to look at benefits and challenges of certification at the production end of the value chain.

The results of this study confirm that certification can lead to benefits for farmers. However, the benefits are unevenly distributed. The approach for benefit distribution among different producer groups, taking sharecroppers into account, is not clearly regulated. In addition, despite the crucial role laborers have in the system, they are not getting adequate attention. While they substantially contribute to cocoa production, they barely have access to services provided by certification implementers. If the conclusion that hired labor contributes greatly to the production of cocoa is not entirely new, this study allows assessing more clearly which kind of tasks are assigned to hired workforce and that the working conditions of laborers are determined mostly by certification-external factors. This, however, does not mean that the certification bodies should not consider the issue, but on the contrary they should keep a close eye in order to avoid problems that might become more acute when demand for labor rises.

In addition, the distribution of benefits from certification does not work efficiently in all the groups. The system is often not transparent, which leads to mistrust and disillusion. Certification is no panacea to solve all kinds of structural problems that cause poverty in the rural area. However, more attention to the practical needs of cocoa producers could lead to improvements for producers. Practical proposals such as timely payments of premiums have been made in this work.

Having said this, the farm owners and sharecroppers involved in certification are generally keen on remaining with them. This is a good ground for the expansion of sustainable production. Certifiers however should keep in mind that it is a difficult balance between continuing the supervision, support and motivation of existing groups and at the same time expanding the scope under the pressure for growing output, given e.g. the often deplored limited access to approved chemicals. Disillusion of producers helps neither quality nor future expansion of the production. The question of how much certified cocoa the world market is able to absorb is in a way a secondary question, as a more sustainable production seems paramount for maintaining the supply in the first place. The facilitation of “a transition to sustainable practices” (Potts et al. 2014) through certification can therefore be seen as an imperative to the industry, which is partly recognized in the Abidjan declaration (ICCO 2012a).

All the certification schemes surveyed in this work claim to build on fair trading relations with producers. As the inclined reader may have noted, fair trade as a term encompassing the

third-party verified certification schemes has been avoided in this article. The reason for this is that certification is seen more as a business case in the current environment of the cocoa sector in Ghana. As far as this allows cocoa producers to benefit from better conditions and enhances their agency, this can be seen as positive. However, marketing fair trade products would imply a higher responsiveness to the needs of the smallholder farmers and efficiency in distribution of premiums than the findings in this study reveal.

There are two ways of seeing the current growth in the sector. While on the one side the great opportunities of mainstreaming sustainable production are emphasized (Potts et al. 2013, Laven 2010), on the other side the consistency and credibility of the (older) labels is feared for (Bowes 2011, Lyon and Moberg 2010). As it was depicted in the results part of this study, in practice there is a need to combine positive outcomes of each approach. From the present results, no conclusion can be drawn as to the absolute leadership regarding fairness or sustainability of one particular certification in the cocoa sector in Ghana. But it can be confirmed that “a virtuous circle has been put in motion” (KPMG 2013) through certification standards, which opens opportunities for sustainability to be enhanced in all three dimensions (ecologic, social, environmental).

Moreover, the support of export crops should not be at the expense of attention to food crops, given the high dependence of the rural population on own food production as demonstrated above. This has been expressed clearly by Chamberlin et al. (2007), who find that higher attention to food crops would contribute more to poverty reduction in Ghana than the current focus of public attention to the cocoa sector.

The study also found that a number of questions regarding the implications of certification in cocoa production are unanswered, such as the situation of long-term labor force supporting the cocoa production, ecologic sustainability in a longer term perspective, and a robust assessment of costs of the different certification systems. Further research should look into how to balance out social inequality so that the social system remains healthy. Social sustainability could also be enhanced if more attention was paid to local organizational structures, especially for benefit distribution, instead of setting up new cooperative-like structures. Institutional economics could be a point of departure for dealing with the question of how to enhance the negotiation power of organized producer groups on the price at farm gate. Cocoa is called a cash crop, but in the balance the gains for the producers remain meager - even if some of them are enabled to enhance productivity through certification.

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