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Assessment framework and baseline

Verina Ingram, Yuca Waarts, Lan Ge, Simone van Vugt, Lucia Wegner, Linda Puister-Jansen, Francois Ruf and Roger Tanoh

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The term 'control' denotes the non-certified farmers used as a comparison to the UTZ programme farmers.

Statistical significance used in the analysis and presentation of findings uses asterisks as follows:
* p<=0.01 at 95% level of confidence and ** denotes p 0.05 levels deemed 'highly' significant, at least 99% level of confidence. See Box 1 for additional information. In most figures the means are displayed with the median value shown by a red dot.
Cooperative is used to denote groups of farmers that are legally registered as an association or cooperative in the Ivory Coast.

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Preface

The Ivory Coast has consistently been the world's largest cocoa exporter since the 1980s. The cocoa sector faces a number of challenges such as low productivity and smallholder farmer incomes, poor working conditions, complex labour issues and environmental challenges such as deforestation and climate change.

UTZ Certified aims to create a world where sustainable farming is the norm, and where farmers implement good agricultural practices and manage their farms profitably with respect for people and planet, where industry invests in and rewards sustainable production and consumers can enjoy and trust the products they buy. To this end, UTZ Certified initiated a certification programme for cocoa in the Ivory Coast in 2008. By 2012, the programme covered 189 cooperatives comprising over 44,000 cocoa farmers.

In 2012, UTZ Certified commissioned LEI Wageningen UR to determine the effects of this certification programme. LEI Wageningen UR led the study in partnership with the Centre for Development Innovation (CDI Wageningen UR), the French Centre de Coopération Internationale et Recherche Agronomique pour le Développement (CIRAD), and Ivorian research organisation Agriculture et Cycles de Vie (A.C.V).

This report presents the results of the independent baseline survey and assessment framework by the research team. It evaluates the effectiveness of cocoa programme in bringing about improvements for cocoa farmers and cooperatives participating in the programme. Based on this evaluation, the report draws lessons learnt and provides recommendations to improve the quality of the programme.

We are greatly indebted to farmers and their cooperatives for the information they provided. Also to our partners at A.C.V. for collecting the data. We thank UTZ Certified for assistance and collaboration, providing us with information and constructive feedback.

Ir. L.C. van Staalduinen
Director General LEI Wageningen UR

Summary

S.1 Improving the sustainability of cocoa from farm to consumer

Since 2008 UTZ Certified has implemented a programme in Ivory Coast to enhance sustainability in the cocoa supply chain through the implementation of the UTZ Code of Conduct. The programme has supported farmers to become organised into cooperatives, receiving training on farm management and organisational capacity building, and become certified.

Starting off with four cooperatives, two traders and Solidaridad as partners, it has grown into a large scale programme. By June 2012 86 cooperatives were certified, 44,624 farmers reached, and 128,582 tons of certified cocoa had been produced from an estimated farm area of 219,100 hectares. Eight traders and the Sustainable Trade Initiative (IDH) are now partners, who are implementing certification as part of broader activities to support cocoa farmers, their cooperatives and communities. As of June 2013, a further 103 cooperatives were in the process of certification.

This report serves two purposes: it provides a baseline of farm-level situation as of mid-2013, which can be used to measure changes in indicators in future impact assessments. It also provides an initial assessment of impacts by comparing different groups of cocoa farmers. It provides information about the **inclusiveness of the UTZ Certified cocoa programme in Ivory Coast.** It evaluates how certification and related activities have affected farmers' **knowledge and implementation** of good agricultural practices, social and environmental issues in line with the UTZ Certified Code of Conduct and assesses the **added value of certification. Lessons learned** are drawn from the results, feeding **recommendations** to improve the quality and effectiveness of the programme.

S.2 Evaluation approach

Independent, evidence-based assessment
UTZ commissioned LEI Wageningen UR in 2012 to provide an independent baseline and impact assessment. LEI led the study, in partnership with the Centre for Development Innovation (CDI Wageningen UR), the French Centre de Coopération Internationale et Recherche Agronomique pour le Développement (CIRAD), and the Ivorian research organisation Agriculture et Cycles de Vie.

Rigorous quantitative data collection with qualitative interviews
In 2013, a quantitative and qualitative interview-based assessment was conducted. A representative sample of 780 farmers was selected. The farmers are members of 97 cooperatives, 89 of which are connected to eight different traders participating in the UTZ programme for different periods of time and situated in the three main agro-ecological zones across the country. A control group of 55 farmers was selected who had not participated in the programme. These farmers are members of nine cooperatives situated in the same three agro-ecological zones at least 10 kilometres from programme cooperatives and are not UTZ certified. In-depth interviews were also conducted with 19 cooperative managers, village chiefs, groups of villagers and support organisations to obtain more qualitative information on impacts and the size of 99 farms was measured.

Establishing representative indicators with stakeholders
Fifteen environmental, economic, and social indicators were used to measure the impact of the programme activities implemented between 2008 and 2013. These correspond to UTZ Certified's "Better farming, better future" theory of change. Statistical and qualitative analyses of the indicators were then conducted. Using the results of the interviews, farmer's perceptions of changes in the

indicators were analysed. Comparisons were made of indicators to see whether any significant differences could be found by comparing the following:

- Farmers participating in the programme for different periods of time (ranging from zero to five years).
- Farmers located in different agro-ecological zones.
- Farmers participating in the UTZ programme and farmers not participating (the control group)
- Farmers participating in the UTZ programme who are certified and those not-yet certified.

Results were also benchmarked to existing data about the indicators and an assessment of external influences which could affect farmers' performance on the indicators, such as the Ivorian government's reform of the sector and the weather. The preliminary results of the analysis were presented and verified at two meetings with five cooperative managers and representatives of seven traders, IDH, Solidaridad and the research team in Abidjan and Amsterdam in October 2013. This report presents the final analysis and helps provide a reference situation as of 2013, providing a baseline against which impacts can be measured in the future.

S.3 What the evaluation shows

Table 1 provides an overview of the key data on the baseline and impacts of the programme which can be determined to date, the main findings of which are summarised below. A summary showing the differences in indicators for the different types of farmers (programme participants and control group, certified and not-yet certified, and farmers participating for different lengths of time in the programme), is shown in Table 1.

The UTZ Certified programme has been inclusive in reaching all targeted farmers.
The upscaling of the programme and the range of associated support activities provided to cocoa farmers from 2008 to 2013 has been rapid and extensive. Most targeted farmers have participated in training and certification activities and a proportion also benefited from access to crop protection products, fertilisers and seedlings, and from community and social programmes. The majority of those reached represent typical Ivorian cocoa farmers, as they are older men who either own their farm or are sharecroppers. Programme participants are all members of a cooperative, as certification is implemented through registered cooperative members. Due to the focus on cooperatives, women, youths and workers have been less included in programme activities, despite being heavily involved in cocoa production. However, many farmers have trained their wives, children and workers, which is assumed to pass on relevant knowledge and practices.

Certification seems to contribute to farmers' knowledge and implementation of good agricultural practices
Knowledge levels of GAPs: It seems that programme participants have acquired knowledge on GAPs related to the UTZ Code of Conduct and programme activities. Farmers participating in the programme and certified farmers had higher knowledge levels than control group and not-yet certified farmers. Farmers who were both UTZ and Rainforest Alliance certified also had higher knowledge levels than uncertified farmers, probably because farmers acquire similar types of knowledge when participating in both schemes. Also, farmers who were certified for longer had higher knowledge levels than farmers recently certified. Whether these higher knowledge levels can be attributed to the UTZ certification programme, or other factors, such as prior knowledge, will become apparent in subsequent assessments. Positive associations were also found between farm size and knowledge levels: the larger the size of the cocoa farm, the higher farmers' knowledge levels. Farmers in the excellent agro-ecological zone also have higher knowledge levels than farmers in the good or marginal zones. These findings may be due to farmers being able to apply their knowledge and benefit from efficiencies in scale and a more favourable environment for growing cocoa. Cooperative membership appears to facilitate exchanges between members. It may also be that knowledgeable farmers are more likely to become members of a group. However, in general, farmers' knowledge levels on best practices in cocoa are low.

Implementation level of GAPs: The UTZ programme also seems to have been successful in improving farmers' implementation of GAPs, although generally implementation levels are low. The longer farmers participated in the UTZ programme, the better they implemented GAPs generally. UTZ programme participants and UTZ certified farmers performed better in implementing GAPs than farmers in the control group and farmers who are not yet UTZ certified. Practices that improve the environment, particularly soil and water quality and conservation appear to have had limited impact to date. This may be due to the timescale involved before environmental impacts are apparent, as well as the methods used to determine changes in indicators. Farmers´ knowledge and practices were lowest concerning children's and labour rights, personal protective equipment, waste management and composting, weeding, record keeping, shade trees, soil conservation and field buffer zones, fertiliser and crop protection use, pruning and disease management.

The UTZ cocoa programme is based on the foundation that higher farmer knowledge can result in better implementation of good agricultural practices, higher productivity, higher net income and more satisfied farmers.

The study found preliminary evidence that supports this theory of change. Generally both higher knowledge levels and improved implementation of record keeping are positively related with increases in farmer productivity. Overall, higher knowledge levels are positively related with improved implementation of GAPs. For some specific GAPs (waste management, soil management, water and biodiversity protection), no positive correlation was found. No apparent relationship was found between the implementation of GAPs and post-harvest practices and bean quality.

UTZ Certification and related activities provide added value for farmers.

Certification has provided a means to rapidly upscale sustainable cocoa production and allows farmers to access certified markets where they can benefit from premium prices which reward sustainable production. Certification has promoted professional producer associations which farmers perceive as providing a range of benefits, some of which can be improved. Farmers indicate the programme leads to increased productivity and income.

Table 1

What the assessment shows: Key data.

CONCLUSION	RESULTS
	PROGRAMME INCLUSIVENESS
The programme has reached a large number of farmers, but women and youths, and workers are under-represented in the programme. Ways are being sought to involve them more.	▪ Participating farmers are typical in terms of age (on average 45), nationality (Ivorian, Burkinabé, and Malian) and sex, with 96% male, similar to cocoa farmers in Ivory Coast. Activities have targeted registered cooperative members. ▪ 88% of farmers participating in the programme had received training related to certification, the 12% were not yet trained had recently joined the programme. ▪ 88% of farmers had participated in initiatives to strengthen cooperatives, 8% had received training, 13% had access to crop protection products, fertilisers and seedlings, 15% to credit and savings scheme, 8% had participated in community and social programmes and 8% in improved fermentation schemes. ▪ 83% of participating farmers had trained others. ▪ Farm workers, particularly women and youths, had less opportunity to be included in certification and support activities. UTZ and partners have started focussing more on women through a number of a small scale training and empowerment activities.
	IMPACT OF CERTIFICATION AND RELATED ACTIVITIES OF UTZ AND IMPLEMENTING PARTNERS ON KNOWLEDGE AND RELATED BEHAVIOUR/PRACTICES OF COCOA FARMERS IN TERMS OF PEOPLE, PLANET AND PROFIT
Better life (PEOPLE)	
The programme appears to have contributed to improved levels of knowledge and implementation of GAPs	▪ Farmers who were certified for longer, had higher knowledge levels. UTZ programme participants and UTZ certified farmers have significantly higher knowledge levels than non-certified farmers. ▪ In general, the level of knowledge and self-reported implementation practices for participants were relatively low: on average UTZ programme participants scored 25 out of 100 points. ▪ Higher knowledge levels are positively related with improved implementation of GAPs. ▪ Knowledge and practices can be improved on: children's and labour rights, personal protective equipment, waste management and composting, weeding, record keeping, shade trees, soil conservation and field buffer zones, fertiliser and crop protection use, pruning, and disease management.
Respect for labour rights appear to improve with certification and can be improved further	▪ UTZ certified farmers and UTZ programme participants have slightly better respect of labour rights than not yet certified farmers. Generally respect for labour rights is low for all farmers in the programme, ▪ 46% of all participating farmers made formal contracts with their labourers, certified farmers and programme participants make contracts more often with labourers than non-certified farmers and non-participants, suggesting that the Code of Conduct is being implemented. There is limited awareness of workers' rights: 22% of farmers had contact with lead farmers on labour rights issues.
Respect for children's rights is generally good, although action areas are apparent	▪ 13% of farmers knew the minimum age for children to work on cocoa farming activities. ▪ UTZ programme participants' knowledge on activities not permitted for children is significantly higher than for non-programme participants, but is generally low, with 34% of farmers able to specify the minimum age limits for the cocoa farming tasks that children may do according to the UTZ Code of Conduct. ▪ UTZ programme participants and UTZ certified farmers comply with the UTZ Code of Conduct standards concerning the amount of time their children spend on cocoa farming activities. ▪ Children on average spent 50 hours a year assisting their families on farm, generally on non-hazardous activities. This is significantly under the maximum number of hours (728) specified in the UTZ Code of Conduct. But they make significantly more use of children than their counterparts, probably because they have larger farms ▪ Of the time spent by children of certified farmers, 84% was on non-hazardous activities, for non-certified farmers this was 82%. The hazardous activities conducted by children included pruning, applying fertiliser and pesticide and breaking open cocoa pods. ▪ Teachers and school directors interviewed have very little or no knowledge of UTZ and traders' activities or of initiatives carried out aimed at stimulating children's education. 10% declared that there were initiatives.

Generally living and working conditions are safe	▪ Knowledge and implementation levels about the use of personal protective equipment were higher for UTZ programme participants and UTZ certified farmers than for their counterparts, but are quite low. ▪ Farmers indicated that a number of GAPs contributed to better working conditions, however access to improved health care is still poor. ▪ UTZ certified farmers report significantly less accidents than non-certified farmers. About 70% of the farmers did not have an accident themselves or someone else during cocoa production activities.
Better income and Better crops (PROFIT)	
Livelihoods seem to improve with participation in the programme	▪ Farmers were generally satisfied with the impact of certification and training on their livelihoods. Farmers participating in the programme have higher levels of satisfaction on a range of livelihoods indicators, compared to farmers not participating (the control group). ▪ 82% of farmers indicated an improvement in their living conditions since participating in the certification programme ▪ 92% of farmers indicated positive changes after certification. ▪ Farmers believe that higher incomes from participating in the programme have led to a larger proportion of the cocoa income given to their spouses, and being used to meet basic family needs, and for children's schooling. ▪ Farmers require more support on access to healthcare, schooling and infrastructure.
Farmers' incomes appear to increase with certification, but farmers have concerns about the long term viability of cocoa farming and possible discontinuation of the premium for certified cocoa	▪ About 50% of farmers say that income has increased since certification. ▪ Net household income from cocoa for certified farmers was on average 1,535,000 CFA (2,343 €) and for non-certified farmers 1,318,000 CFA (2,013 €) in 2012. The longer farmers participate in the UTZ programme, the higher the net income they earn. Programme participants and UTZ certified farmers do not earn a significantly higher net income than non-certified and control group farmers. ▪ Average production costs for UTZ programmes participants were 152 CFA per kg, compared to 129 CFA per kg for farmers not participating. The length of participation in the programme did not influence production costs. ▪ The average production of UTZ programme participants was 453 kg per hectare, for the control group it was 329 kg per hectare, certified farmers have higher yields (467 kg hectare) than non-certified farmers (315 kg per hectare). ▪ 30% of farmers had measured the size of their farms. 25% had miscalculated their farm size, generally over-estimating by 7%. ▪ Bean quality is high, with 98% of farmers indicating their beans meet cooperative's quality standards. 37% of farmers reported that quality had improved following certification. ▪ Cocoa farming forms on average 79% of total gross household income and is the only or the main source of cash income for most farmers. ▪ Although 72% farmers intend to continue cocoa production over the next five years, they feel that cocoa farming is not an attractive source of income over the long term. Some are investing in rubber and other crops which require less labour and provide higher, more regular income. A third (34%) of farmers would like their children to continue in cocoa. ▪ 90% of farmers interviewed in focus groups perceive that the premium does not sufficiently cover their costs to produce certified beans. Reported production costs are generally low, which may be because farmers generally had difficulties reporting on such costs. ▪ Farmers and cooperatives expressed concerns that, if payments of the premium were to be discontinued, one of the main added values of maintaining the certified status for them would disappear.
Better environment (PLANET)	
Practices to positively impact soil and water quality and biodiversity conservation can be improved	▪ A low proportion of farmers use inputs and fertilisers: 17% use herbicides, 55% pesticides, 10% fungicides and 23% use fertiliser and compost. ▪ Less than 20% of farmers use compost from cocoa production waste or other sources, suggesting a positive impact on soil quality. ▪ UTZ programme participants and UTZ certified farmers perform better than non-certified farmers with regard to knowledge and implementation rates on water and soil conservation measures and the protection or restoration of natural habitats. The longer farmers are in the programme the better they implement biodiversity conservation practices. All programme participants have low knowledge and implementation levels.

ADDED VALUE OF THE UTZ CERTIFICATION PROCESS AND BEING CERTIFIED FOR FARMERS	
Farmers indicate the programme leads to increased productivity and income certification allows access to premiums and services	▪ UTZ programme participants had higher levels of productivity and significantly lower production costs per kilogram than uncertified farmers. ▪ Farmers participating longest in the programme tend to produce more efficiently and have higher gross and net cocoa-based incomes than later entrants. ▪ Almost all (97%) programme participants were satisfied with UTZ certification and training. Farmers stated that an added value of the programme is that they can access certification premiums and by working in a cooperative, can access provide services they need and are satisfied with. ▪ UTZ certification enables farmers to be reached by traders and organisations running projects and programs. These relationships help secure market access for farmers and their groups and increase access to support services that aid production.
The programme is leading to professional cooperatives **Some services provided by cooperatives can be improved.**	▪ Farmers noted numerous benefits of being member of a cooperative such as marketing their beans at a good price, access to information and training, providing a forum for exchange and building social capital. ▪ Farmers believe that activities associated with certification often provided by traders, such as management training, models for internal control systems, financial support, equipment and means of transport, have contributed to professionalize cooperatives. ▪ 60% of farmers interviewed in focus groups perceive that inputs are provided on time or in sufficient quantity, and 70% have access to credit. ▪ Farmer's indicate that their cooperatives can be further professionalised by enhancing access to fertilisers, credit, and seedlings. They point to the need for their groups to be more transparent and accountable, particularly providing more information on prices and benefits, on how premiums are used by the group. Also they highlight the need to train managers. Farmers require more support to improve their families' livelihoods, and to manage and diversify their sources of revenue.

Table 2

What the assessment shows: Comparing impact indicators.

Indicators	Results		
	Differences between UTZ programme participants and control group	**Differences between UTZ certified and non-UTZ certified farmers**	**Differences between farmers according to length of participation in the programme**
Better life (PEOPLE)			
1. Farmer characteristics	0	0	NA
2. UTZ Certified programme inclusiveness	0	0	NA
3. Livelihood and standard of living	+	+	0
4. Sustainable practices rewarded by the market[1]	+	NA	NA
	0	+	0
5. Stability of cooperatives, services and market access	+	+	NA
	+	+	0
6. Labour rights	+	+	0
7. Child labour and rights			
8. Healthy and safe living and working conditions			
Better income and Better crops (PROFIT)			
9. Cocoa production efficiency	0	0	0
10. Productivity (yields in kg per hectare)	+	+	0
11. Quality	0	0	NA
12.1 Gross cocoa income	0	0	+
12.2 Total production costs (costs per kg)	+	+	0
12.3 Long term viability of cocoa farming	+	0	0
Better environment (PLANET)			
13. 1 Soil quality & conservation[2]	-	- -	0
13.2 Water quality & conservation[2]	0	0	0
14. Waste management & reduction (cocoa related) [2]	+	+	+
	++	++	+
15. Protection & restoration of natural habitats (on/near farm) [2]			

Key:

0	No statistically significant difference
+	Statistically positive difference
++	Statistically significant positive difference
-	Statistically negative difference
--	Statistically significant negative difference
NA	Not analysed

[1] Due to certified farmers receiving UTZ certified premium

[2] Based on farmers reported level of implementation

Sommaire exécutif

Impact de la certification cacao d'UTZ en Côte d'Ivoire
Cadre de l'évaluation et situation de référence

S.1 Amélioration du caractère durable du cacao, du producteur au consommateur

Depuis 2008, UTZ Certified a lancé, en Côte d'Ivoire, un programme destiné à améliorer le caractère durable de la chaîne d'approvisionnement du cacao grâce à l'application du Code de conduite UTZ. Le programme a permis aux agriculteurs de s'organiser en coopératives, de bénéficier de formations sur la gestion de leurs exploitations et le renforcement de leurs capacités organisationnelles et d'obtenir la certification.

Lancé avec seulement quatre coopératives, deux négociants et Solidaridad comme partenaire, le programme s'est rapidement étendu. En juin 2012, 86 coopératives avaient été certifiées, 44 624 agriculteurs avaient reçu de l'aide et 128 582 tonnes de cacao certifié avaient été produites sur une surface agricole estimée à 219 100 hectares. Huit négociants, ainsi que l'Initiative pour le commerce durable (IDH), sont dorénavant partenaires du programme et mettent en œuvre la certification dans le cadre d'activités plus larges d'assistance aux producteurs de cacao, à leurs coopératives et à leurs communautés. Au mois de juin 2013, 103 coopératives supplémentaires étaient en cours de certification.

Ce document sert deux objectifs : tout d'abord, offrir un aperçu de la situation des exploitations agricoles telle qu'elle se présentait fin juin 2013 (informations qui pourront servir de base pour mesurer l'évolution des indicateurs lors de futures évaluations des impacts). Ensuite, fournir une première évaluation des impacts en comparant différents groupes de producteurs de cacao. Il offre des informations sur le **niveau d'intégration du programme cacao d'UTZ Certified en Côte d'Ivoire,** il évalue l'impact que la certification et les activités associées ont eu sur **la connaissance et la mise en œuvre** par les agriculteurs de bonnes pratiques agricoles et sur les questions sociales et environnementales figurant dans le Code de conduite d'UTZ Certified, et il évalue la **valeur ajoutée de la certification**. Les enseignements tirés des résultats ont permis d'émettre des **recommandations** pour améliorer la qualité et l'efficacité du programme.

S.2 Approche de l'évaluation

Évaluation indépendante, fondée sur les faits
En 2012, UTZ a demandé à LEI Wageningen UR de lui fournir une étude de référence associée à une évaluation des impacts. L'étude a été conduite par LEI en partenariat avec le Centre for Development Innovation (CDI Wageningen UR), le Centre de Coopération Internationale et Recherche Agronomique pour le Développement (CIRAD – France) et l'organisme de recherche ivoirien Agriculture et Cycles de Vie.

Collecte rigoureuse de données quantitatives et entretiens qualitatifs
En 2013, une évaluation quantitative et qualitative a été conduite sur la base d'entretiens. Un échantillon représentatif de 780 agriculteurs a été sélectionné. Les agriculteurs sont membres de 97 coopératives, dont 89 sont associées à huit négociants différents, ayant participé au programme d'UTZ sur des durées différentes et situées dans les trois principales zones agro-écologiques du pays. Un groupe témoin de 55 agriculteurs n'ayant pas participé au programme a été sélectionné. Ces derniers sont membres de neuf coopératives situées dans les mêmes zones agro-écologiques, à au moins 10

km des coopératives du programme, et ne sont pas certifiés UTZ. Des entretiens approfondis ont également eu lieu avec 19 gérants de coopérative, chefs de village, groupements de villageois et organisations d'accompagnement afin d'obtenir davantage d'informations qualitatives sur les impacts, et la taille de 99 exploitations agricoles a été mesurée.

Élaboration d'indicateurs représentatifs avec les parties prenantes
Quinze indicateurs environnementaux, économiques et sociaux ont été utilisés pour mesurer l'impact des activités du programme mises en œuvre entre 2008 et 2013. Ces activités correspondent à la théorie du changement « Une meilleure agriculture pour un meilleur avenir » défendue par UTZ Certified. Des analyses statistiques et qualitatives des indicateurs ont ensuite été réalisées. La perception qu'ont les agriculteurs des changements intervenus au niveau des indicateurs a été analysée sur la base des résultats des entretiens. Des comparaisons ont été réalisées pour déterminer d'éventuelles différences significatives entre les groupes suivants:

- Agriculteurs ayant participé au programme sur différentes durées (allant de zéro à cinq ans).
- Agriculteurs situés dans différentes zones agro-écologiques.
- Agriculteurs participant au programme d'UTZ et agriculteurs n'y participant pas (groupe témoin).
- Agriculteurs certifiés et non certifiés parmi ceux qui participent au programme d'UTZ.

Les résultats ont également été comparés aux données qui existent au sujet des indicateurs ainsi qu'à une évaluation des influences extérieures susceptibles d'avoir un impact sur les performances des agriculteurs, notamment la réforme sectorielle menée par le gouvernement ivoirien et les conditions météorologiques. Les résultats préliminaires de l'analyse ont été présentés et vérifiés à l'occasion de deux réunions organisées à Abidjan et à Amsterdam en octobre 2013, en présence de cinq dirigeants de coopératives, de représentants de sept négociants, d'IDH, de Solidaridad et de l'équipe chargée de l'étude. Ce rapport présente l'analyse définitive qui pourra servir de référence (2013) pour mesurer et comparer les futurs impacts du programme.

S.3 Ce que montre l'évaluation

Le tableau 1 offre un aperçu des principales données de l'étude de référence et des impacts du programme tels qu'ils peuvent être déterminés à ce jour, le tout suivi d'un résumé des principales conclusions. Un résumé des différences obtenues selon les catégories d'agriculteurs (participants au programme et groupe témoin, certifiés et non certifiés ou agriculteurs affichant différentes durées de participation au programme) est présenté au Table 2.

Le programme d'UTZ Certified a permis de toucher tous les agriculteurs ciblés
L'expansion du programme et des activités de soutien associées proposées aux producteurs de cacao entre 2008 et 2013 a été rapide et extensive. La plupart des agriculteurs ciblés ont participé aux activités de formation et de certification et une bonne partie d'entre eux ont également bénéficié de l'accès à des produits phytosanitaires, à des engrais et à des jeunes plants, ainsi que de programmes communautaires et sociaux. La majorité des agriculteurs touchés sont représentatifs du producteur de cacao ivoirien type, c'est-à-dire qu'il s'agit d'hommes d'un certain âge, métayers ou propriétaires leur propre exploitation. Les participants au programme sont tous membres d'une coopérative, car la certification est mise en œuvre par l'intermédiaire de l'adhésion aux coopératives inscrites. En raison de l'importance accordée aux coopératives, les femmes, les jeunes et les travailleurs ont moins participé aux activités du programme malgré leur implication active dans la production du cacao. Toutefois, de nombreux agriculteurs ont eux-mêmes formé leurs femmes, leurs enfants et leurs travailleurs, leur transmettant des connaissances et des pratiques pertinentes.

La certification semble contribuer à l'acquisition de connaissances et à la mise en œuvre de bonnes pratiques agricoles
Niveaux de connaissance des bonnes pratiques agricoles (BPA): les participants au programme semblent avoir acquis des connaissances sur les BPA associées au Code de conduite d'UTZ et aux activités du programme. Les agriculteurs participant au programme et les agriculteurs certifiés présentent des niveaux de connaissance plus élevés que le groupe témoin et que les agriculteurs non

certifiés. Les agriculteurs qui possèdent les deux certifications UTZ et Rainforest Alliance affichent également des niveaux de connaissance plus élevés que les agriculteurs non certifiés, probablement en raison de la similarité des connaissances acquises dans le cadre des deux programmes. En outre, les agriculteurs certifiés depuis un certain temps présentent des niveaux de connaissance supérieurs à ceux des agriculteurs récemment certifiés. Il faudra attendre les évaluations suivantes pour savoir si ces niveaux de connaissance plus élevés sont attribuables au programme de certification d'UTZ ou à d'autres facteurs tels que des connaissances préalables. Des associations positives ont également été mises au jour entre la taille de l'exploitation et le niveau de connaissance : plus la taille de l'exploitation de cacao est importante, plus le niveau de connaissance de l'agriculteur est élevé. Les agriculteurs situés dans la meilleure zone agro-écologique affichent également des niveaux de connaissance plus élevés que les agriculteurs situés dans la zone correcte ou dans la zone marginale. Ces résultats sont peut-être dus au fait que les agriculteurs peuvent appliquer les connaissances acquises et qu'ils bénéficient d'économies d'échelle et d'un environnement plus favorable à la production de cacao. L'adhésion à une coopérative semble faciliter les échanges entre les membres. Il est également possible que les agriculteurs plus savants soient plus enclins à faire partie d'un groupe. Toutefois, de manière générale, le niveau de connaissance des bonnes pratiques liées à la culture du cacao est plutôt limité chez les agriculteurs.

Niveau de mise en œuvre des BPA: le programme d'UTZ semble également avoir permis d'améliorer l'utilisation de BPA par les agriculteurs, même si les niveaux de mise en œuvre restent globalement faibles. De manière générale, plus la durée de participation des agriculteurs au programme d'UTZ est longue, plus les BPA sont appliquées. Les participants au programme d'UTZ et les agriculteurs certifiés UTZ affichent de meilleurs résultats dans l'application des BPA que les agriculteurs du groupe témoin et que les agriculteurs qui ne sont pas encore certifiés UTZ. Les pratiques d'amélioration de l'environnement, particulièrement en termes de préservation et de qualité des sols et de l'eau, semblent avoir eu un impact limité à ce jour. Ce résultat est peut-être dû au délai nécessaire avant que les impacts environnementaux soient visibles, ainsi qu'aux méthodes utilisées pour évaluer l'évolution des indicateurs. Les connaissances et les pratiques les moins connues et les moins appliquées par les agriculteurs concernent les droits des enfants, le droit du travail, les équipements de protection personnelle, la gestion et le compostage des déchets, le désherbage, la tenue des registres, les arbres d'ombrage, la préservation des sols, les zones tampons, l'utilisation d'engrais et de produits phytosanitaires, la taille et la gestion des maladies.

Le programme cacao d'UTZ est basé sur l'hypothèse selon laquelle un niveau de connaissances plus élevé chez les agriculteurs peut entraîner des améliorations en termes de mise en œuvre de bonnes pratiques agricoles, de productivité, de revenu net et de niveau de satisfaction. Les premiers résultats de l'étude semblent venir étayer cette théorie du changement. De manière générale, l'amélioration des niveaux de connaissance et de la tenue des registres conduisent à une hausse de la productivité. De même, l'amélioration des niveaux de connaissance agit favorablement sur la mise en œuvre de BPA. Par contre, pour certaines BPA spécifiques (gestion des déchets, gestion des sols, protection de l'eau et protection de la biodiversité), aucune corrélation positive n'a été mise à jour. Aucun lien ne semble exister non plus entre la mise en œuvre de BPA et de pratiques post-récolte et la qualité des fèves.

La certification UTZ et les activités associées sont sources de valeur ajoutée pour les agriculteurs. La certification a permis d'étendre rapidement la protection durable de cacao et offre aux agriculteurs l'accès à des marchés certifiés qui leur permettent de bénéficier de prix supérieurs en échange de l'utilisation de pratiques de production durables. La certification a favorisé la création d'associations professionnelles de producteurs dont les agriculteurs estiment qu'elles peuvent leur fournir de nombreux avantages dont certains pourraient encore être améliorés. Les agriculteurs indiquent que le programme entraîne une hausse de la productivité et des revenus.

Tableau 1

Ce que montre l'évaluation: principales données

CONCLUSION	RÉSULTATS
	CAPACITÉ D'INTÉGRATION DU PROGRAMME
Le programme a touché un grand nombre d'agriculteurs, mais les femmes, les jeunes et les travailleurs sont sous-représentés. Des solutions pour les impliquer davantage sont en cours d'étude.	▪ Les agriculteurs participants sont représentatifs de la majorité des producteurs de cacao ivoiriens en termes d'âge (en moyenne 45 ans), de nationalité (ivoirien, burkinabé et malien) et de sexe (96 % d'hommes). Les activités sont ciblées sur les membres des coopératives inscrites. ▪ 88 % des agriculteurs participant au programme ont bénéficié de formation dans le cadre de la certification, les 12 % restants n'ayant pas encore été formés car ils viennent de rejoindre le programme. ▪ 88 % des agriculteurs ont participé à des initiatives de renforcement des coopératives, 8 % ont bénéficié de formations, 13 % ont eu accès à des produits phytosanitaires, des engrais et des jeunes plants, 15 % à des programmes de crédit et d'épargne, 8 % ont participé à des programmes communautaires et sociaux et 8 % à des programmes de fermentation améliorée. ▪ 83 % des agriculteurs participants ont formé d'autres personnes. ▪ Les ouvriers agricoles, particulièrement les femmes et les jeunes, n'ont souvent pas eu la possibilité de participer aux activités de certification et d'assistance. UTZ et ses partenaires ont commencé à mettre davantage l'accent sur les femmes par le biais d'activités de formation et d'autonomisation à petite échelle.
	IMPACT DE LA CERTIFICATION ET DES ACTIVITÉS ASSOCIÉES D'UTZ ET DE SES PARTENAIRES DE MISE EN ŒUVRE SUR LES CONNAISSANCES ET SUR LES PRATIQUES/COMPORTEMENTS ASSOCIÉS DES PRODUCTEURS DE CACAO AU NIVEAU DES 3P (PERSONNES, PLANÈTE, PROFIT)
Meilleure vie (PERSONNES)	
Le programme semble avoir conduit à une amélioration des niveaux de connaissance et de mise en œuvre de BPA	▪ Les agriculteurs certifiés depuis plus longtemps affichent des niveaux de connaissance plus élevés. Les participants au programme d'UTZ et les agriculteurs certifiés UTZ présentent des niveaux de connaissance largement supérieurs aux agriculteurs non certifiés. ▪ De manière générale, le niveau de connaissance et les pratiques de mise en œuvre auto-signalées des participants sont relativement faibles : en moyenne, les participants au programme d'UTZ obtiennent une note de 25 sur 100. ▪ L'amélioration des niveaux de connaissance agit favorablement sur la mise en œuvre de BPA. ▪ Les connaissances et les pratiques pourraient être améliorées dans les domaines suivants : droits des enfants, droit du travail, équipements de protection personnelle, gestion et compostage des déchets, désherbage, tenue des registres, arbres d'ombrage, préservation des sols, zones tampons, utilisation des engrais et des produits phytosanitaires, taille et gestion des maladies.
Le respect du droit du travail semble avoir progressé avec la certification et pourrait être encore amélioré	▪ Les agriculteurs certifiés UTZ et les participants au programme d'UTZ respectent un peu plus le droit du travail que les agriculteurs non certifiés. De manière générale, le respect du droit du travail est limité chez tous les agriculteurs participant au programme. ▪ 46 % de l'ensemble des agriculteurs participants ont signé des contrats formels avec leurs ouvriers, cette pratique étant plus courante chez les agriculteurs certifiés et les participants au programme que chez les agriculteurs non certifiés et ceux qui ne participent pas au programme, ce qui suggère que le Code de conduite est appliqué. La connaissance des droits des travailleurs est limitée : 22 % des agriculteurs ont été en contact avec des agriculteurs majeurs sur des questions liées au droit du travail.
Le respect des droits des enfants est généralement bon, même si des améliorations sont envisageables dans certains domaines	▪ 13 % des agriculteurs connaissaient l'âge minimum autorisé à partir duquel les enfants ont le droit de travailler à des activités de production de cacao. ▪ Le niveau de connaissance des activités interdites aux enfants est largement plus élevé chez les participants au programme d'UTZ que chez les autres mais globalement plutôt faible puisque 34 % seulement des agriculteurs sont capables de préciser les limites d'âge correspondant aux différentes tâches que les enfants sont autorisés à effectuer en vertu du Code de conduite d'UTZ. ▪ Les participants au programme d'UTZ et les agriculteurs certifiés UTZ respectent les normes du Code de conduite d'UTZ relatives au temps que leurs enfants passent à des activités de production de cacao. ▪ En moyenne, les enfants passent 50 heures par an à aider leurs familles sur l'exploitation, généralement à des activités non dangereuses. Ce chiffre est largement inférieur au nombre d'heures maximal (728) mentionné dans le Code de conduite d'UTZ. Mais ils font beaucoup plus appel à leurs enfants que leurs contreparties,

CONCLUSION	RÉSULTATS
	probablement parce que leurs exploitations sont plus grandes. ▪ Sur le temps total passé par les enfants des agriculteurs certifiés, 84 % est consacré à des activités non dangereuses contre 82 % pour les agriculteurs non certifiés. Les activités dangereuses réalisées par des enfants comprennent la taille, l'épandage d'engrais et de pesticides et l'ouverture des cabosses de cacao. ▪ Les enseignants et les directeurs d'écoles interviewés n'ont que peu ou pas connaissance des activités mises en œuvre par UTZ et par les négociants ou des initiatives menées pour stimuler l'éducation des enfants. 10 % seulement ont répondu que des initiatives existent.
De manière générale, les conditions de vie et de travail sont sûres	▪ Les niveaux de connaissance et de mise en œuvre relatifs à l'utilisation d'équipements de protection personnelle sont plus élevés chez les participants au programme d'UTZ et chez les agriculteurs certifiés UTZ que chez leurs contreparties, mais restent relativement faibles. ▪ Les agriculteurs indiquent que certaines BPA contribuent à améliorer les conditions de travail, mais que l'accès à des soins améliorés reste limité. ▪ Les agriculteurs certifiés UTZ signalent nettement moins d'accidents que les agriculteurs non certifiés. Environ 70 % des agriculteurs n'ont pas enregistré d'accident sur leur exploitation pendant les activités de production de cacao.
Meilleurs revenus et meilleures cultures (PROFIT)	
Les moyens de subsistance semblent s'améliorer en raison de la participation au programme	▪ Les agriculteurs sont généralement satisfaits de l'impact de la certification et de la formation sur leurs moyens de subsistance. Les agriculteurs participant au programme affichent des niveaux de satisfaction plus élevés sur toute une série d'indicateurs liés aux moyens de subsistance par rapport aux agriculteurs non participants (groupe témoin). ▪ 82 % des agriculteurs signalent une amélioration de leurs conditions de vie depuis leur participation au programme de certification. ▪ 92 % des agriculteurs indiquent des changements positifs après la certification. ▪ Les agriculteurs indiquent que la hausse des revenus résultant de la participation au programme leur a permis de remettre une plus grande partie des revenus du cacao à leurs épouses qui les ont utilisés pour satisfaire aux besoins de base de la famille et à l'éducation des enfants. ▪ Les agriculteurs ont encore besoin d'assistance pour l'accès aux soins, à l'éducation et aux infrastructures.
Les revenus des agriculteurs semblent avoir augmenté avec la certification, mais les agriculteurs sont préoccupés par la viabilité à long terme de la culture du cacao et par une possible suppression de la prime versée pour le cacao certifié.	▪ Environ 50 % des agriculteurs indiquent que leurs revenus ont augmenté depuis la certification. ▪ Le revenu net moyen tiré de la production de cacao s'élevait à 1 535 000 FCFA (2 343 €) pour les agriculteurs certifiés et à 1 318 000 FCFA (2 013 €) pour les agriculteurs non certifiés en 2012. Plus la durée de participation des agriculteurs au programme d'UTZ est longue, plus leur revenu net est élevé. Les participants au programme et les agriculteurs certifiés UTZ n'enregistrent pas un revenu tellement supérieur aux agriculteurs non certifiés et à ceux du groupe témoin. ▪ Les coûts de production moyens s'élèvent à 152 FCFA/kg pour les participants au programme d'UTZ contre 129 FCFA/kg pour les agriculteurs non participants. La durée de participation au programme n'a pas d'impact sur les coûts de production. ▪ La production moyenne s'élève à 453 kg/ha pour les participants au programme d'UTZ et à 329 kg/ha pour le groupe témoin, les agriculteurs certifiés affichant des rendements plus élevés (467 kg/ha) que les agriculteurs non certifiés (315 kg/ha). ▪ 30 % des agriculteurs avaient mesuré la taille de leur exploitation. 25 % avaient mal calculé la taille de leur exploitation, la surestimant généralement de 7 %. ▪ La qualité des fèves est excellente, 98 % des agriculteurs indiquant que leurs fèves satisfont aux normes de qualité de la coopérative. 37 % des agriculteurs indiquent que la qualité s'est améliorée après la certification. ▪ La production de cacao représente en moyenne 79 % des revenus bruts du foyer et est la seule ou la principale source d'argent liquide pour la plupart des agriculteurs. ▪ Même si 72 % des agriculteurs ont l'intention de continuer à produire du cacao au cours des cinq prochaines années, ils estiment que la production de cacao n'est pas une source de revenus attractive à long terme. Certains d'entre eux investissent dans le caoutchouc et dans d'autres cultures qui nécessitent moins de main-d'œuvre et apportent des revenus plus élevés et plus réguliers. Un tiers (34 %) des agriculteurs aimeraient que leurs enfants continuent à produire du cacao. ▪ 90 % des agriculteurs interrogés dans le cadre des groupes d'étude estiment que la prime n'est pas suffisante pour couvrir les coûts de production des fèves certifiées. Les coûts de production indiqués sont généralement faibles, probablement parce que les agriculteurs ont des difficultés à calculer ces coûts. ▪ Les agriculteurs et les coopératives s'inquiètent cependant car ils estiment que si la prime est supprimée, une des principales valeurs ajoutées du maintien de leur certification disparaîtra.

CONCLUSION	RÉSULTATS
Meilleur environnement (PLANÈTE)	
Les pratiques permettant d'avoir un impact positif sur la qualité des sols et de l'eau et sur la préservation de la biodiversité peuvent être améliorées	▪ Une faible proportion d'agriculteurs utilise des intrants et des engrais : 17 % utilisent des herbicides, 55 % des pesticides, 10 % des fongicides et 23 % des engrais et du compost. ▪ Moins de 20 % des agriculteurs utilisent le compost issu des déchets de la production de cacao ou d'autres sources, ce qui suggère un impact positif sur la qualité du sol. ▪ Les participants au programme d'UTZ et les agriculteurs certifiés UTZ affichent de meilleurs résultats que les agriculteurs non certifiés en ce qui concerne les niveaux de connaissance et de mise en œuvre de mesures de préservation de l'eau et du sol et de protection ou de restauration des habitats naturels. Plus la durée de participation des agriculteurs au programme d'UTZ est longue, mieux ils mettent en œuvre les pratiques de préservation de la biodiversité. Tous les participants au programme affichent de faibles niveaux de connaissance et de mise en œuvre.
VALEUR AJOUTÉE DE LA PROCÉDURE DE CERTIFICATION ET DE LA CERTIFICATION POUR LES AGRICULTEURS	
Les agriculteurs indiquent que le programme conduit à une amélioration de la productivité et des revenus et que la certification permet d'accéder à des primes et à des services	▪ Les participants au programme d'UTZ affichent des niveaux de productivité plus élevés et des coûts de production largement inférieurs par rapport aux agriculteurs non certifiés. ▪ Les agriculteurs qui participent au programme depuis longtemps ont tendance à produire de manière plus efficace et à enregistrer des revenus bruts et nets plus élevés que les derniers arrivants. ▪ Pratiquement tous les participants au programme (97 %) sont satisfaits de la formation et de la certification d'UTZ. Les agriculteurs apprécient le fait de pouvoir bénéficier de primes de certification et d'avoir accès, en travaillant dans une coopérative, aux services dont ils ont besoin et dont ils sont satisfaits. ▪ La certification d'UTZ permet aux agriculteurs d'être contactés par des négociants et par des organisations responsables de projets et de programmes. Ces relations garantissent l'accès aux marchés de niche pour les agriculteurs et leurs groupements et accroissent l'accès à des services d'assistance qui favorisent la production.
Le programme permet aux coopératives de se professionnaliser Certains services fournis par les coopératives pourraient être améliorés.	▪ Les agriculteurs mentionnent les nombreux avantages qu'offre l'adhésion à une coopérative, par exemple la commercialisation de leurs fèves à un bon prix, l'accès à des informations et à des formations, l'existence d'un forum d'échange et le renforcement du capital social. ▪ Les agriculteurs estiment que les activités associées à la certification qui sont souvent mises à disposition par les négociants (formation au management, modèles de systèmes de contrôle interne, assistance financière, équipement et moyens de transport) ont favorisé la professionnalisation des coopératives. ▪ 60 % des agriculteurs interrogés dans le cadre des groupes de travail estiment que les intrants leur sont fournis en temps voulu et en quantité suffisante, et 70 % ont accès au crédit. ▪ Les agriculteurs indiquent que le professionnalisme de leur coopérative pourrait encore être amélioré, notamment au niveau de l'accès aux engrais, au crédit et aux jeunes plants. Ils indiquent que leur groupe pourrait être plus transparent et plus responsable, en leur fournissant davantage d'informations sur les prix et sur les bénéfices, ainsi que sur l'usage qui est fait des primes. Ils pointent également du doigt la nécessité de former les managers. Les agriculteurs demandent davantage d'aide pour améliorer les moyens de subsistance de leurs familles et pour gérer et diversifier leurs sources de revenus.

Tableau 2

Ce que montre l'évaluation: comparaison des indicateurs d'impact

Indicateurs	Résultats		
	Différences entre les participants au programme d'UTZ et le groupe témoin	**Différences entre les agriculteurs certifiés UTZ et non certifiés**	**Différences entre les agriculteurs en fonction de la durée de participation au programme**
Meilleure vie (PERSONNES)			
1. Caractéristiques des agriculteurs	0	0	NA
2. Capacité d'intégration du programme d'UTZ Certified	0	0	NA
3. Moyens de subsistance et niveau de vie	+	+	0
4. Pratiques durables rémunérées par le marché[1]	+	NA	NA
5. Stabilité des coopératives, des services et de l'accès aux marchés	0	+	0
6. Droit du travail	+	+	NA
7. Travail des enfants et droits associés	+	+	0
8. Conditions de vie et de travail sûres et saines	+	+	0
Meilleurs revenus et meilleures cultures (PROFIT)			
9. Efficacité de la production de cacao	0	0	0
10. Productivité (rendement en kg par hectare)	+	+	0
11. Qualité	0	0	NA
12.1 Revenu brut du cacao	0	0	+
12.2 Coûts de production totaux (par kg)	+	+	0
12.3 Viabilité à long terme de la production de cacao	+	0	0
Meilleur environnement (PLANÈTE)			
13.1 Qualité et préservation des sols[2]	-	- -	0
13.2 Qualité et préservation de l'eau[2]	0	0	0
14. Gestion et réduction des déchets (liés au cacao)[2]	+	+	+
15. Protection et restauration des habitats naturels (sur l'exploitation ou à proximité)[2]	++	++	+

Légende :

0	Aucune différence statistiquement significative
+	Différence statistiquement positive
++	Différence positive statistiquement significative
-	Différence statistiquement négative
--	Différence négative statistiquement significative
NA	Non analysé

1 En raison du versement d'une prime de certification UTZ aux agriculteurs certifiés

2 Sur la base du niveau de mise en œuvre indiqué par les agriculteurs

Lessons learned and recommendations

Improving programme inclusiveness
As workers, and particularly women and youths, have not been directly included in the programme to date, it is recommended that the UTZ Certification engage them. This could increase the programme's impact as women and young people are heavily involved in cocoa production.

Enhancing programme impacts
Ensure training of consistent and good quality
The rapid up-scaling of certification and related activities since the programme's inception has resulted in perceptions that the quality of training has been variable and lacks minimum standards. This possibly influences farmer's knowledge and practices. Farmers and stakeholders suggested that improvements could be made in the frequency, quality and quantity of training and in trainer's competences. Farmers expressed a preference for extension and field-based learning, rather than classrooms. As different training techniques have been used over time with different farmers, it would be worthwhile to evaluate the efficacy of training techniques to gear resources to those that are most effective.

Improve knowledge, implementation of best practices and profitability
The programme could focus on the areas where farmer knowledge and implementation of GAPs is low. This could be combined with practices that further enhance yields. The programme could focus on how to enhance profitability at farmer and cooperative level, taking into account premiums and the full costs of production, including certification costs.

Continue to address children's and workers' rights
A continued focus is needed to ensure that the worst forms of child labour are eliminated and that children's rights and labour rights are respected. Collaboration with initiatives that support children's schooling (such as ensuring access to schools in cocoa communities) will remain essential in eliminating child labour.

Improving the added value of the certification programme
By revitalising the sector, certification appears to contribute to making cocoa farming more sustainable. However, certification has also had some unintended outcomes. Premium payments have added to farmer's difficulties in managing large, seasonal cash flows. The premium setting process is not seen as transparent and does not appear to be linked to actual costs at famer, cooperative or trader level. Certification and production costs are not well understood, particularly on farmer and cooperative level and appear underestimated. There is need for deeper analysis of the financial and economic costs and benefits of certification. More focus is needed on increasing the overall price and profits farmers earn on certified beans, such as through increased productivity and quality.

The auditing process is perceived as open to corruption. Multiple certification is complex and has been difficult for some traders and cooperatives to manage. Rapid up-scaling and out-scaling of training has led to trainings of variable quality to be implemented, possibly affecting programme impact. These issues could be taken into account in the next phase of the programme.

The programme could solicit, listen to and take into account farmer's and stakeholder's perceptions of their needs (such as pesticide and fertiliser inputs, seedlings, improved plant material, credit, insurance, business training) and to integrate their suggestions into the UTZ Certification programme and/or partners' programmes. Further collaborating with partners and other certification agencies could help to decrease complexity for farmers and cooperatives to deal with multiple certification and multiple activities.

More than certification is needed to improve livelihoods

For the farmers involved in the UTZ certification programme, cocoa is clearly critical to their livelihoods, as the only or the main source of cash income for most. Improving lives, incomes, crops and the environment of these farmers however extends beyond the cocoa fields and beyond certification. To have sustainable, diversified livelihoods, a holistic view of the interaction with other subsistence and cash crops that complement cocoa is needed. This implies testing new business models that will persuade farmers and their children to continue to grow and process (certified) cocoa. This may require a shift in mind-sets to think more broadly about the role of certified cocoa as one (albeit important) element in farmer's, their families and their workers (male and female, young and old) livelihoods.

This implies that if better lives, crops, income and environment are to be achieved and the UTZ slogan upheld, partnerships and dialogues are needed to ensure that the benefits and costs of certification are clear to all stakeholders. And also that transparency and efficiency in the certification process is ensured. This is critical to help address the issues that certification alone cannot or does not satisfactorily impact upon and to work with farmers and cooperatives to ensure that certified cocoa is a viable farming and livelihood option in the long term.

Looking ahead

While this preliminary evidence suggests that UTZ Certified has contributed to improve the livelihoods, communities and environments of cocoa farmers in Ivory Coast, it also raises questions. Follow-up and monitoring will allow these results to be discussed with stakeholders, new data to be collected on selected topics and a deeper understanding of the impacts of sustainable cocoa production to be gained.

Acronyms and Abbreviations

ACI	African Cocoa Initiative
AIECA	All India Education Consultancy Association
ANADER	National Agency for Rural Development/*Agence National d'Appui au Développement Rural*
APEXCI	Ivory Coast Exportation Professional Association
CAADP	Agriculture Development Programme
CAISTAB	Office for the stabilisation of producer activities in coffee and cocoa/ *Caisse de stabilisation des activités des producteurs de café et cacao*
CAOBISCO	Association of Chocolate, Biscuit and Confectionery Industries of Europe
CCC	Coffee & Cocoa Council (*Conseil du Café Cacao*)
CDC	Cocoa Development Centres
CFAF	African Financial Community franc (Communauté Financière Africaine)
CGFCC	Comité de gestion de la filière Café Cacao
CICC	Cocoa & Coffee Interprofessional Board
CIMP	Raw Materials Interministerial Board
CIP1	Cocoa Improvement Programme 1
CISCI	Côte d'Ivoire Sustainable Cocoa Initiative
CNPS	National Social Security Fund / *Caisse Nationale de Prévoyance Sociale*
CNRA	National Agronomic Research Centre / *Centre National de Recherche Agronomique*
COPAL	Alliance of Cocoa Producing Countries
CPQP	Cocoa Productivity and Quality Programme
CVC	Cocoa Village Clinics
ECA	European Cocoa Association
EFA	Projet Ecoles Familiales Agricoles
FFS	Farmer Field Schools/*Champs écoles ou Champs écoles paysans*
FIRCA	Fonds Interprofessionnel pour la Recherche et le Conseil Agricole
FS	Field Apprenticeship/*Champ d'Apprentissage*
GAP	Good Agricultural Practice
GIZ	German International Cooperation Agency Deutsche/*Gesellschaft für Internationale Zusammenarbeit)*
GlobalGAP	Private sector voluntary standards setting body for certification of production processes for agricultural products
ICCO	International Cocoa Organisation
ICI	International Cocoa Initiative
ICRAF	World Agroforestry Center
ICS	Internal Control System
IDH	Sustainable Trade Initiative
IITA	International Institute of Tropical Agriculture
ILO	International Labour Organisation
lECD	Institut Européen de Coopération et Développement
LEI	Agricultural Economics Institute of Wageningen UR
LF	Lead farmers/*planteur relais (PR*)
PDDA	Master Plan for Agricultural Development
PEFAC	Plate-forme des Ecoles Familiales Agricoles de Côte d'Ivoire
PPE	Personal protective equipment
PRODEMIR	Programme de Développement Economique en Milieu Rural
RA	Rainforest Alliance
STCP	Sustainable Tree Crops Programme
ToC	Theory of Change
ToR	Terms of Reference
UNDP	United Nations Development Fund
USAID	United States Agency for International Development
WAFF	West Africa Fair Fruit
WCF	World Cocoa Foundation
WWF	Worldwide Fund for Nature

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1 Introduction

1.1 Rationale

UTZ Certified is a programme and label for sustainable farming worldwide. Sustainable farming aims to help farmers, workers and their families to fulfil their ambitions and contributes to safeguarding the earth's natural resources, now and in the future. UTZ's mission is to create a world where sustainable farming is the norm, and where farmers implement good agricultural practices and manage their farms profitably with respect for people and planet, where industry invests in and rewards sustainable production and consumers can enjoy and trust the products they buy.

In 2007, UTZ Certified launched its cocoa programme with founding members Cargill, Ecom, Heinz, Mars, Nestle and Ahold and the not-for-profit organisations Solidaridad, Oxfam Novib and WWF. The first pilots in Ivory Coast started in 2008 (two projects with Cargill and two with Ecom). Ghana was the second country where the programme was implemented. In January 2008 a group of partners travelled to Ivory Coast to understand the potential and obstacles for certification. After extensive stakeholder consultation, the UTZ Certified Good Inside Code of Conduct for Cocoa was launched in June 2009. The first producers in Cooperative Agricole de Fiédifoué (CAFD) and Coopaga were certified in August 2009. In November 2009 the first batch of UTZ Certified cocoa arrived in Amsterdam. By December 2009, Coopagro in Ivory Coast was one of three additional producers that became certified worldwide and 5,400 tonnes had been produced by UTZ Certified cocoa farmers. In January 2010, the Chain of Custody (CoC) and corresponding labelling was finalised and an interim traceability procedure installed. This was seen as essential for the success of UTZ Certified label in the market. Also in 2010, the first UTZ Certified chocolate products appeared in the market: Baronie Easter Eggs, 4-finger KitKat Australia, Cocio, AH chocolate bars and letters in two thirds of all Dutch supermarkets, commitments made by Chocomel & Cécémel, Nidar, de Ruijter, Arla.

In 2011, Solidaridad and UTZ Certified commissioned LEI to evaluate their cocoa programme in Ghana, the baseline report of which was delivered in April 2013. The experiences and methods used in that report were further developed for this Ivory Coast study. By June 2012 there were partnerships with eight traders and 86 cooperatives were certified in Ivory Coast. A total of 44,624 farmers produced 128,582 tonnes of cocoa on an area of 219,100 hectares. A further 103 cooperatives were in the process of certification. Solidaridad and UTZ have facilitated training of producers and cooperatives. The training focusses on Good Agricultural, social and environmental Practices (GAP) in line with the UTZ Code of Conduct. Implementation of better and more sustainable practices is expected to lead to higher and long term productivity, improved quality (better market access and prices), increased efficiency (lower costs per unit of produce), increased income (improved profitability) and improved social and environmental conditions. Training also includes organisational management and internal control systems (ICS), which are expected to lead to more effective farmer organisations with more effective input purchasing, cocoa marketing and better service delivery to cocoa farmers.

Following on from the study in Ghana, UTZ Certified and Solidaridad wanted to conduct a similar and comparable study in Ivory Coast, with a broader scope in terms of the implementing partners and methods. Ghana and Ivory Coast are different in terms of parties involved, activities and context. Therefore the theory of change, research questions and indicators needed to be adjusted and influencing factors (such as the political situation and recent conflict) taken into account. Also, to improve learning from the study results, capture initial results, enable triangulation and increase communication value, UTZ wanted the Ivory Coast study to use a mix of quantitative and qualitative methods.

1.2 Objectives and research questions

The objectives of this study are to:
1. Obtain information about achievements of the UTZ Certified programme
2. Assess whether the activities/strategies lead to the desired outcomes (effectiveness)
3. Draw lessons learned so as to improve the quality of the programme

The study answers the following questions posed by UTZ Certified:

1. Is the UTZ Certified cocoa programme in Ivory Coast inclusive? What are the characteristics of UTZ certified farmers?
Are certified farmers representative of Ivorian cocoa farmers (in terms of incomes, gender, age, farm size and tenure and ethnic/migrant status)? Do knowledge and benefits also reach others working/helping on certified farms (spouses, workers, tenants, children, etc.)

2. How do the certification and related activities of UTZ and implementing partners[1] (Solidaridad, buyer-exporters, private training agencies, consultants and the national rural development agency) **influence knowledge** (on GAP, social and environmental issues in line with the code of conduct) **and related behaviour/practices of cocoa farmers in Ivory Coast?** and what are the **results of these in terms of people, planet and profit** (i.e. better life, environment and income and crops)?

3. What is the added value for farmers of going through the UTZ certification process and being certified?
What perceptions do farmers and stakeholders (groups, traders, traitants, exporters, trainers) have of the process and impacts of certification and training on their livelihoods (e.g. benefits in terms of improved wellbeing, increased professionalism, increased trust and communication between farmers and coops, how certification influences loyalty of members towards a group and willingness to reinvest in cocoa farming)? How do the interventions of training and certification influence/strengthen each other?

1.3 Collaboration with Solidaridad, Cargill and IDH

One of UTZ Certified core strategies is to collaborate with implementing partners to facilitate training of producers and cooperatives. This study has therefore been conducted in collaboration with UTZ and two of its partners, Solidaridad and IDH.

Solidaridad has supported the development of UTZ certification since 2004[2]. UTZ and Solidaridad both started cocoa programmes in 2007. In West Africa, UTZ's Cocoa Programme has been implemented since 2008 with Solidaridad and Solidaridad's Regional Expertise Centre in West Africa, known as West Africa Fair Fruit (WAFF) until 2012. Solidaridad works closely with companies to make a transition to sustainable cocoa. Since 2007, it's Cocoa Programme has focused on poverty, environmental degradation, social issues such as child labour, training, organising and empowering farmers in Ivory Coast and other major cocoa production countries. The Programme works with partners Cargill, ECOM, Mars, Ahold, Nestlé, and is funded by organisations such as IDH, the Netherlands Ministry of Foreign Affairs and companies. In the next five years the Cocoa Programme will expand to a minimum of 400,000 farmers, increasing the market share to 15-20% of global cocoa production. It will train producers to increase productivity and improve farm management through GAP, organizing farmers and supporting their cooperatives, enabling access to finance, and developing models for rehabilitation

[1] Two types of training are conducted: 1. Training of master or lead trainers on the Code of Conduct requirements by UTZ to its partners (cooperatives, consultants, traders, exporters and NGOs) 2. Technical training by partners and their service providers such as training of trainers to lead farmers, farmer field schools, etc.
[2] http://www.solidaridad.nl/merken/utz-certified

and intensification to increase productivity. Since 2008 Solidaridad has collaborated with Cargill on its Sustainable Cocoa Programme in Ivory Coast.

UTZ Certified was a member of the Sustainable Trade Initiative (IDH) Cocoa Improvement Programme 1 (CIP1). The CIP1 was a public private partnership with 50% funded by IDH, which ran from 2008 to December 2012. It convened and aligned parties accounting for approximately 30% of the chocolate market and focused on the largest producer countries: Ivory Coast, Ghana, Indonesia, Nigeria, Cameroon and Ecuador. The CIP1 aimed to be a major force behind the upscaling of certification, increased market demand for certified chocolate, the institutionalisation of sustainability in the sector, and the dissemination of innovative sustainability practices. A second tranche of public and private funding set up the Cocoa Productivity and Quality Programme (CPQP), a four-year programme that started in April 2011. The programme aims to mainstream the results of the CIP1 and stimulate innovations on effective farmer support and improved production to catalyse large-scale positive impact within the sector. The CPQP aims to help to develop and provide co-funding for initiatives which advance the cocoa market by improving cocoa quality and farmer's productivity, professionalizing farmers and their organisations, establishing a total quality standard systems, and financing, coordinating and aligning of private and public sector actors in sustainable cocoa production. The CPQP aims to train more than 50,000 farmers and certify over 30,000, to produce over 64,000 tonnes of certified cocoa and make UTZ Certified cocoa widely available in the international market. The CPQP brings together more partners to cover over 40% of the worldwide cocoa processing industry and 30% of worldwide chocolate manufacturing businesses. It involves local governments and other stakeholders. Alongside UTZ Certified and Solidaridad, participants include Ahold, ADM, Armajaro, Barry Callebaut, BT Cocoa, Cargill, Continaf, Ecom, Ferrero, Friesland Campina, Mars, Heinz, ICCO, Nestlé, Swiss Contact, Oxfam Novib, Petra Foods (Delfi), UNDP, WCF and WWF.

Due to the close relationships and interests of IDH, UTZ and Solidaridad in certified cocoa production in Ivory Coast, these three organisations and LEI agreed on a framework for collaboration. The basis of their partnership consists of:

- A common interest in demonstrating a positive impact of certified/sustainable cocoa at household level;
- By combining resources the organisations are able to capture a large survey base of respondents
- The organisations are aligned working with one methodology and one research consortium (led by LEI)
- The organisations acknowledge that they want to deliver as soon as possible credible results
- A recognition of the different roles played by each organisation, resulting in different analysis and reporting needs

IDH, UTZ and Solidaridad will each receive a tailored report reflecting its priority focus and interests. They have agreed to share the primary baseline data as the basis to answer their questions. Figure 1 visualises the framework.

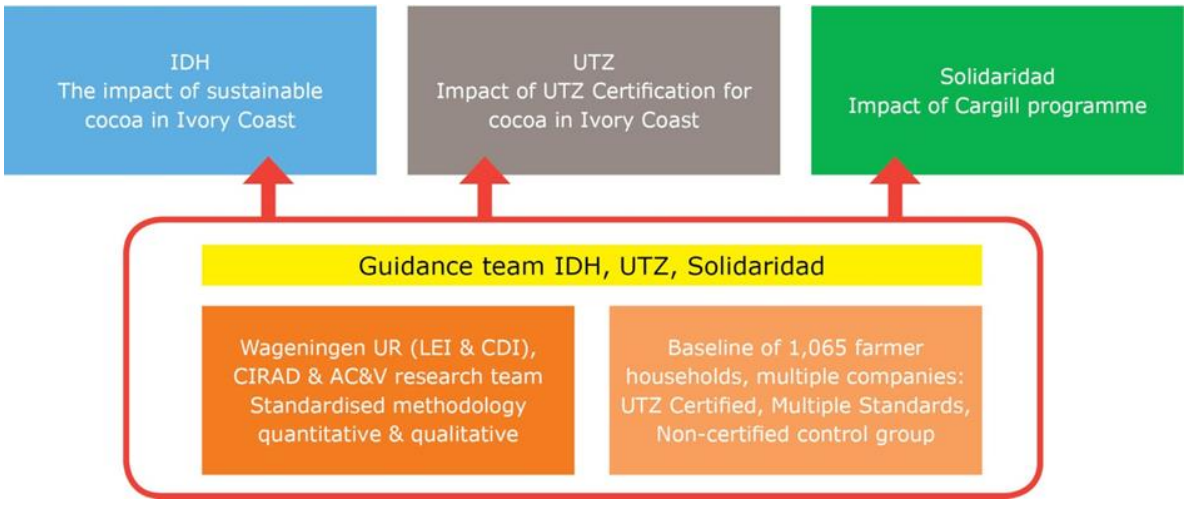


Figure 1 *Organisational framework for the joint impact study.*

The guidance team for of this research consisted of representatives of UTZ Certified, Solidaridad and IDH. The team was responsible for ensuring quality and alignment of the study, and overall coordination final approval of the deliverables. It also provided secondary data, facilitated logistical arrangements during field work and contacts with stakeholders, reviewed progress and deliverables.

1.4 Cocoa farming in Ivory Coast

This study is set in a long and complex history of the cocoa sector globally and in Ivory Coast specifically. West Africa is the centre of world cocoa production and Ivory Coast has consistently been the world's largest cocoa exporter since 1980s. It currently produces between 41% to 60% of world supply, amounting to between 1,511 and 1,480 thousand tons annually in the last three years (ICCO 2013). This generates 15% of GDP and 30% of national export income. An estimated 600,000 to 900,000 farmers produce cocoa, with up to 6 m dependents. The majority of cocoa is produced on small farms between 1.5 and 5 hectare, with different reports of average farm size ranging from 2.8 ha (Alonghi 2011) to 3.7 ha (KPMG 2012). Farms generally have low and decreasing productivity rates (300-500 kg per ha) compared to other cocoa producing countries (Ruf 2007; Oxfam International 2009; KPMG 2012). Around 6% of the national territory is under cocoa production; the majority is grown in very suitable growing areas, but not all (Läderach 2011). Expansion into unsuitable areas without fertilisers, inputs or adapted agricultural practices commonly results in low yields (Ruf and Agkpo 2008). Annual weather patterns and climatic have a significant influence on yields (Zuidema *et al.* 2005; Ojo and Sadiq 2010). Climatic changes in the future are predicted to influence cocoa productivity as some areas become unsuitable (Lagunes and Sud-Comoe in Ivory Coast), some remain suitable, but only if the farmers adapt to the new conditions and some areas where cocoa is not currently grown but which may become suitable in the future (Läderach 2011).

Within the cocoa sector globally, complex labour issues have been prominent in the last decade around child labour (Krain et al., 2011), extended family labour, migrant labour (Alongi 2011, Ton et al., 2008, Tulane University 2011). The Ivorian sector has also been touched by the lingering effects of the 2010–2011 civil war and political crisis in Ivory Coast, with cocoa being one source of financing the conflict (Global Witness 2007; Guesnet *et al.* 2009). Given this history, multinational corporations such as Cargill have made significant investments to secure volumes of cocoa and promote ethical practices (Abbott *et al.* 2005). However, farm gate prices in Ivory Coast have been among the lowest in terms of $/ton of all major exporting countries (Abbott et al., 2005).). Cocoa production has continued to rise despite low prices in the mid-2000s. With demand expanding, Ghanaian supply contracting (till recently) and Ghanaian farm gate prices rising, Ivory Coast leads the way in filling the gap to become the world's major supplier of beans (Abbott et al., 2005). The value chain in Ivory Coast is unique, with farmer sales at farm gate to *pisteurs*[3] or cooperatives, pisteurs sell to traitants (traders) (Abbott et al., 2005). Cooperatives are mainly cooperative structures, and traitant led group structures have only just started to emerge.

The governance of cocoa production in Ivory Coast has a similar history to that in Ghana, but in the Ivory Coast state-controlled governance system, where credit, pricing and export licensing were intimately linked, has always had more private partners. Until 1990, exports, market power and price setting was shared between exporters and the government (Ton *et al.,* 2008). After the 1999s a market-based corporate governance and price negotiation system was implemented resulting from the breakdown of institutions following failed cocoa production, and pressure from the World Bank and IMF structural adjustment process. Foreign companies used the room to increase investments and increase 'in-company' chain integration. Exporters (including major traders such as Cargill, Barry Callebaut, Olam and Armajaro) were then free to buy and sell based on London market prices. The fully liberalised system left farmers exposed to the international cocoa prices set in London. In 2012, contentious reforms of sector were implemented by the government. They include a reserve fund, single regulatory body, a guaranteed 50-60% benchmark price for farmers, and the revision of export

[3] A "pisteur" is a middleman who buys from farmers

prices and transport and handling fees. The 2012 reforms demonstrate a new found assertion of the role of the Ivorian government given some semblance of return to peace and government authority. In terms of global sales, in 2011, 34% of certified cocoa was Fairtrade certified, 21% was Rainforest Alliance certified, and 45% was UTZ Certified (VOICE Network 2012). The proportion of cocoa that is organic certified is not known. However, globally, only 33% of beans which are certified are sold as certified at retail level and 37% are sold through other sales channels, and 30% are double certified (VOICE Network 2012).

Photo 1 *A cocoa (Theobroma cacao) pod and beans*

2 Methodology

This chapter describes the methodology used. A detailed description of the sampling strategy, data collection and analysis methods is provided in Annex 7.

2.1 General approach

This report presents a combined baseline and initial impact assessment. Generally a baseline study takes place before a programme is implemented. However as no baseline was established prior to UTZ certification starting in Ivory Coast, this study aims to provide a reference situation as of 2013 and the characteristics of farmers participating in the programme, as well as those not participating, but who appear similar. Future impact assessments can use this baseline to compare progress using environmental, social and economic indicators. This is a pragmatic approach to retrospectively provide a baseline and provide an initial assessment of the impacts of the programme.

As shown in Figure 2, the impact assessment is designed using a comparative approach measuring a suite of indicators for farmers in different situations. The first compares farmers participating in the UTZ programme who are already certified with participating farmers who are not yet certified, to provide an initial impression of the impact of certification. The second compares farmers participating for different lengths of time in the UTZ programme, to determine if participation in certification and related activities affect farmer's performance. The third comparison looks at differences which may be due to external factors that influence farmer's performance, by comparing farmers who are not involved in the UTZ certification programme (a 'control group'), with farmers participating in the UTZ programme (the 'intervention group'). The fourth compares farmers located in different agro-ecological zones, to determine the possible influence of soil and climate. Future assessments will be able to use the 2013 results to assess changes in the situation of the different groups over time, providing a more rigours assessment of the impacts of the programme on the farmers sampled.

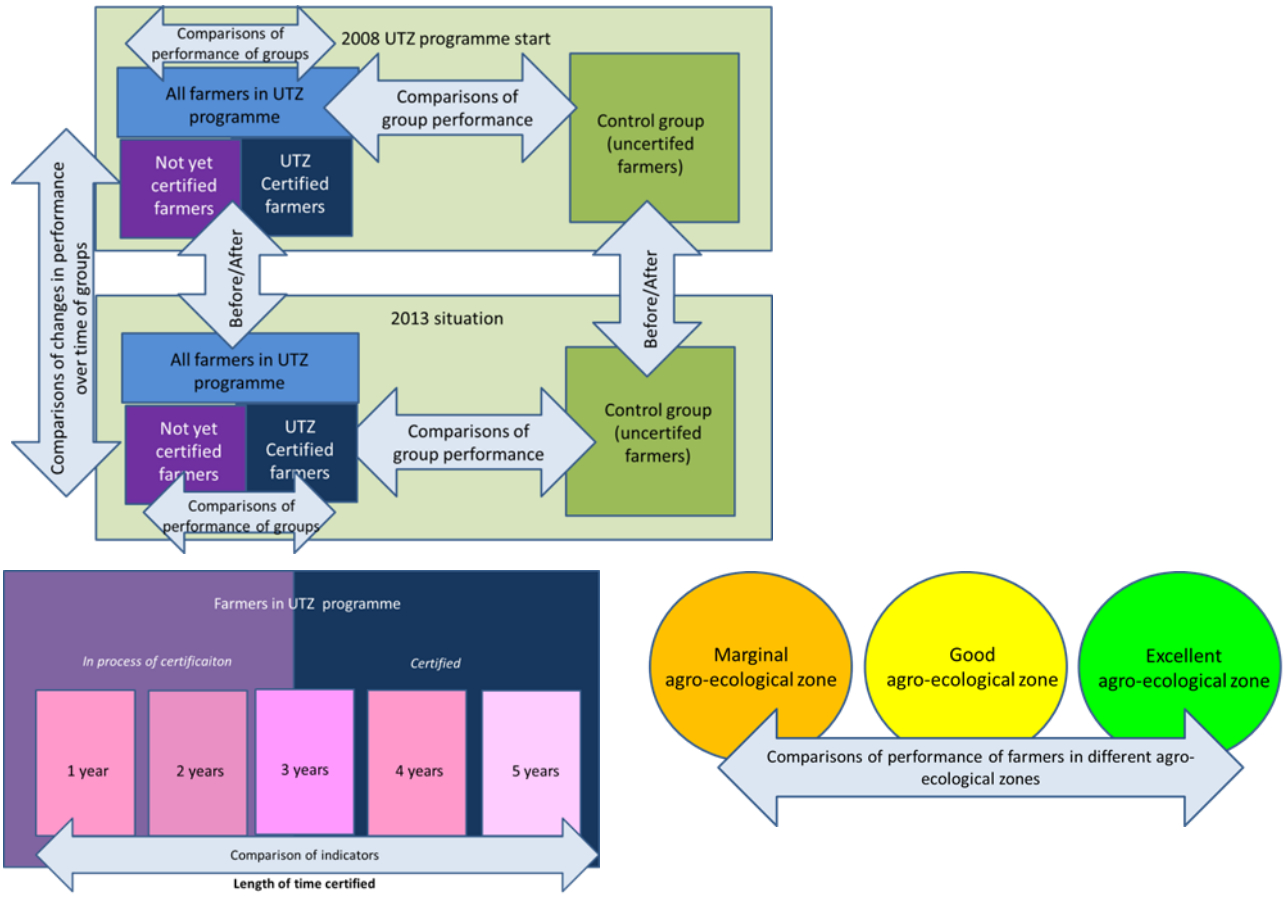


Figure 2 *Comparative impact assessment methodology*

2.2 Scope of study

This study focuses on UTZ Certified programme in Ivory Coast, specifically concentrating on cocoa farmers that are certified and in the process of becoming certified up till June 2013. The scope of the study does not include the impacts, costs or benefits of the programme for UTZ Certified or their partners. UTZ Certified cocoa farmers in Ivory Coast are all members of a producer group[4], mostly cooperatives. The majority of cooperatives are linked to traders that have assisted cooperative certification. Therefore, the study also focuses on the different activities conducted in the framework of certification and identified other services provided that may influence outcomes. According to UTZ's records[5], 36% of the UTZ certified cooperatives were linked to Cargill, 17% to Barry Callebaut, 10% to Zamacom, 6% to Olam, and 6% to Cocaf Ivoire. Less than 1% of cooperatives were linked to three other traders (Natra, Ludwig and Armajaro) and 10% were not linked to any specific trader. During the study, these affiliations were found to have changed and the proportions vary, with many of unaffiliated cooperatives actually linked to Cargill, and none to Ludwig or Armajaro. In terms of volume produced, the cooperatives associated to Cargill (40%) and Barry Callebaut (22%) account for the largest proportion of UTZ Certified cocoa from Ivory Coast.

Ideally, baseline data had been collected before farmers actively participate in the cocoa programme to allow impacts to be assessed against a baseline. As no dedicated baseline data was conducted prior to UTZ's and Solidaridad's cocoa programmes in the Ivory Coast starting in 2007 and IDH's programme in 2008, a comparison of the begin and end, before and after certification situation is not possible. This study therefore aims to provide a baseline as of 2013, reflecting the current situation of

[4] An UTZ Certified cocoa producer sells their cocoa to a registered UTZ Certified buyer. They negotiate the contract details and explicitly agree at cooperative level upon the premium that is paid per kilogram for UTZ certified beans.
[5] According to data provided by UTZ dated 12 June 2012.

farmers and cooperatives in different phases of certification. It is assumed that the different approaches used by traders to support cooperative certification may result in different impacts for affiliated farmers (once factors such as farm location in suitable or less suitable zones for growing cocoa, length of time certified and number of training are controlled for). Thus, knowing how traders implement certification and the different types of delivery and implementation modes is an essential part of the research. Farmers and their cooperatives associated with different traders were therefore grouped separately. It is critical to acknowledge that external events and the activities undertaken by traders (and other organisations, including the government) towards individual farmers and cooperatives are expected to contribute to the impact of certification, therefore secondary data about such influences was collected. This also helps to provide a comparative baseline and triangulate findings.

Following this study, it is understood that similar data will be collected for a midterm review (after two years) and a final assessment (after four years). The impact of the UTZ Certified programme can then be established using this longitudinal approach, by comparing using the changes observed in the selected indicators over the different time periods and between the control (non-certified at the time of the study) and certified groups and between farmers located in different agro-ecological regions.

2.3 Impact logic

An impact logic (also known as a theory of change) is a tool to understand and visualise the rationale behind a programme, the causal relationships between a programme's activities and its intended outcomes. Building on the Terms of Reference (shown in Annex 1), a meeting was held with UTZ staff to develop the impact logic. The impact logic also builds upon another, similar impact logic developed for the UTZ Ghana cocoa baseline assessment. However, it has been enriched with additional and revised indicators, pathways, outcomes and external influences. Maintaining this method allows comparability between impacts in the two countries.

The impact logic diagram starts from the actions of the programme and leads to changes in a farmer's situation. This impact logic is presented in Figure 3 on the next page. This one applies only to the farmer level. The entire UTZ programme is broader (e.g. by working with other actors in the supply chain), but because these broader elements are not part of the impact assessment, they are not represented here. Measured impacts may also be caused by external factors. Since the external factors are not explicitly part of the rationale behind the impact logic, they are not displayed in the figure, but have been considered in this study. The impact diagram starts on the left with the actions and interventions of the programme and leads through to expected changes in the farmers' situation on the right side of the diagram.[6] The impact logic deliberately focusses on knowledge and practices of farmers, which are intermediate outcomes. These are influenced directly by the programme. It shows how the actions carried out by UTZ and partners (e.g. training in GAP) are expected to contribute to ultimate outcomes. In other words, UTZ anticipates that there is an added value of certification beyond premium, that knowledge is built and implemented during the whole certification process, and that social pressure and inclusion have an impact on outcomes. It is also foreseen that there may be unintended effects of certification not captured by internal control systems and audits.

[6] This impact logic only applies to farmers. The entire UTZ programme is broader than the depicted in the impact logic diagram, as UTZ also works with other actors in the supply chain. These are not included in the impact logic represented here. The impact of an intervention is also determined by external factors. Since the external factors are not explicitly a part of the rationale behind the logic, they are not displayed in the impact logic.

Photo 2 *Members of Wageningen UR and ACV research team, Soubré, November 2012*

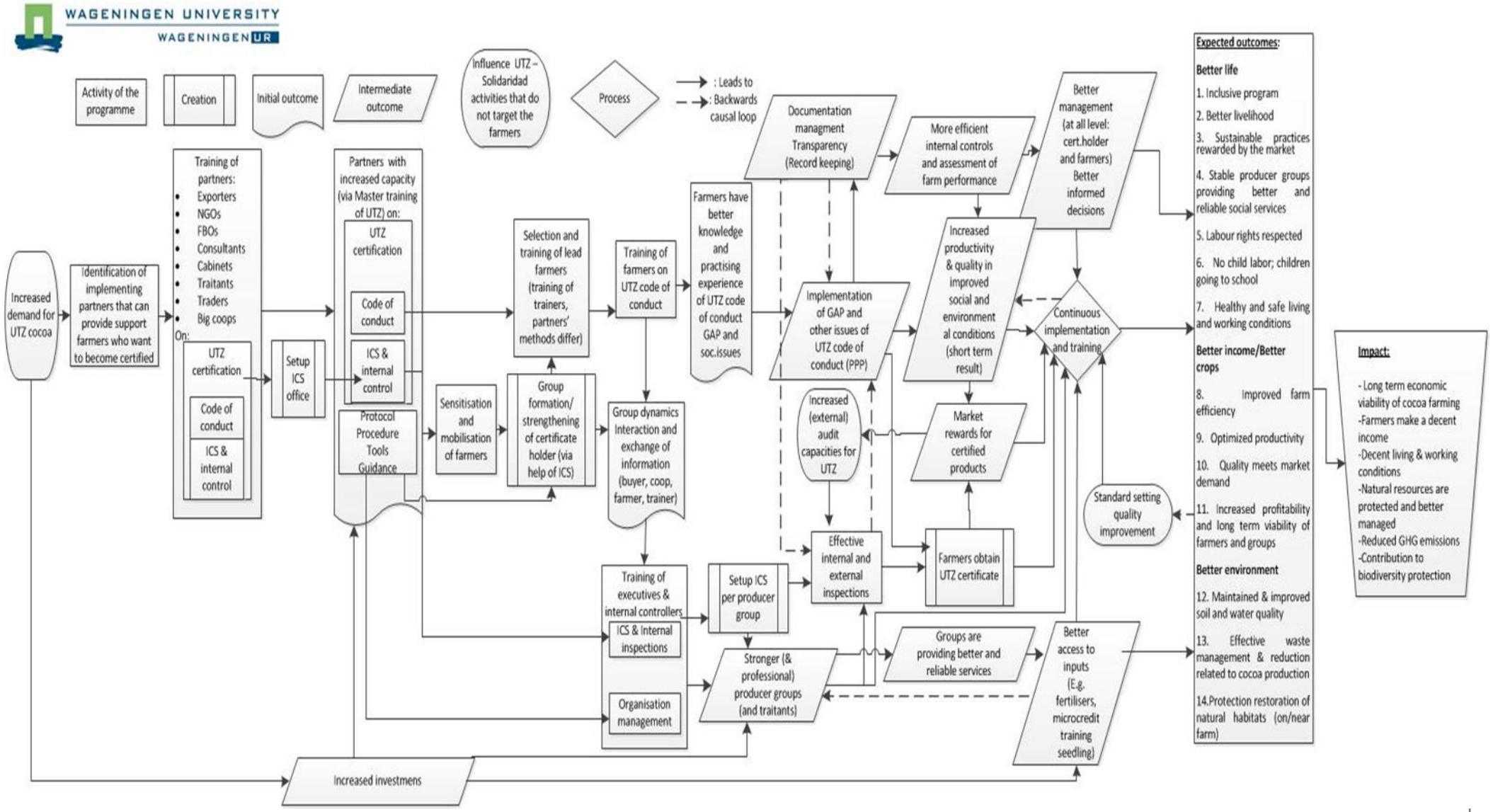


Figure 3 *Impact logic of UTZ Certified cocoa programme in Ivory Coast*

Several assumptions about the mechanisms underlying the logic were made by UTZ, which include:

The main target group to be reached by the programme are smallholder cocoa farmers. In practice, these small holder farmers are members of cooperatives. The target group is not further specified. The motivations of farmers to join the programme and become certified (i.e. the opportunity they have to participate, the extent to which they choose to join the programme i.e. 'self-selecting', or selected by the cooperative or trader) are anticipated to differ for farmers and depend on their relationship with their cooperative, and the relationship between their cooperative and trader(s). The main impact of UTZ Certification is at the level of farmer households and cooperatives. In Ivory Coast, certification is on a group level, with registered certificate holder farmers who are member of a group being certified, but individual farmer certification not yet occurring. Certification of traitants and pisteurs is foreseen in future.

Certification provides in most (but not necessarily all) cases a price premium and direct economic benefits as well as improved market access as farmers may supply to a cooperative which often sells to a trader that has assisted it to become certified. The level of the premium and how it is spent at cooperative level is decided at cooperative level. UTZ anticipates that the premium is invested or distributed to benefit all certified producers (in cash or in kind).

Bean quality is expected to be influenced by the 2012 Ivorian cocoa market reform. Stricter quality standards on moisture levels are expected to lead to improved drying and fermentation practices. The certification process (including implementation of the code requirements, training, creating and strengthening of cooperatives, setting up an ICS) also provides indirect benefits by enabling farmers to gain additional economic benefits (increased yields, better quality, efficient use of inputs, better management practices) and social benefits (increased negotiating power, access to inputs and services). These social and economic benefits lead to improved profitability (income) and contribute to long term economic viability and resiliency of farms. Inspections and peer pressure contribute to implementation of sustainable practices learned in training.

Professional farm management and risk management contribute to improved farm resilience by reducing farmers' vulnerability to external shocks (such as adverse weather affecting yields). Whilst group certification requires a registered group (with a functioning ICS), UTZ sets no requirements concerning group structure or internal governance. Groups may be self-initiated associations/cooperatives or externally initiated by e.g. traders, traitants, non-government organisations etc. UTZ is in the process of learning what form of organisation is most beneficial for farmers, and currently assumes that stronger groups create stable and secure trade conditions and are better able to act in the interest of their members. UTZ assumes that cooperatives are valuable (i.e. by providing access to training, input, markets etc.), yet experiences to date indicate that not everyone is or can be part of a well-functioning group.

The phasing of activities to certify farmers and maintain certification has led to different types of results occurring at different points in time. This means that different incentives and impacts on farmers are expected to occur at different stages in the certification process. This is related to the increased number of criteria with which farmers need to comply, as well as how long farmers participate in the programme (e.g. different practices have different effects on productivity; some take more time).

Meeting the criteria to become certified leads to farmers planting shade trees (towards correct shade levels), more vegetation on farms and borders of water ways and less deforestation and encroachment on protected areas. Shade trees (and especially diverse and indigenous shade trees), increased vegetation on farms, reduced encroachment and deforestation, and protection of water streams all contribute to the protection of natural habitats and biodiversity conservation.

Integrated Pest Management (IPM) practices and controlled and informed use of crop protection products is also expected to contribute to improved biodiversity conservation.

Expected outcomes and impacts

Figure 4 on 'How UTZ works' depicts (on the left hand side) the main requirements of UTZ Certification and the associated Code of Conduct. Once all UTZ requirements are met and all programme aspects are finalised, the right hand side shows the expected outcomes and impacts of UTZ Certification. These are based on UTZ's 'big picture' approach. This is what UTZ believes the only way to make the production cocoa truly sustainable'[7]. The main impacts expected are enshrined in UTZ's slogan, shown in Figure 4, of 'Better farming, Better future'.

Figure 4 *Impact logic of UTZ*

The following long term impacts of UTZ Certification are expected:

Better crop

- GAPs implemented as a result of training and compliance with certification requirements lead to increased productivity, with a better crop leading to better economic prospects.

Better income

- Improved crops lead to increased production, which leads to increased income.
- Training leads to farmers become more entrepreneurial.
- Increased income is invested in the farm (production) and/or improving the standard of living (housing, sanitation, healthcare, education, etc.).
- Improved farmer profitability, together with improved farmer resilience, contributes to improved long term economic viability of farms.

Better life

- Better working conditions and respect for workers and children's rights contribute to a better livelihood and improved standard of living.
- Training and awareness rising, peer pressure and inspections mean that labour rights are respected and prevent child labour, in line with ILO standards (such that children are not conducting hazardous or heavy work, not working during school hours etc.). These factors, together with improved income, contribute to children's school attendance.
- Training and criteria on safe practices and safe handling and storage of agrochemicals and agrochemical waste lead to healthy and safe working and living conditions. Together with better access to emergency and primary healthcare this contributes to improved health.

[7] https://www.utzcertified.org/ retrieved 21 January 2014

Better environment

- Training on GAP and on criteria concerning safe practices and safe handling and storage of agrochemicals and agrochemical waste, cocoa waste management and reduction are expected to lead to less environmental impact than conventional production. A better environment will result, where the quality of water and soil is maintained and improved and natural habitats and biodiversity on and near farm is protected and restored.
- Improved productivity and production efficiency contribute to reduced pressure on land and reduced GHG emissions per unit of produce.

2.4 Indicators

The indicators shown in Table 3 were developed to measure these expected outcomes of UTZ's impact logic.

Table 3
Indicators.

Better life (PEOPLE)
1. Farmer characteristics
2. Programme inclusiveness
3. Livelihood and standard of living
4. Sustainable practices rewarded by the market
5. Stability of cooperatives, services provided and access to market
6. Labour rights
7. Child labour and rights
8. Healthy and safe living and working conditions
Better income, Better crops (PROFIT)
9. Cocoa production efficiency
10. Productivity (yields)
11. Quality
12. Profitability and long term viability of farmers and groups
Better environment (PLANET)
13. Soil and water quality
14. Waste management and reduction (related to cocoa production)
15. Protection and restoration of natural habitats (on/near farm)

Annex 2 provides more detailed information on each indicator and how they are linked to the research questions, as well as the methods used to calculate the indicators. The indicators form the basis of data collection, with different methods used to collect data about each indicator.

2.5 Sampling

A purposive, stratified sample of farmers was selected for data collection from farmers with the aim off obtaining a sufficient sample size of the different sub-groups to make the results statistically valid. The sample aims to be representative of UTZ programme cocoa farmers who are members of cooperatives in Ivory Coast. The selection criteria for the sample were:

1. Farmers who are members of cooperatives linked to traders and cooperatives with no links to traders.
2. Farmers in the UTZ programme who are members of cooperatives at different stages of certification and training.
3. Farmers who are members of cooperatives located in three different agro-ecological zones[8] (shown in Figure 5).

[8] Using the classification of five zones developed by CIAT and partners (Läderach 2011) of the suitability for cocoa production, taking into account climate, soil and land cover.

4. Farmers in the UTZ programme (certified and in the process of certification) and not in the programme (uncertified farmers, the 'control group').

Note that farmers and their cooperatives participating in other certification schemes either through programmes and activities with other traders was not a selection criteria, but was recognised as an external influence which may impact the results of the study. Questions were included in the producer questionnaire concerning multiple certification and associated activities, to allow this factor to be taken into account in comparisons where this was felt to be an issue (concerning knowledge and implementation of GAP) and analyses. Individual farmers participating in the programme were randomly selected using the random number generation technique. Table 4 shows the distribution of the sample according to the above criteria and Table 9 shows the distribution according to the length of time participating in the programme. For the UTZ programme farmers, the strategy aimed for a sample of at least 30 farmers linked to each trader and at least 30 farmers participating for different lengths of time in the programme. Despite aiming for a sample of 40 to allow for problems in the field, difficulties experienced by the field team and time and cost restraints meant that a smaller sample was obtained for one trader. Despite this, the stratified sample is seen as sufficiently robust to allow comparison between different groups of farmers according to length of participation in the programme and the control group and their certification status, based on the logic outlined in section 5.2.

Although all farmers and stakeholders were asked the same questions, not all questions were relevant or applicable, such that not all farmers could respond. Where this is the case, the number of respondents is provided in the presentation of results.

Table 4

Overview of sampled cooperatives and farmers.

	Number of farmers sampled per agro-ecological zone			Total number of farmers	% of sample
Type of farmers	**Marginal**	**Good**	**Excellent**		
Farmers in the UTZ programme	105	190	430	725	92.9
Farmers not in the programme (Control group)	8	7	40	55	7.1
Total number of farmers	*113*	*197*	*470*	*780*	*100.0*
	Number of cooperatives sampled per agro-ecological zone			**Total number of cooperatives**	**% of sample**
Type of cooperatives	**Marginal**	**Good**	**Excellent**		
Cooperatives in the UTZ programme	6	29	53	88	90.7
Cooperatives not in the programme (control group)	3	2	4	9	9.3
Total number of cooperatives	*9*	*31*	*57*	*97*	*100.0*
	Number of cooperatives sampled per agro-ecological zone			**Total number of cooperatives**	**% of sample**
Cooperative linked to specific traders	**Marginal**	**Good**	**Excellent**		
ADM	0	1	1	2	2.1
Barry Callebaut	1	2	1	4	4.1
Cargill	3	19	38	60	61.0
Cemoi	0	1	1	2	2.1
Cocaf Ivoire	0	2	7	9	9.3
No known trader	3	2	4	9	9.3
Natra	0	0	1	1	1.0
Olam	1	2	1	4	4.1
Zamacom	1	2	3	6	6.2
Total	*9*	*31*	*57*	*97*	*100.0*

Sources: Farmer interviews

The approximate locations of the cooperatives are shown in Figure 7. The sampling approach aimed to result in a comparable proportion of farmers located in the three agro-ecological zones. The proportion is shown in Figure 5 and is seen as sufficiently similar to allow comparisons between the control group and UTZ programme participants on the basis of their location in different agro-ecological zones.

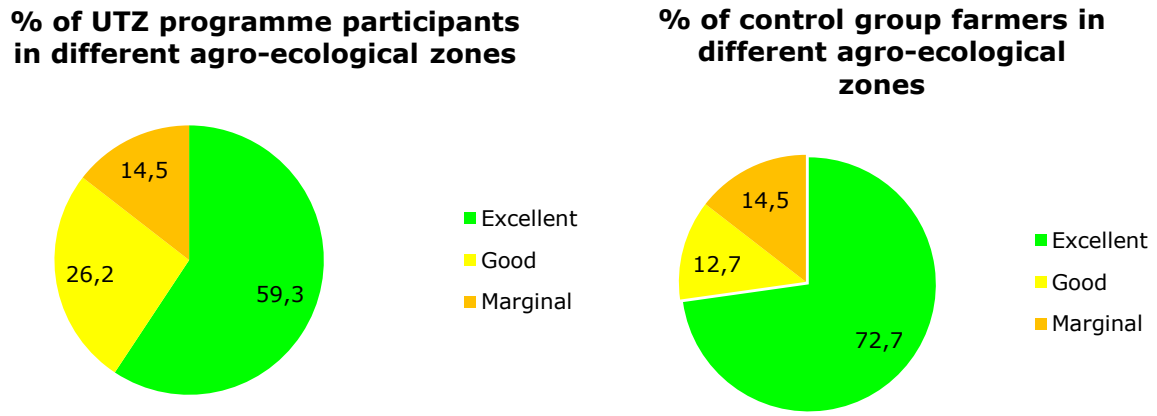


Figure 5 *Percentage of farmers participating in the UTZ Certification programme and control group per agro-ecological zone.*

The sampling procedure for control group farmers differed. A similar strategy used to select the UTZ Certified cooperatives was not possible – as no central list of cooperatives and their certification status could be obtained from authorities. The control group was therefore selected using a snowball sampling strategy. The aim was to select farmers who were as comparable as possible to the UTZ certified beneficiaries (i.e. they are cocoa farmers in similar agro-ecological areas belonging to a cooperative, but are not UTZ certified). In each agro-ecological zone, cooperatives were identified in the field which met the following criteria which aimed to minimise spillover from the UTZ certification programme and related activities to the control group farmers:

1. Most of the farmers in the community where the cooperative is based are involved in cocoa production.
2. No UTZ certification programme has taken place in the community.
3. The community is at least 10 kilometres from an UTZ Certified cooperative.

It was verified that the control group cooperatives were not participating in the UTZ Certification programme by cross checking farmers responses and with UTZ's record of cooperatives participating in the programme in Ivory Coast. However, farmers may have participated in other certification schemes and programmes and related activities of traders. Questions to determine this were included in the producer questionnaire (see Annex 5). To select control group farmers as randomly as possible, enumerators either went to the cooperative and randomly selected farmers for interview or went into a community and asked to meet uncertified farmers belonging to a cooperative. This respondent was then asked to indicate another person to be interviewed (etcetera). When the respondent could not suggest someone, or the indicated person was absent, the enumerator randomly found another farmer to be interviewed in the same area. The number of farmers in the control group reflects the similar number of farmers associated with each trader (a minimum of 40 farmers was seen as statistically valid given the sample size for farmers associated with the different traders, shown in Table 4).

A smaller, purposive sample of stakeholders (see Table 5) was selected for more qualitative data collection, using semi-structured questionnaires (See Annex 5). Stakeholders were approached directly and farmers for in-depth interviews were purposively selected based on reports from cooperative managers, training providers, and/or other farmers and then approached by the team for interview. The table also provides the selection criteria and reason for selecting these types of stakeholders.

Table 5

Overview of qualitative stakeholders selection criteria and sample

Stakeholder	Reason for selection	Number interviewed
Manager of at least one cooperative linked to each trader.	To provide in-depth qualitative perceptions of the programme, and triangulation of data provided by farmers.	6
Service providers associated with each trader (where relevant).	To provide in-depth qualitative perceptions of the programme, triangulation of data provided by farmers.	2
Focus groups of farmers and villagers in community of at least one cooperative linked to each trader.	To provide qualitative perceptions of community members about their experiences and direct and indirect impacts of the programme, and triangulate data provided by farmers and other stakeholders.	10 groups in total 121 persons including 25 women and 33 youths
In-depth interviews with farmers experiencing significant livelihood changes (positive or negative) due to certification in at least cooperative linked to each trader.	To provide in-depth qualitative perceptions of the programme of significant change stories of good experiences or very bad (poor example or negative experiences).	2
School teachers, village chiefs and notables and local authorities in the communities of at least one cooperative linked to each trader.	To triangulate data provided by farmers, provide information on impacts in the wider community and impacts of the programme on school children and children's rights.	8
Traders participating in the UTZ programme.	To provide details of how the UTZ programme is implemented and associated services they provide, and their perceptions and supporting evidence of direct and impact impacts.	7 ADM, NATRA, Cocaf Ivoire (Noble), CEMOI, Olam (Outspan Ivoire), Zamacom, Barry Callebaut SACO, Cargill B.V.

Not all stakeholders were available at the time of the survey and therefore a smaller number was interviewed than foreseen in the original proposal, particularly for the significant change stories. This means that qualitative data is illustrative, but may not be representative of all stakeholders. Details of the sample of stakeholders selected and interviewed are presented in Table 5 and in Annex 3.

The selection of the 99 farmers to measure field sizes was done according to their location in one of the three agro-ecological zones and the farmers' consent. Observations were made during all interviews. Photographs and videos of farmers and stakeholders were made when permitted by the respondent.

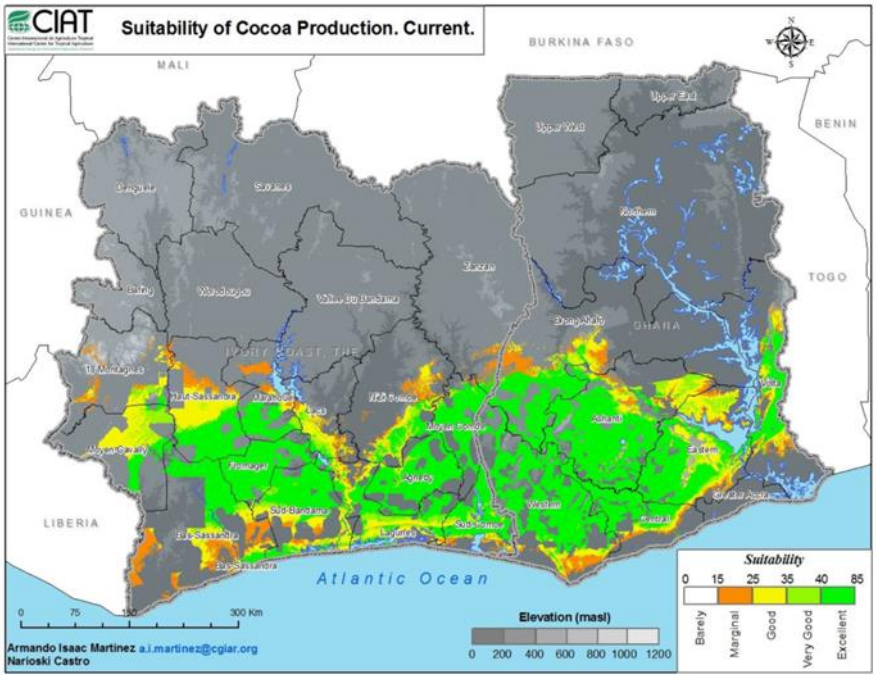


Figure 6 *Agro-ecological suitability for cocoa production in Ghana and Ivory Coast. Source: Läderach (2011)*

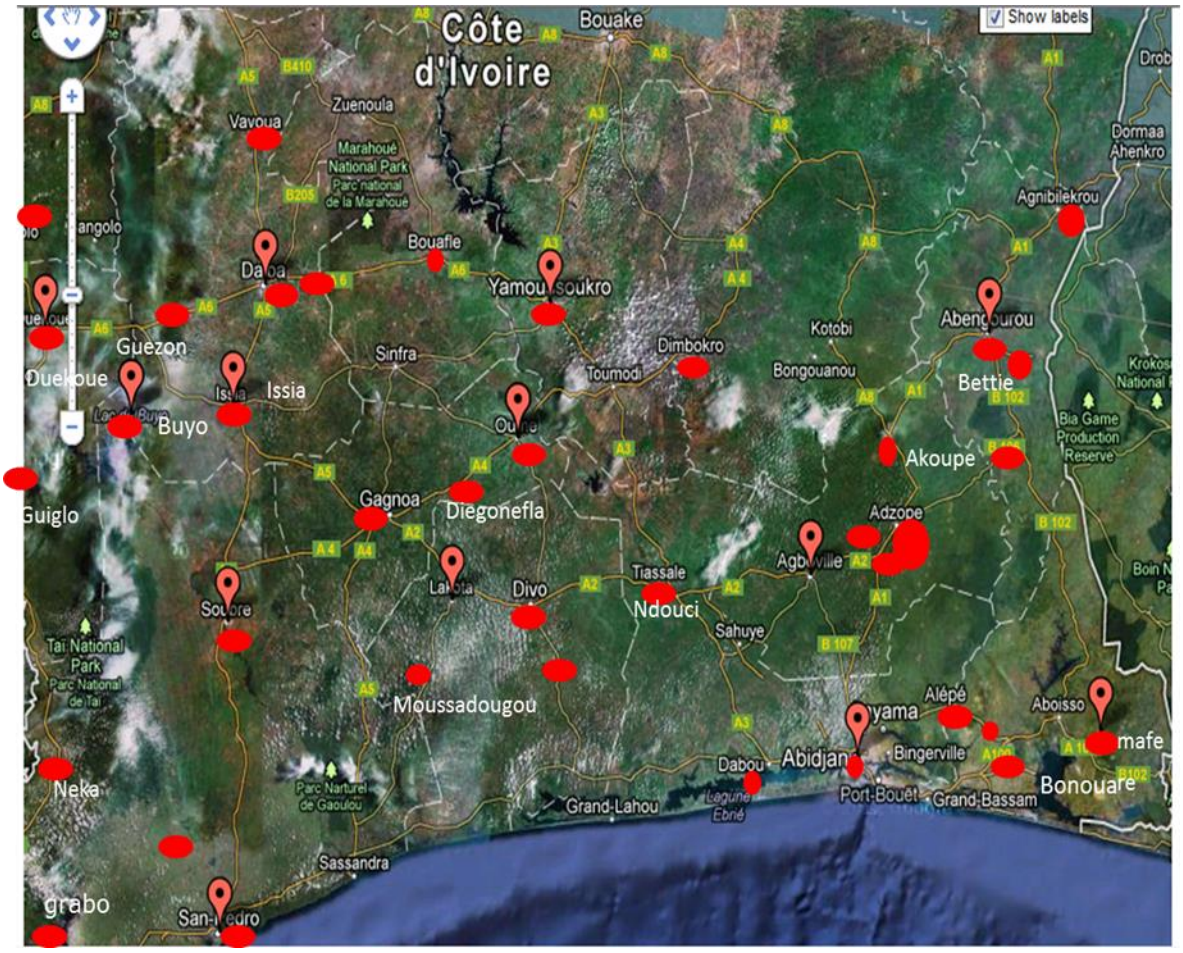


Figure 7 *Map of study locations.*

2.6 Data collection and analysis

To respond to the terms of reference (ToR), the research was organised using different data collection tools. A practical week long training was organised in November 2012 to prepare the enumerators for data gathering. The training focussed on introducing the survey team (nine enumerators and two supervisors) to the study, the UTZ Certified programme in Ivory Coast and the tools to be used. This ensured common comprehension on the local names and terminologies used by cocoa farmers, types of tenure, the activities that cocoa farmers typically go through to produce cocoa and the equipment and tools used in cocoa production. The enumerators were introduced to the different survey instruments and trained on interviewing techniques, ensuring sensitivity to the local context and confidentiality. This training and the use of semi-structured questionnaires which had been reviewed to avoid leading questions and contained questions to triangulate data, aimed to ensure data consistency and provide reliable data.

In the same week, the survey team was introduced to the UTZ and Solidaridad cocoa programme representatives. During a workshop, the questionnaires were discussed and refined. Enumerators were trained to interpret the questions into local languages in which the interviews were to be conducted. This process of translation, together with role plays carried out by the enumerators was instrumental in the extensive revision and reduction of the length of the questionnaires. The enumerators were also trained on data entry and photography skills. Following the workshop, the revised questionnaires were tested with farmers and a cooperative manager in a cocoa growing community near Soubré in Bas Sassandra region. All enumerators and supervisors participated in the test. Afterwards, the group discussed the interviews and commented upon the process of interview, farmer selection, questionnaire structure, and the arrangement of questions. Wageningen UR finalised the questionnaires based on the comments of the survey team. More information is provided in Annex 5.

The main methods of collecting quantitative and qualitative data (i.e. farmers and other stakeholders' perceptions of impacts) were through interviews using semi structured questionnaires with farmers and other stakeholders in the UTZ Certified programme, combined with on-farm and village observations, and quantitative data made available by traders and UTZ Certified. The vast majority of the data was collected in the Ivory Coast by nine enumerators guided by Roger Tanoh and Abel Galo of A.C.V. in Ivory Coast, between November 2012 and July 2013. In the same period, additional interviews were held by phone and with traders in Abidjan and in the Netherlands by the Wageningen UR team. The enumerators visited individual farmers with a structured 'producer' questionnaire to gather the quantitative and qualitative data on the general characteristics of farmers, their farms and households, cocoa production, productivity and efficiency, production costs, certification, working conditions, environmental aspects, knowledge and implementation of practices, revenues and livelihoods, and profits and rewards.

The interviews with other stakeholders (Table 5) aimed to gather their perceptions of benefits and challenges with respect to the impact of the UTZ certification, and any available quantitative data. These interviews were guided by semi-structured questionnaires (see Annex 5) for cooperative managers, traders, school masters, village chiefs, training and service providers and local authorities, focus groups in communities, and 'most significant change story telling' with selected farmers. This mix of techniques also aimed to enable triangulation of some of the results of the producer interviews and to obtain a more in-depth understanding of perceived changes, particularly on sensitive topics (such as income and child labour), the contextual factors and unintended effects. The focus groups in villages also provided perceptions of people in cocoa communities who are not necessarily cocoa farmers. This qualitative analysis complements the more quantitative data from producers, provides lessons learned and distils significant change stories. It is also the source of illustrative quotes presented in the report. The interviews were recorded and the transcripts were analysed to identify trends and main areas of impacts stated by respondents for each group of stakeholders.

Observations were made during all interviews. Photos were made at cooperative locations and on farms. These have been provided digitally with a small selection included for illustration in the report. Literature gathered on the UTZ Certification programme in Ivory coast includes the UTZ Code of Conduct (UTZ Certified 2009; UTZ Certified 2009; UTZ Certified 2010), definitions (UTZ Certified 2009), and banned crop protection products (Republique de Ivory Coast 2008; UTZ Certified 2012). Data on traders' activities was sourced from interviews with representative of these traders and complemented by published documents, press releases and data published on the internet. Further literature was reviewed to assess the possibility of retrospectively providing a baseline and benchmarking the selected indicators. This data was used to assess whether the research results in this study reflect the general situation of Ivorian cocoa farmers. The references are provided in the text and in the references in Chapter 9. The benchmarking documents are found in the References section.

The 99 farmer cocoa fields were measured together with the farmer using a GPS. The measurements followed the producer interview and were compared to the farm size previously stated in the interview. The detailed results are presented in Annex 8.

The producer survey data were first entered into Excel and then exported to the statistical programme STATA[9] for analysis. The methods used are further detailed in Appendices 7 and 11. For the indicators, descriptive statistics such as the mean, median and standard deviation are presented, explained in Box 11. Where results are statistically significant, this is mentioned in the text. Where relevant, descriptive statistics also show maximum and minimum values. Control group farmers were compared with those participating in the UTZ Certification programme, and groups in different phases of certification were compared against each other. Within the farmers participating in the UTZ Certified Programme, a distinction was made between certified farmers and those in the process of certification, but not yet certified. Farmers belonging to cooperatives in different agro-ecological regions were also

[9] StataCorp, 2007. Stata Statistical Software: Release 10. College Station, TX: StataCorp LP.

compared on key indicators such as knowledge on sustainable production, production, and income through cross-tabulation, pairwise t-test and regression analysis, also explained in Box 11 in Annex 7. As not all questions were relevant to all farmers sampled, the number of farmers responding to different questions is indicated below graphs and figures.

A farmers' knowledge level was calculated using a range of questions in the producer questionnaire farmer on GAP. Responses were scored on a scale from 0 (incorrect) to 1 (wholly correct). The higher the number, the more farmers know about GAP. Farmers' proficiency was also tested through different questions on how they implement farm practices, and connecting a score to their answers based on whether their answer corresponded to GAP standards in the UTZ Code of Conduct. A farmer's proficiency in implementing GAPs was measured on similar scale from 0 to 1. The higher the number, the higher the knowledge or implementation level.

To account for both fixed and random effects that may cause variations in knowledge and implementation scores, multilevel mixed-effect linear regression was used in which variables such as age, gender, and level of education were used to estimate fixed effects. A separate indicator, the agro-ecological zone, was used to group variables to address effects that may be associated with climate and soil type. Correlations between variables and the length of participation in the programme were also conducted. The detailed results are presented in Annex 11, including the magnitude of the differences between the programme and control group.

Data from interviews was cross-checked with the results of the producer surveys and literature. The preliminary results of the analysis were presented and validated in a workshop with representatives from UTZ, IDH and Solidaridad in Amsterdam in October 2013 and with seven representatives from traders, IDH, one service provider and five cooperative managers in a one day workshop in Abidjan later in October 2013. External influences, anticipated impacts and lessons learned were also discussed in interactive working groups during the verification workshop.

2.7 Methodological strengths, weaknesses and limitations

As the main primary data collection method has strengths and weaknesses in terms of the validity of conclusions that can be drawn, four criteria were used to assess this method (Ton et al., 2011). The strengths and weaknesses, and resulting methods proposed to countervail weaknesses are presented in Table 6. In Section 7.5 recommendations are developed to improve this type of research.

Table 6

Assessment of strengths and weaknesses of data collection.

Threats to validity of conclusions	Study ambition	Strengths	Assessment of method regarding validity of resulting conclusions	Additional methods to countervail weakness
Construct validity: how generalisations are made from the categories used in the evaluation to broader units of representation.	Representativeness of the intervention group Implies that comparable knowledge of Ivorian cocoa farmers is available to enable a comparison.	Sampling is robust and sample size is sufficiently large to allow statistical analysis of target groups by regions, phases and control group. Other stakeholders included in the focus groups.	Moderate Limited and inconsistent data is available for the main farmer characterises and some other environmental indicators (perceptions rather than field based measurements of soil and water quality for which casual perception which may be inaccurate and for which changes or impacts only may be perceptible after longer time periods.	1. Literature review and benchmarking to compare target, intervention group 2. Verification meeting with traders and farmers to obtain their feedback on findings and if/how the farmers are different form their experience, also to source additional data.
Internal validity: the way causality is attributed in the evaluation. This refers to the logic behind the observed links and explains why and how interventions contribute to the observed change.	The impact logic was developed to make explicit how economic, social and environmental outcomes were expected to result from interventions made as part of the UTZ Certification programme.	Approach captures perception of farmers and stakeholders on Indicators of change, causality and attribution.	Moderate Lack of baseline and multiple interventions (outside of certification) to target group make attribution of causality difficult. Many similar interventions to those made during certification were also made prior to certification, of which the impacts have long time scales to occur (e.g. impact of tree regeneration) making very causality difficult to attribute.	1. Traders interviews to obtain data on their and other interventions 2. Literature review to obtain data on external influences and interventions which may influence indicators. 3. Literature review and benchmarking to compare target, intervention group 4. This study will act as a baseline for future impact assessments. It should allow a better testing of the impact logic.
Statistical conclusion validity: the way inferences about links are made in data-set observations. This emphasises the need to comply with proven methods to estimate association or correlation between variables.	Representative sample group of farmers from each trader and control group. Minimal risk of spillover and contamination due to selection criteria. If occurred, would be captured in the questionnaire.	The triangulation between qualitative and quantitative data confirm and help explain conclusions reached from the statistical analysis.	Good Sufficient size sample of farmers for each trader, control group and farmers in each agro-ecological zone. Differences in affiliation than indicated on the UTZ list resulted in some changes in number of interviews per trader, however each trader, control group and agro-ecological zone are sufficiently covered.	1. IDH provided additional funds to ensure that a statistically valid sample size of cooperatives linked to all traders was interviewed.
External validity: the way that findings are generalizable to other persons, times and contexts. This requires being precise about the settings, subjects, and contexts.	Study would be generalizable to all UTZ Certified farmers. Note: the results are not intended to be generalizable to other certification schemes or to all non-certified farmers in Ivory Coast	The large sample size and methodology means that the results should be generalizable to other UTZ Certified producers and cooperatives. The focus groups provided insights into if the individual farmer data was generalizable to other farmers in a community.	Good	1. Literature review specifically sought results of other certification schemes in Ivory Coast to verify external validity.

There were several limitations of the study. The most important were:

- The budget and timescale indicated in the ToR did not allow major changes to be made to the methodology to respond to recommendations made in the Ghana study. Thus the basis of the study remains a one-off questionnaire to farmers. This method has inherent problems as it relies on short-term memory recall by farmers and possible recollection error, no or poor recordkeeping, interpretation bias and perceptions, particularly of environmental changes which often occur at different timescales compared to livelihood changes (Angelsen et al., 2011). This means the data are subject to recollection error and interpretation bias. Alternative methods are generally more costly and require longer time periods (i.e. one to two years) and continued agreement with respondents to participate.
- The tight time schedule in setting up the survey, which didn't allow all project groups to be well informed before the survey.
- Despite informing traders and cooperatives of the survey and its aims in advance, problems with obtaining permission to interview cooperatives and details of members for the farmer survey were encountered at trader and cooperative level, causing substantial delays of around two months and additional travel costs and areas were revisited once permission had been obtained.
- The recentness of the last phase of certification, making it difficult for farmers to accurately respond about changes.
- Selection of cooperatives and farmers for the control group was problematic. Even after checking at the commencement of the interview if the farmer was not certified, some farmers indicated later in the questionnaire that they had had training associated with certification. This concerned farmers in groups which had initially started working with traders on certification but did not continue in the programme and/or their group was no longer affiliated to the specific trader.
- The long questionnaire due to large number of indicators covered. This occasionally fatigued farmers as well as took their valuable time.
- The limited time and opportunity to build the skills of the enumerators to conduct the stakeholder and focus group questionnaires resulted in a lower level of understanding and ability to collect some of the stakeholder data. This combined with logistical problems resulted in fewer stakeholder interviews than planned.
- Inconsistency in the dataset can shed doubts on the trustworthiness of the answers given. For example, some questions were supposed to be skipped after the respondent gave a certain answer to the previous question, but in the dataset the respondent did answer the question.
- Farmers occasionally appeared confused about their status of receiving training for UTZ certification, being UTZ certified, or being in the process of becoming UTZ Certified. With effort and assistance from UTZ and the enumerators, farmers were assigned into the correct categories.
- Farmers also indicated differences between the data provided by UTZ and traders, and their actual links with traders. Four cooperatives indicated that they had disagreements with traders with whom they originally started certification and training and some had commenced selling to other traders.

Photo 3 *Data collection: interview using the producer questionnaire.*

3 Certification and related activities

3.1 Introduction

This section provides a description of certification and related activities implemented with cooperatives and their farmers. As UTZ certification generally forms just one of many other activities, some of which have been implemented prior to and alongside certification, farmers were asked if they are certified or not and for what period, how long they had participated in which activities, and whether they are certified by Rainforest Alliance or FairTrade (FLO). This data was used to attribute any differences in indicators to their certification status (and which certificates) and the length of time which farmers have been certified. The data is derived from the farmer and trader questionnaires and literature.

3.2 UTZ Certification

The UTZ Certified Code of Conduct for Cocoa provides a set of criteria for economic, social and environmental responsible production. The Code of Conduct sets standards (criteria and control points) as well as providing guidance and facilitation. It is based on ILO Conventions and principles of GAP. The Code of Conduct covers thematic issues of:

- production practices including GAP,
- cocoa farm establishment and rehabilitation,
- farm maintenance,
- soil management and fertilisation,
- integrated pest management and crop protection,
- harvest and post-harvest product handling,
- cocoa community's health and safety production practices,
- workers' rights,
- natural resources and
- biodiversity protection and maintenance.

Responsibilities for implementing the Code of Conduct, controlling product and social responsibilities are outlined in the code, as is the structure and contents of the internal control system (ICS).

The UTZ Certified Code of Conduct for Cocoa applies to organised groups of smallholder producers producing and selling cocoa as UTZ Certified. Certification is required to be carried out by a certification body, which is approved by UTZ Certified. A 'certificate holder' refers to the entity responsible for implementing and monitoring the requirements of the Code of Conduct. The certificate holder applies for group certification and is responsible for the management of an ICS. UTZ Certification requires that progress in meeting these criteria is demonstrated as part of a management cycle, internal control system and auditing. The standard is tolerant for a low level of entry by cooperatives, as the number of minimum compliance requirements increases over a four-year period. Internal and external auditing of compliance with the criteria occurs at multiple levels, with a web based traceability system. A certificate holder can be a group of producers (organised in an association or cooperative) or another entity that buys the product from the producers and organises contracts and/or trains the producers according to the Code of Conduct.

An ICS is a documented system of quality management that manages aspects of the UTZ Certified Code of Conduct and controls the producer's fulfilment of the Code of Conduct requirements according to the internally defined procedures. The Code of Conduct for Cocoa speaks of 'producers', referring to persons who represent their farms towards the certificate holder and have responsibility for the products sold by the farm.

With an UTZ Certified certificate, cocoa producers can demonstrate GAP, efficient farm management and responsible production of their cocoa. For cocoa traders and processors the UTZ Certified certificate provides an assurance of responsible cocoa production, which can be used in their sourcing decisions and by retailers in marketing and informing buyers of products containing UTZ Certified cocoa.

3.3 Activities related to certification

UTZ Certification has been implemented in the Ivory Coast through partnerships with eight traders. These traders themselves have working relationships and partnerships with cooperatives from which they purchase beans. All of the traders have their own corporate social responsibility programmes, summarised in Table 7, which include certification (all UTZ, seven also have Rainforest Alliance and two are also FairTrade), as well as other activities. Of the farmers participating in the UTZ programme, 21% were also Rainforest Alliance certified and 2% were both UTZ and FairTrade certified. This reflects the general trend: as of June 2012, 51% of 86 UTZ Certified cooperatives had multiple certifications. It is notable that both prior to, and during the UTZ Certification programme, there have and continue to be several activities which address many of the thematic issues covered by UTZ Certification. An overview of some of the relevant activities is provided in Table 16 in Annex 14. Further details on many of these activities are provided by Hatløy (2012). This table highlights not only the many activities occurring both nationally and on a very local scale, but also the multiple partners and the similarity between these activities and those implemented as part of UTZ Certification. This makes it difficult to attribute changes in the indicators used in this study specifically to UTZ Certification.

Table 7 provides an overview of the specific activities implemented by traders participating in the UTZ Certification programme and other activities. Activities such as cooperative capacity building, farmer training, farmer development, financial support, community development and processing related activities were all foreseen in the impact logic to potentially impact the key indicators. The data highlights the differences between traders' approaches to implementing certification as a standalone activity or as part of a package of activities.

Photo 4 *Multiple partnership activities at CAYAWA, an UTZ Certified cooperative*

Table 7

Trader certification and related activities

Cooperative capacity building	Training & education	Farmer developments					Financial support		Community development#			Processing
		Business skills	Demo plots	Inputs	Gifts	Nurseries & seedling supply	Credit	Advance purchase	Education	Infrastructure	Health	Fermentation
Cargill West Africa												
Cocoa Sustainability Programme since 2003, Cargill Cocoa Promise since 2012 with in-house team												
Forming & capacity building of cooperatives with Solidaridad since 2008. Also RA Certified cooperatives.	Farmer training initiatives since 2003. Since 2009, 900 people trained in FFS field schools - since 2009, 900 people attended FFS, provided by ANADER	Cooperative academy to commence in 2013	Since 2012 provide CDC & CVCs in collaboration with Mars, Solidaridad & ICRAF, in specific regions	Supply of crop protection chemicals & training with Syngenta & ANADER, 500t of fertilisers distributed with support from IDH in 2012	Provides t-shirts	Since 2009 300,000 improved seedlings distributed around Ganoua and Danoa since with CENERA & ANADER and support of via Nestle in 2006-2007			ICI programme in schools & with canteens	ICI programme to prevent child labour	40 Family Schools with CARE, IECD from 2009 to 2011.	
Zamacom (Ecom)												
Since at least 2008 in-house, agronomy team (Akwacao) with 30 people												
Since 2008 250 farmer leaders trained and equipped with transport and fuel, 24 cooperatives certified RA and UTZ since 2008. Also purchase cocoa from 6 no-certified cooperatives.	Training programme for lead farmers who train farmers in FFS for 7 months with de 2 FFS per month and 40 farmers per CEP			Finances a 'brigade phyto' to treat trees in partnership with fertiliser distribution		Train families to manage nurseries.	Support for savings schemes	Advance payments to purchase fertiliser			School constructed 2008, but no teachers provided.	
ADM												
SERAP: Encouraging Socially and Environmentally Responsible Agricultural Practices programme since 2001 and with Starbucks since 2004/2005. In-house team												
Since 2001 working with cooperatives, 70 coops in programme by 2012. UTZ Certification. Also RA and Fairtrade	Since 2002 training on GAP, labour practices, farm safety, and product quality. Participate in STCP	Nestle tree project since 2011. Since 2002 operational transparency training		Participating in IDH fertiliser programme in 2012		Nestle tree project since 2011. Participate in STCP.	Since 2005, provided tens of millions in revolving funds	Since 2005, USD10m in grower premiums, USD4m in seed money,	Partnership with coops & IECD on schooling & canteen. ICI partner eliminate child & forced labour	OICI with support boreholes, wells, medical centres, bridges	Since 2001 malaria & HIV/AIDS prevention programme Collaboration WCF Cocoa Livelihoods Programme.	

Cooperative capacity building	Training & education	Farmer developments					Financial support		Community development#			Processing
		Business skills	Demo plots	Inputs	Gifts	Nurseries & seedling supply	Credit	Advance purchase	Education	Infrastructure	Health	Fermentation
Certification. Collaborates with IECD, KIT, GIZ, ANADER.												
OLAM												
Olam Livelihood Charters since 2010												
In 2010 started with 10 UTZ certified cooperatives now have 20. Also RA certified.	60,400 farmers trained in GAP & IPM via FFS. Traceable sustainability Training programme with Blommer & Costco.	9,900 farmers received Business Training	CDCs with Mars & ICRAFT	Supplied 25 t pesticides, 210 solar dryers & 1 cooperative store opened in 2012	T-shirts provided and Cooperative Award Scheme	via Nestle supported Cocoa Plan with Costco, UTZ & MARS distributed 1.3m improved seedlings & shade trees since 2009 to 13,000 farmers, 44 cooperative nurseries		USD88.7m 0% interest working capital to coops for crop purchase & USD1.25m interest free loans	WCF & Echoes programme children & adult literacy classes, 250 family support scholarships awarded	1 water pump, 1 medical Laboratory, 4 Schools, 3 Health centres, 1 maternity Unit USD250,000 3 projects in 2011/12 and 8 in 2012/13	6,230 farmers trained on child labour & AIDs awareness	
Cocaf Ivoire (Noble)												
Since 2010 with in house team												
UTZ Certification of cooperatives. Also RA and FairTrade.	Training on GAP.					via Nestle, improved seedlings and trees since 2009.					Social projects, Part of WCF Cocoa Livelihoods programme	
CEMOI												
Since 2009 in-house support and via consultants												
UTZ Certification. Project for capacity building cooperatives supported by Rabobank. Also RA certification.	FFS and Ecole en Sale, with Likan Formation, Trust international, Korys Developpement durable (KDD) and ANADER					Provide and finance seedlings and setting up nurseries	Support 2 coops via Rabobank					Controlled fermentation (GIZ< RA, UTZ)
NATRA												
Since 2010 provided financial support to cooperatives												
Training on UTZ certification with ANADER. Pay and equip LF with transport for 6	Trained lead farmers & cooperative heads & Administrators (ADG) by ANADER using			Trained 8 phyto teams to treat farmers' fields					Fundación Amigó,NGO Doumé Centre educational project		SOS children's home Abobo, child labour campaigns with Save the Children	

Cooperative capacity building	Training & education	Farmer developments					Financial support		Community development#			Processing
		Business skills	Demo plots	Inputs	Gifts	Nurseries & seedling supply	Credit	Advance purchase	Education	Infrastructure	Health	Fermentation
months at 75000 FCFA a month. Follow up of training by LF and FFS to verify GAP.	FFS and FS in each cooperative.											
Barry Callebaut (SACO)												
Quality Partner Programme (QPP) since 2010 via an in-house team of 23 people												
Finance initial inspection and pre-audit by Ede Consulting. OCOA Raison, and for Bureau Veritas/IMO to conduct audits. Follow up and technical support by 28 person team of agro-technicians based in the zone with 8 Coops provide audit, training, maps. Started with 7 coops and by 2011 54 coops (47 coops RA, 6 coops UTZ with 300 members) and 6 traitants UTZ Certified, covering 18,000 farmers by 2012. Also buying FLO-CERT cocoa.	Since 2010 6 cooperatives work with FFS and ANADER youth training with AGE for 1 Coop), work with a Group of Innovative Farmers, support for warehouse stock managers, provided management consultants, for auditing ad accounting	since 2008 business training & cooperative management and assist with ICS. provided by NGO Socodevie to 90 coops		Provide phyto spraying team		Support for nurseries and replanting with selected cooperatives	Support for revolving funds with selected cooperatives	Prefinances 100% with 50 % paid by farmers & 50% by cooperative. Provide materials & transport means for cooperatives.	In partnership with coops provided school kids centre, schools,	In partnership with coops provided wells,	partnership with coops for medical centres, vaccination campaign, sports, co-finance sports events	

Sources: Cooperative and trader interviews, and company literature (Global Witness 2007; Rosenberg et al., 2009; ADM 2011; Blommer 2011; Cargill 2011; Cargill 2012; Cargill 2012; COSA 2012; NCA 2012; Paschall and Seville 2012; WCF and IDH 2012; NATRA 2013; Noble Group 2013; Noble Group 2013; Noble Group 2013; Cargill undated; Cargill undated)

Table 8

Cooperative's participation in certification, training and other activities.

Type of activity	Certification			Farmer development							Inputs		Pre-finance & credit		Community development				Processing
	Pre-audits	*Certification support*	*Cooperative capacity building*	*Farmer training in-field (i.e. FFS, FS)*	*Gender training*	*Nursery & training*	*Management skills*	*Business training*	*Demonstration & pilots*	*Seedling Supply*	*Fertiliser*	*Pesticide supply, treatment gangs*	*Pre-finance advance*	*Access to credit/savings schemes*	*Education*	*Social training*	*Infrastructure*	*Schools & literacy*	*Fermentation*
% of 90 cooperatives affiliated to traders	6%	88%	80%	27%	1%	8%	4%	4%	6%	10%	6%	20%	13%	16%	8%	6%	4%	13%	5%
% of 9 producer control groups		27%		46%		15%											13%		

Sources: Cooperative and trader interviews

Photo 5 *ANADER training at COOPAGNY cooperative*

Table 8 shows that the majority of cooperatives affiliated to traders have participated in certification and farmer development activities. Compared to the results shown in Table 10, these reflect similar patterns. Certification and activities focusing on farmer development are the most common type of activities implemented. Differences in the data presented in the two tables can be explained as not all farmers in a cooperative necessarily participate in training, and, conversely, occasionally, farmers participate in activities organised by organisations and traders with which they are not specifically linked. Farmers were also often not aware which organisations had provided training and services, or named the service provider or trainer, rather than the financer. Interviewees also indicated that they were not always aware who was running or financing an activity; some mentioned the trader, their service provider or the government. Interviewees reported that sometimes they asked family members or workers to attend training or participate in activities, especially *abunan* and *abusan* landowners (see Annex 12: Farm ownership and revenue sharing models in Ivory Coast), for an explanation of land ownership.

Table 9 provides an overview of the number of farmers interviewed benefiting from the UTZ certification programme and the year in which they first became certified, and the total number of farmers participating in the UTZ Certification programme in Ivory Coast from 2008 to June 2012.

Table 9

Farmers participation in UTZ Certification training and year of UTZ certification.

Training related to UTZ Certified programme	UTZ programme participants interviewed	Control group farmers	Total	Total number of UTZ certified programme participants [1]
Participated in training for UTZ certification[10]	658	74	732	44,624
Did not participate in training for UTZ certification	72	140	212	
Total number of respondents	730	214	944	
UTZ Certified farmers				
Year of certification				
2009	40			10,056
2010	103			23,303
2011	154			11,003
2012	400			No data
2013	24			No data
Total number of farmers	721			44,624

Sources: Farmer interviews 1 UTZ (data only available until June 2012 for 85 cooperatives)

Table 10

Farmer participation in certification, training and other activities.

Type of activity	UTZ programme participants	Control group*
Certification training	37%	27%
Farmer Field Schools (*Champs ecole*)	53%	30%
Field Apprenticeship (*Champs d'apprentisage*)	46%	16%
Production or nursery programme	19%	15%
Community or social programme	19%	13%

Source: Producer interviews. Multiple responses possible.

[10] During interviews with the control group, farmers in one cooperative indicated they had started to participate through a trader in the UTZ programme, due to differences of opinion and disagreement with the trader, did not continue and were no longer participating. The cooperative is not participating in the programme and does not have UTZ certified members.

Table 9 and Table 10 show that farmers in the control group indicated that they had also participated in UTZ Certified training. This is an apparent contradiction which may be attributed to three explanations. Firstly, farmer error, as many farmers had difficulty in recollecting which organisations had provided training. Secondly, some farmers participated in training but subsequently did not become certified. Thirdly, their cooperative did not become certified. This finding also highlights the difficulties in selecting control groups, which are addressed in the methodology chapter.

3.4 Influencing factors

The UTZ Certification programme in Ivory Coast is not implemented in isolation. Various factors found in the literature, and reiterated during the verification meeting and in trader interviews, can influence farmers' productivity, incomes, and livelihoods, over which UTZ Certified and partners have little or no control. These include:

- A farmer's age, gender, and education level, which influences knowledge and skills, and ability to participate in and benefit from training and support activities (Waarts et al., 2013)
- Difficulties in accessing credit, experienced by all farmers and cooperatives (Nyemeck et al., 2007).
- The weather, which can strongly positively or negatively affect crop disease, productivity and product quality (Eberhard Krain 2011; Läderach 2011).
- Differences in the suitability of soil, altitude and climate across Ivory Coast (Läderach 2011).
- The availability and quality of government extension services (Ayenor et al., 2007; Baah et al., 2009; Gbêhi and Leeuwis, 2012; Paschall and Seville, 2012).
- The lack of physical infrastructure, which makes access to markets difficult (Kessler et al., 2012).
- Land and crop tenure arrangements can dissuade farm managers from investing in planting trees and limit farmer's access to expand their farm or to acquire new land (Gray and Kevane, 1999; Dormon et al., 2004).
- The 2010-2011 crisis in Ivory Coast, which led to migration and in some cases abandonment of cocoa farms in conflict areas (Guesnet et al., 2009).
- The 2012 Ivorian government reform that fixed farm-gate and export prices of cocoa (CTA 2012).
- Global demand and fluctuating world market prices for cocoa and other cash crops grown by farmers, such as rubber, oil palm, and coffee, affecting their investment in cocoa (Koning and Jongeneel 2006).

These factors were taken into account in the interpretation of the results of the study to help explain impacts found and possible causal links.

Photo 6 *Influencing factors: Multiple projects*

Photo 7 *Influencing factors: Difficulties in physical access to markets.*

4 Inclusiveness of UTZ Certified cocoa programme and farmer characteristics

4.1 Introduction

This section answers the first research question. It examines if the UTZ Certified cocoa programme in Ivory Coast is inclusive and if certified farmers are representative of Ivorian cocoa farmers, in terms of income, gender, age, farm size and tenure and ethnic or migrant status. To determine this, the characteristics of UTZ certified farmers are first presented. Inclusiveness is also determined by assessing if knowledge and benefits gained through the programme reach others working or helping on certified farms, such as spouses, workers, tenants, children etc.

Box 1 Summary: Inclusiveness of UTZ Certified cocoa programme

UTZ Certified farmers appear generally similar to Ivorian cocoa farmers in terms of age and farm size: the vast majority of farmers participating in the programme are older males with old cocoa trees. Women however are involved in approximately half of the activities taking place on cocoa farms, as are youths. But due to the focus of the programme on farmers registered with a cooperative, women and youth workers on cocoa farms appear to have been only marginally included in the programme. UTZ, some traders and their partners in the Ivory Coast programme are aware of this issue and have started to address this by focussing more specifically on women in a number of training and empowerment activities on a small scale. As most farmers train their wives, children and workers, it is assumed that knowledge relevant to UTZ Certification is passed on and thus these people benefit from knowledge imparted by programme, however the extent to which this happens is not known. Farmers and their wives also reported that financial benefits from participating in the programme in terms of higher incomes are used to the benefit of their families.

4.2 Farmers' characteristics

The main characteristics of participants in the UTZ Certified programme are presented in Table 11. Comparing farmers who are UTZ certified with those not yet certified, some notable differences in characteristics become clear and are discussed in this section.

Cocoa productivity and field size
UTZ programme participants have significantly higher cocoa yields compared to the control group, and UTZ certified farmers have significantly higher yields than non-UTZ certified farmers. A major problem in interpreting productivity is the low number of fields that have been measured: only 30% of all farmers interviewed indicated that their fields were measured, most often by the Ministry of Agriculture in relation to cadastral planning. Benchmark data on farm size differ widely, from an average of 3.0 hectares (Hatløy et al., 2012) to 3.7 hectare (KPMG 2012) to 12.5 in 1985 (Benjamin and Deaton 1993).

Whilst a number of traders are now embarking on measuring field sizes, this data was not made available. GPS measurements of 99 farms indicated that 74% had correctly stated their field size and 26% of farmers had miscalculated their farm size, with field size overestimated by 7%. Only a very low proportion (2% of all farmers, 17 UTZ programme participants and 2 control group farmers) indicated they knew the number of cocoa and shade trees on their farms. This compounds difficulties in calculating productivity per tree and per hectare. It also raises questions as to comparability with other studies, especially when it is not clear if productivity figures are based on actual or estimated

field size, for example the studies by KPMG (2012), Rainforest Alliance (2011) and COSA (Rainforest Alliance 2011; 2012).

Income

Cocoa farming forms on average 79% of total household income. Programme participants and the control group have similar levels of gross and net cocoa income, household income and income from other sources. A small proportion of farmers (23 out of 519) have a net negative income from cocoa production. These differences might be explained by the time delay between learning and then implementing new practices, and detecting increases in productivity (i.e. from replacing old trees and implementing GAP). Whilst some GAP activities are expected to result in a more accurate application of inputs and thereby reduce the costs of inputs, the total production costs per kg increase as more time is spent on the farm and in applying GAP. Negative income may often not be apparent to farmers; costs are made over the course of a year or longer, while income is generally received in the harvest season[11]. In addition, many farmers do not keep records of all production costs for all their fields and farms.

Demographic characteristics

Compared to farmers in the control group, farmers participating in the UTZ Certified programme are of a similar age and sex: the majority of farmers are male. Compared to benchmarks provided by other studies, similar patterns emerge in terms of basic demographic characteristics, with cocoa farmers also reported as being mostly older men with an average age of 49 (FSG 2009). The number of household members for which a farmer is responsible also tallies with other studies (Ruf 2007).

Literature indicates that female farmers participating in certification programmes have a lower average age (35) and tend to be household heads (UTZ Certified and Solidaridad 2009). Such differences can be explained by the traditionally large age differences between husbands and wives (leading to a high number of widows), high male mortality from AIDS and war, and male urban migration. Whilst the number of independent female cocoa farmers in Ivory Coast is unknown, estimates indicate that up to 20% of cocoa farmers may be female (International Institute of Tropical Agriculture 2006). Most women in Ivory Coast, as in much of West Africa, do not own land and thus do not have direct control over cash crops, including cocoa farms, and are not directly able to influence major household and economic decisions (Gray and Kevane 1999; Doss 2002; IIPRI 2002). The stakeholder surveys confirmed that Ivorian women generally do not hold land titles. Discussions during the verification meeting suggest that this is gradually changing. Although there is little literature on the specific situation in Ivory Coast but more on West Africa (Gray and Kevane 1999; Doss 2002), respondents as well as traders indicated that ethnic and cultural differences also explain the fact that there are fewer independent women cocoa farmers. Independent, female farm owners were more prevalent in the Sud-Comoé region near the Ghanaian border, where a number of all-female cooperatives are active.

Due to the design and target group of the study, cocoa farm workers were not interviewed. Reports (UTZ Certified and Solidaridad 2009), focus group discussions and interviews indicate that usually women contribute to many aspects of crop production, particularly the work (such as field preparation, weeding, planting, transport from the field, drying and sorting). Keladoué (2010) indicates that female labourers provide between 48% to 69% of farm labour.

According to Oxfam (2013), at least 180,000 small-scale cocoa farmers in Ivory Coast are women, and many more work on cocoa farms as labourers. Women however, are the 'invisible cocoa farmers' (UTZ Certified and Solidaridad 2009). In focus group discussions, women talked about their lack of awareness of, and involvement in certification and support activities. It is indicative that 20% of people participating in the focus group discussions were women. However, women do benefit from cocoa income and from increases in cocoa income generated by their households. Among the wives of farmers participating in focus groups, about 65% indicated they received a proportion of cocoa income

[11] Harvesting is conducted almost year round, but there are generally two peak times in the year with the main harvest at the end of the wet season, from January through March, although seasons can vary.

and 4% received land to grow cocoa. Some 10% of women in focus groups reported not seeing any significant change in their livelihoods since the inception of the UTZ programme and about 25% of women indicated that there were no community programmes in place to support income generation activities for them. The majority (85%) of people interviewed in the focus groups (including men, women and youths), indicated that higher cocoa production has resulted in higher income, leading to more income being spent on family needs. Young people stated that higher income has allowed more money to be spent on their education needs. There was no evidence found of specific benefits to (male or female) cocoa farm workers.

Traders in partnerships with the Sustainable Tree Crops Programme (STCP) (International Institute of Tropical Agriculture 2006), and Solidaridad in conjunction with Cargill, have specifically addressed women's roles on farms. They have targeted women by training and empowering them, which was appreciated by female farmers. The number of such activities and women targeted are however small (see Table 7 and the section on representativeness).

Ethnic groups

Few differences were noted in ethnic groups between the UTZ Certification programme and control groups. Farmers from various ethnic groups participate, with Baoulé farmers dominating. This is similar to Ruf and colleague's (2013) study of Rainforest Alliance (RA) certified farmers which found that, probably unknowingly, certification agencies articulate their activities towards the dominant social structures, which are ethnically influenced. The Baoulé dominate RA certification because they were the first to organise themselves into cooperatives. Among immigrants, those from northern Ivory Coast and neighbouring countries, mainly Burkina Faso represent 23% of certified farmers.

Cooperative membership

Due to the study design, all surveyed farmers were members of cooperatives. This is probably much higher than cocoa farmers in Ivory Coast generally. Current, accurate figures on the number of cooperatives and members are difficult to obtain, with official sources listing only 32 approved cooperatives in the 2013/2014 season[12]. It is estimated that around 30% of cocoa production originates from cooperatives[13] The popularity of collective action has seen peaks and waves, related to encouragement and facilitation by the state, private sector and projects and general interest for cooperatives (Amoah 2009; Paschall and Seville 2012). With the current increasing popularity of different certification schemes and their approach of including cooperatives, certification has been a major driver behind the renewed formation of cooperatives. On average, farmers had belonged to a cooperative for 4.5 years and 75 % of all farmers had become a member since 2008.

Quote 1 Inclusiveness

Female farmer, Duékoué:

Thanks to certification my husband gives me more money

Male farmer, Daloa:

Yes we share our gains with our wives. There are some farmers who have given a piece of their cocoa farm to their wives.

Young farmer, Guitry:

I would like to give a piece of my farm to my wife but I cannot. I have only two ha, if I give a share of it to her I will not be able to face my family needs.

[12] http://www.conseilcafecacao.ci/index.php?option=com_content&view=article&id=78&Itemid=147.
[13] http://www.bloomberg.com/news/2013-10-24/ivory-coast-cocoa-cooperatives-delay-buying-on-funding-troubles.html.

Male farmer Dagadji, San-Pedro:

Yes, I train my wife, as she is part of my labour force and certification requires training all the people who work on the farm.

Photo 8 *Inclusive practices; a lead farmer passing on training at the cooperative (COOPAGNY).*

Table 11

Key data on farm and farmer characteristics of UTZ programme participants.

Indicator	Unit of measurement	Results						Significant difference [a] between UTZ programme participants and control group	Significant difference [a] between UTZ certified and non-UTZ certified farmers	Significant difference between farmers according to length of programme participation
		Mean	Median	Standard deviation	Minimum	Maximum	Number of respondents			
Age	Nr. of years old	46	45	11.76	20	83	708	0	0	Not analysed
Gender	% male	96%					725	Too few women for meaningful analysis	Too few women for meaningful analysis	Too few women for meaningful analysis
Number of persons the farmer takes care of	Number	13	11	10.14	0	170	715	0	0	Not analysed
Farmer position in household	%	91% household head, 4% wife, 2.2% other adult, 3.1% child					715	Not analysed [e]		
Particular position in community	%	Traditional authority 63%, religious leader 9%, family or clan head 1%, cooperative 9%, lead farmer 4%, trader 1%, youth group leader 14%, school teacher 1%					176			
Migrant status	%	10% first generation immigrants (92% Burkinabé, 8% Malian) ; 10% 2nd generation immigrants (92% Burkinabé, 8% Malian)					623			
Ethnicity	%	28 ethnic groups: of total Baoulé 46%, Attie 24% Guéré 6%, Bété 5%, Senoufo 3%, others >1%					623			
Membership cooperative	Number	100% membership of cooperatives					725	Not analysed [f]		
Farm ownership	%	74% founder, 20% inherited, 6% manger, 1% other					721	Not analysed [e]		
Overall knowledge level	Score, scale 0-1	0.24	0.22	0.11	0.03	0.65	722	+	+	0
Overall implementation level of GAP	Score, scale 0-1	0.24	0.24	0.05	0.08	0.43	722	+	+	+
Number of cocoa farms	Number	1.16	1.00	0.48	1.00	5.00	717	0	0	Not analysed
Cocoa farm size (all farms)	Hectares (estimated by farmers & known measured)	5.34	4	4.61	0.5	39	717	0	+	Not analysed
Cocoa farm size (all farms)	Hectares (measured)	3.70	3.00	2.91	0.6	18.77	99	Not analysed	Not analysed	Not analysed
Age of main farm	Nr of years since establishment	21	19	10.65	3	70	675	-	0	Not analysed
Cocoa production (main farm)	Kg	2,202	1,500	2,183	10.00	23126	678	+	+	0
Cocoa production (all farms)	Kg	2,326	1,500	2,959	0.00	39,500	725	+	+	0

Indicator	Unit of	Results						Significant difference [a]	Significant	Significant difference
Total labour costs*	CFA per hectare	118,123	89,759	91,099	666	726,678	720	0	+	0
Total input costs	CFA per hectare	39,152	11,891	39,000	0.00	230,000	725	0	0	0
Input costs (fertilisers)	CFA per hectare	18,750	9,323	19,000	0.00	200,000	725	0	0	0
Input costs (pesticides) [a]	CFA per hectare	16,017	4,015	16,000	0.00	83,000	725	0	-	0
Input costs (fungicides) [a]	CFA per hectare	1,094	1,167	1,000	0.00	21,000	725	-	-	0
Input costs (herbicides) [a]	CFA per hectare	3,201	2,107	3,000	0.00	30,500	725	-	-	0
Input costs (planting material) [a]	CFA per hectare	91	978	0.00	0.00	15,000	725	0	0	0
Total production costs [c]	CFA per hectare	157,275	91,554	128,341	35,303	766,678	720	-	-	0
Total production costs per kilogram	CFA per kg							+	+	0
Productivity (main farm)	Kg per hectare							+	+	0
Productivity (all farms)	Kg per hectare	453	377	379	0	4500	717	+	+	0
Cocoa production efficiency	Economic input/output ratio (gross income/total production cost)	12.16	8.21	13.23	0.14	91.39	519	0	0	0
Gross income from cocoa (all farms)	CFA per year	1,858,918	1,120,000	2,316,769	7250	28,637,500	521	0	0	0
Gross income from cocoa (main farm)	CFA per year	1,612,846	1,087,500	1,607,406	7250	13,875,600	520	0	0	+
Net cocoa income	CFA per year	1,461,073	958,242	1,597,884	-195730	13,677,734	519	0	0	+
Gross income from other sources	CFA per year	267,325	0	2,011,366	0	52,000,000	725	0	0	0
Gross total household income [d]	CFA per year	2,345,894	1,499,300	3,654,155	300	64,800,000	566	0	+	0
Cocoa quality	% of farmers whose beans are rejected by their cooperative	2.1%					705	0	0	Not analysed
Farmer's reported satisfaction with livelihood	Farmer's reported perception							+	+	0

Notes: a Cost calculated based on costs for the main cocoa farm only. b Cost calculated based on costs for the main cocoa farm only. c Total production costs comprise labour costs and input costs. Where input costs were not provided these were calculated by median costs per cost type. d Based on farmers reported income net cocoa income and gross income from other sources. e Due to the large number of different community and household positions, migrant status and ethnicities, further analysis was not conducted as the small size of these different groups not allow provide sufficient statistical basis for meaningful analysis. f The study design and sampling did not include farmers who are not members of cooperatives, as these were not felt as comparable with the UTZ programme farmers.

Key: + Significant positive difference, - Significant negative difference, 0 No significant difference.

4.3 Representativeness of UTZ Certified farmers

The goal of UTZ Certified is to reach of farmers who can benefit from their programme. The theory of change underlying the UTZ Certified programme implies that these may not the poorest farmers and may well be not representative of farmers in Ivory coast, as for example, lead farmers able to train and support others are targeted, and likewise, farmers organised into cooperatives were initially targeted, as well as those willing to join cooperatives to benefit from the programme.

Comparing farmers participating in the UTZ programme to the control group, as well as to available benchmarks in literature and feedback from the validation workshop, it appears that farmers participating in the UTZ programme are generally similar to cocoa farmers Ivory Coast in terms of their age and farm size. The main differences lie in the fact that all UTZ farmers are members of a cooperative. This was to be expected because farmers who are in the process of becoming UTZ Certified need to be a member of a cooperative. Female farmers and labourers, and youths have had less opportunity to be included in the programme. This is due to the activities of the UTZ programme (and the majority of associated activities) which target registered cooperative members who own or sharecrop farms, who are generally older men. This means that the programme has inadvertently excluded women and youths, who perform a substantial proportion of work on farms. UTZ and partners have been aware of this since 2009 (UTZ Certified and Solidaridad 2009), and a number of activities have been implemented. However, this does not yet appear to have had a large up-scaling or out-scaling by implementing partners, to include female and youth workers and farmers into certification and related activities.

4.4 Extent that knowledge and benefits reach others on certified farms

Most UTZ programme participants (83%) trained others after receiving training as part of the UTZ programme. About 30% trained their wives and 30% their children, 17% trained their workers and 5% trained other farmers, whilst 17% reported not training anyone. This finding indicates that despite the small proportion of women being directly involved in the UTZ certification programme, the programme indirectly had impacted women. The extent to which these women implement the practices on certified and non-certified farms is not known, as these people were not interviewed.

Photo 9 *Women drying cocoa beans.*

Quote 2 Engaging female cocoa farmers and workers

Cooperative manager, Guitry:

> *There are no community programmes addressing the improvement of women's wellbeing and empowerment. Only female certified farmers benefit from the services of the coop in the same way as certified male farmers.*

5 Influence of UTZ certification on knowledge and practices of cocoa farmers

5.1 Introduction

This section responds to the second research question. It presents the results about how certification and related activities of UTZ and implementing partners influence knowledge (on GAP, social and environmental issues in line with the code of conduct) and related behaviour/practices of cocoa farmers in Ivory Coast and the results of these in terms of a better life, income, crops and environment.

Information from two types of analyses is assessed: the quantitative and qualitative analyses based on the survey with 944 farmers, and quantitative and qualitative analyses based on interviews with 24 stakeholders and 10 focus groups. The quantitative analyses provide an indication of potential impact. As only one measurement has been undertaken, the evolution over time of the indicators cannot be reported upon. A proxy has been established by comparing differences in indicators with the control group of uncertified farmers and examining differences in indicators for farmers at different phases of participation in the UTZ programme. Box 2 explains the difficulties in attributing the differences, correlations and trends over time found to the implementation of the UTZ programme[14]. The quantitative impact of the UTZ certification programme may be determined using subsequent measurements in the future.

Box 2 A word of caution about attributing impacts to UTZ Certification

The multitude of prior and parallel activities which seek - directly and indirectly - to improve the crops, lives, incomes and environment of Ivorian cocoa farmers make it impossible at this baseline stage of the impact assessment to attribute impacts found to only UTZ Certification. Care therefore needs to be exercised in interpreting impacts and attributing causality. The impact logic recognises that other projects, programmes and interventions affecting the key indicators have occurred within the same time period, including other types of certification related interventions and that relevant knowledge and skills may have been acquired prior to UTZ certification programme. In subsequent impact assessments causality can be better attributed now that this baseline has been established.

[14] Unanticipated impacts are presented in section 6.6.

5.2 Impact on knowledge levels of good agricultural practices

This section provides details about the indicators used to measure the knowledge levels the cocoa farmers studied about good agricultural practices as specified in the UTZ Code of Conduct.

Box 3 Summary: contribution of UTZ certification to increased knowledge and implemented practices of cocoa farmers

Measured using indicators of farmers knowledge and implementation of GAP, record keeping and biodiversity conservation practices, farmers participating longer in the programme perform significantly better than later entrants. Farmers participating the longest in the programme also tend to produce more efficiently and have higher gross and net cocoa-based incomes than later entrants. UTZ programme participants and UTZ certified farmers have significantly higher knowledge levels than farmers in the control group and non-UTZ certified farmers. It is not possible to attribute these to the UTZ programme, as differences may be explained by a farmer's knowledge prior to joining the programme (which was not measured).

In the impact logic, knowledge levels of GAPs according to the UTZ Code of Conduct were predicted to improve with training and increased participation in the UTZ Certification programme. Knowledge levels of UTZ programme participants and the control group were found to be relatively low, with maximum average scores of 0.25 out of 1. Knowledge levels of farmers participating longer in the programme longer are higher than those of later entrants, shown in Figure 8. There is a significant, positive difference: the longer a farmer is certified, the higher his knowledge score (one extra year of participation is associated with a 0.012 higher knowledge score). This figure shows the average scores on knowledge levels according to their average length of participation in the programme (i.e. measured of for those participating from 0 to 1 year, from 1 to 2 years etc.). The differences may be explained by different levels of knowledge prior to joining the programme (which were not measured prior to their joining the programme). Looking specifically at certified farmers, the longer a farmer is certified, the higher their knowledge score. UTZ programme participants and UTZ certified farmers have significantly higher knowledge levels than farmers in the control group and non-UTZ certified farmers (Figure 8 and Figure 9). Surprisingly, there was a negative association between knowledge and participation in farmer field schools (FFS) and field apprenticeships, who had lower knowledge levels than non-participants. This finding is difficult to explain. Possible reasons could be contradictions between previous knowledge and practices, or issues related to the quality and quantity of training. Multiple certification was found to positively affect knowledge levels: farmers who were also RA certified have higher knowledge levels than non-certified farmers.

Knowledge levels were associated with other variables as well. Positive associations[15] were found between farm size and knowledge levels: the larger the farms, the higher the knowledge level. Farmers in excellent agro-ecological zone have higher knowledge levels than farmers in the good or marginal zones. These two findings may be explained as farmers have the possibility to apply knowledge and benefit from efficiencies in scale and a more favourable environment for growing cocoa. Members of a cooperative have higher knowledge scores than farmers who are not members. An explanation for this was provided in the stakeholder interviews, where farmers indicated that membership particularly facilitated exchanges between members.

[15] Shown in detail in Annex 11.

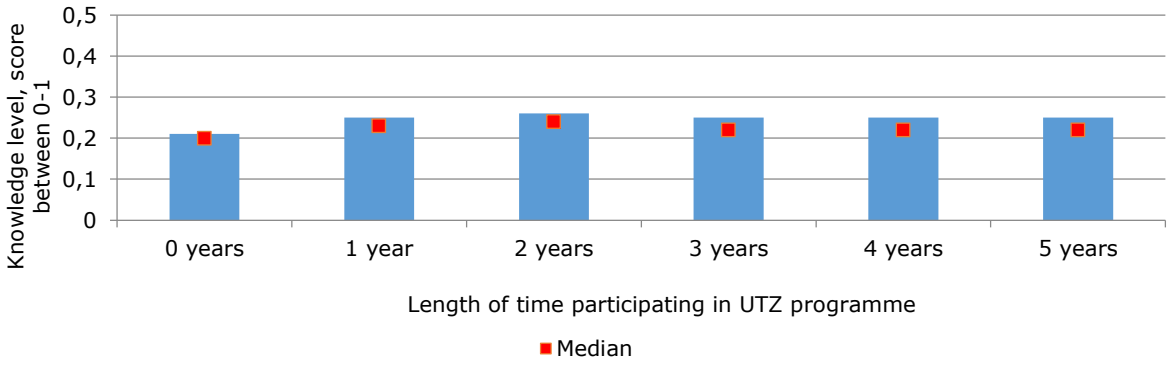


Figure 8 *Average knowledge levels and length of participation in the UTZ programme.*

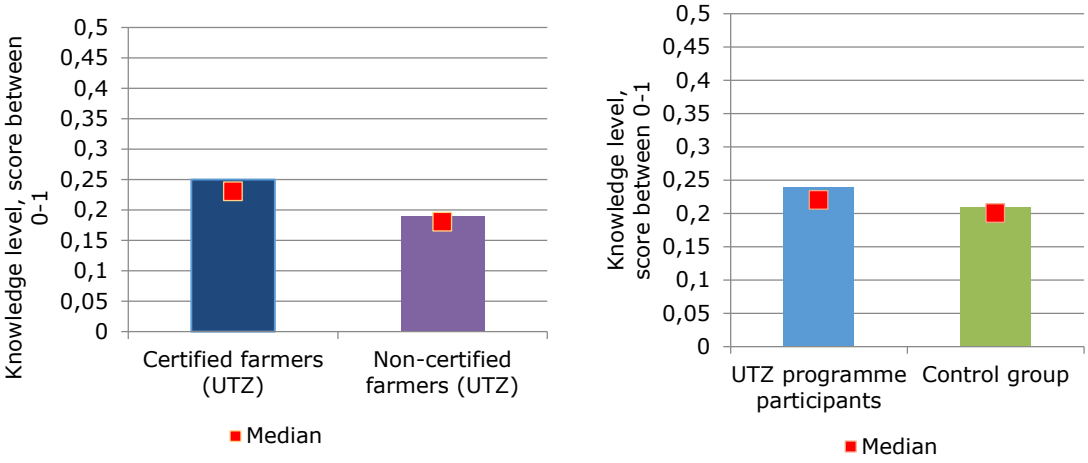


Figure 9 *Comparison of average knowledge levels of between certified and non-certified farmers in the UTZ programme and programme participants and control group.*

Photo 10 *Implementation of GAP: Waste management – a waste pit on-farm.*

Photo 11 *Knowledge about GAP at cooperative level.*

Farmers' perceptions of the GAP topics for which their knowledge had increased most were weeding (26% of farmers), pruning (26%), crop protection control (21%), phytosanitary harvesting techniques (16%) and fermentation and drying (11%) (shown in Figure 70 on page 150). Cooperative managers indicated that farmers face problems when they implement pruning according to GAP and that farmers need follow up training to better apply these skills. A one off training is seen by the managers as insufficient.

Quote 3 Impacts on knowledge

Male farmer, Dioligbi, Guitry:

> *Before I produced between 500 and 800 kg of cocoa from two hectares, in the last season I did one tonne. With certification, we learned to love our plantations. Before, we hardly put our feet there. It was a job for labourers. Now we go there more often.*

Male farmer, Diegonefla:

> *We have learned how to prune, to weed, to harvest in time, to ferment well, to dry, to select....and the impact has been an increase in production and decrease in plant diseases.*

Photo 12 *Implementation of GAP: shade trees on farm.*

5.3 Impact on the implementation of good agricultural practices

The results of the statistical analysis of indicators of good agricultural practices according to the UTZ Code of Conduct and indicators for income, lives, crops and environment show that farmers participating the longest in the programme tend to produce more efficiently and have higher gross and net cocoa-based incomes than later entrants (shown by the positive statistically significant correlations in Figure 10). The length of participation in the UTZ Certified programme is positively correlated with the overall implementation of GAPs, record keeping and biodiversity conservation practices, shown in Figure 11. For all other indicators, participants who have been in the programme longer do not perform significantly differently than later entrants. No negative correlations were found.

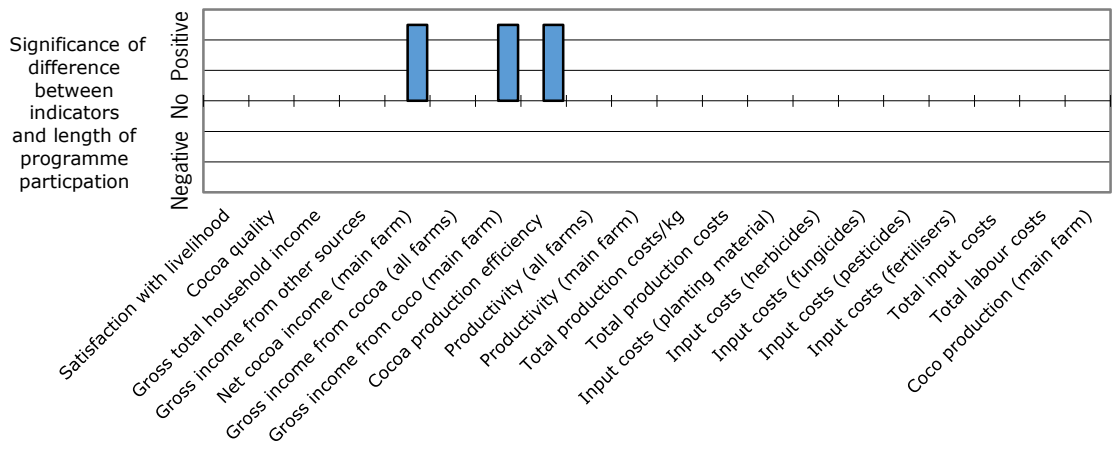


Figure 10 *Correlations between length of UTZ programme participation and GAP indicators.*

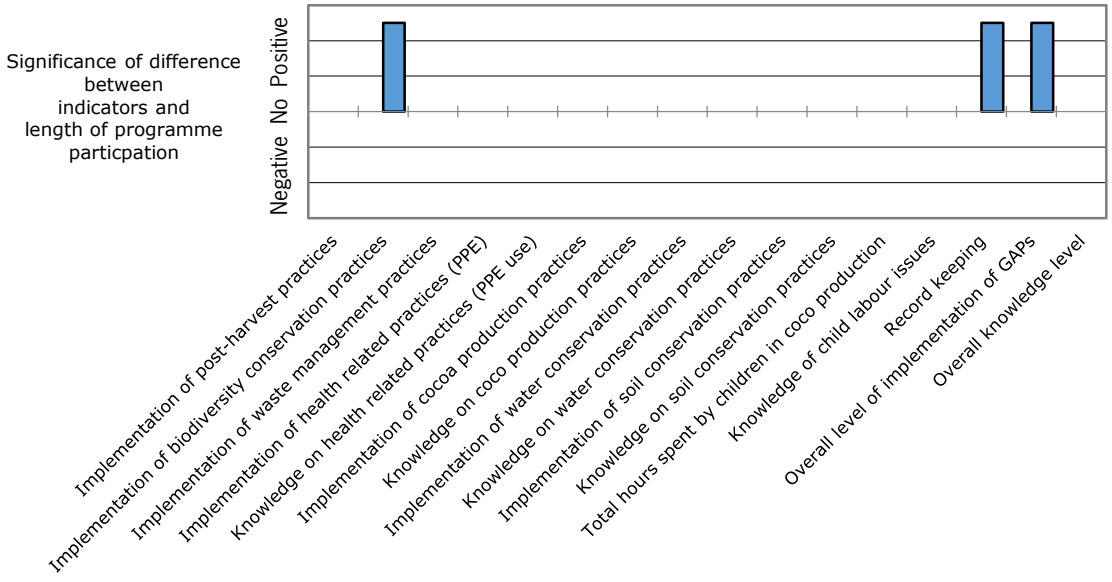


Figure 11 *Correlations between length of UTZ programme participation and outcome indicators.*

Positive trends were observed between the length of participation in the programme and implementation of GAPs by programme participants, shown in Figure 12. UTZ programme participants and UTZ certified farmers perform better in implementing GAPs than farmers in the control group and farmers who are not UTZ certified, shown in Figure 13 and Figure 14. However, as with knowledge levels, farmers' levels of implementation of GAPs are low with an average of 0.24 out of 1, despite increasing with the length of participation. As the knowledge levels of farmers prior to their joining the programme was not tested, it is not possible to attribute changes only to certification and related activities.

Photo 13 *Good agricultural practices enshrined in the Code of Conduct.*

Quote 4 ***Implementation of knowledge on GAP***

Young farmer in Dioligbi:

> *I am not yet certified but I copy what my neighbours, who are certified, do as they do apply practices especially in terms of weeding.*

Cooperative manager in Dioligbi:

> *The internal inspection allows us to evaluate what farmers have learned from training and sometimes we adjust and do additional, specific training. In the first year 171 out of 250 farmers passed the evaluation, but in the second year almost all of them passed. We have to follow up, as it is only after several visits that they implement the good GAP (such as dosing the right density).*

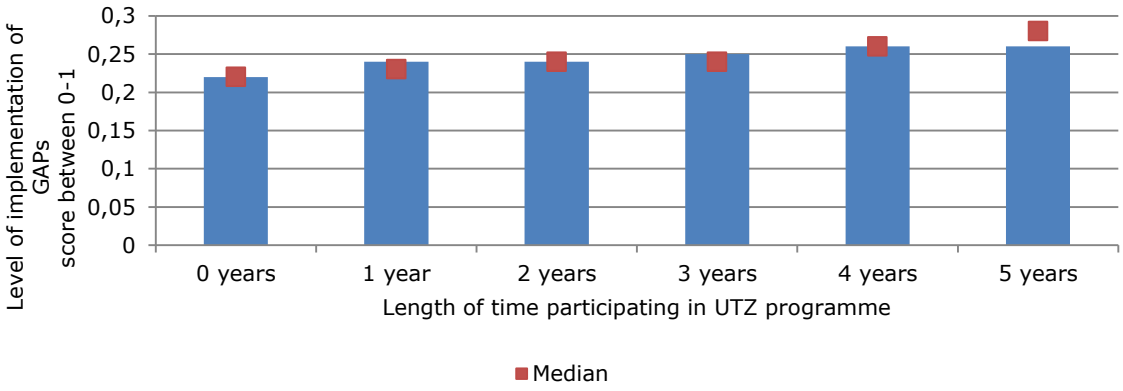


Figure 12 *Average implementation levels and length of participation in the UTZ programme.*

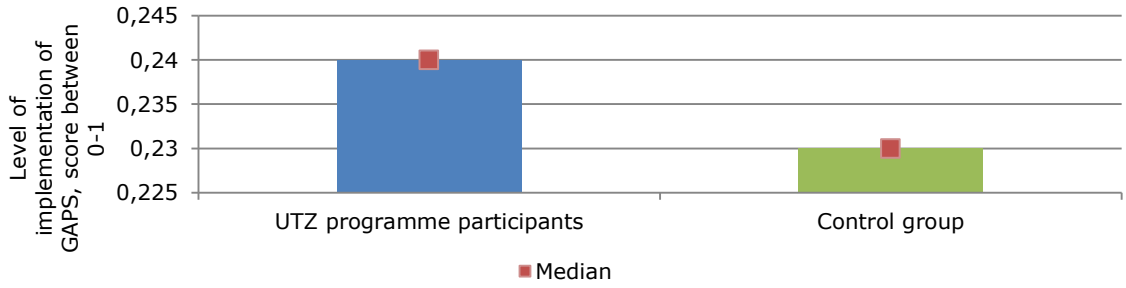


Figure 13 *Comparison of average implementation levels of between certified and non-certified farmers in the UTZ programme.*

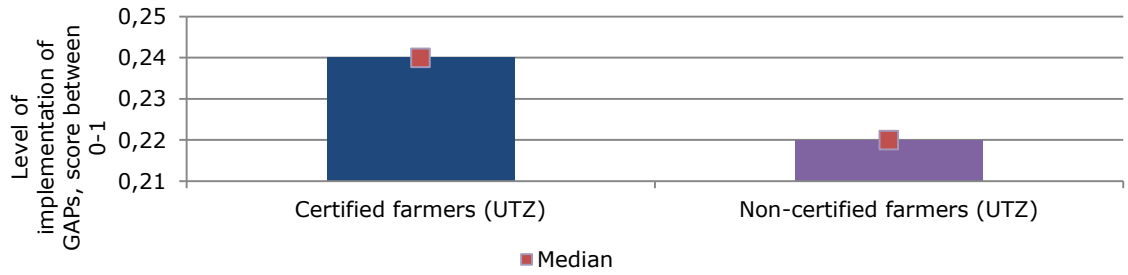


Figure 14 *Average implementation levels and length of participation in the UTZ programme.*

5.4 Impact on better lives

This section provides details about the indicators used to measure the livelihoods of the cocoa farmers studied.

Box 4 Summary: Impact on lives

Overall, farmers were satisfied with the impact of certification and training on their livelihoods, in terms of increased production, increased revenue, helping farmers to better meet their family's needs.

In 2012, the average price received by farmers for a kilogram of cocoa was 725 CFA, with no differences between the farmers in the control and those in the UTZ Certified programme. This amount did not differ between the different types of buyers. All certified farmers had received a premium, on average 50 CFA a kg. The premium is the most important motivation for farmers to become certified and to sell to cooperatives, in particular in the earlier stages of participation in the programme, when productivity and quality increases have not yet materialised.

60% of the farmers is satisfied or neutral with regard to the services delivered to them by their cooperatives. The rest (40%) was not satisfied and proposed areas for improvement, particularly that cooperatives should provide better access to inputs and credit.

Generally labour rights are not well respected by any of the farmers, although certified farmers have slightly better performance than farmers not yet certified or farmers in the control group. Farmers' knowledge on children's rights and on permitted cocoa farming activities for children is low. Some children on UTZ certified farms perform activities that they should not, albeit on a small scale.

UTZ programme participants and UTZ certified farmers had better knowledge and implementation scores than non-certified and control group farmers about safe working conditions. However, their low knowledge and implementation levels on the use of personal protective equipment indicates that improvements can be made.

5.4.1 Livelihood and standard of living

Farmers indicate that they are largely satisfied with their overall livelihood (Figure 15). No trends are apparent between the length of participation in the UTZ programme and farmers' levels of satisfaction. Programme participants and UTZ certified farmers have higher levels of satisfaction with their livelihoods than non-programme participants and farmers who are not yet certified. Interestingly, the median satisfaction level of the control group is higher than the mean, indicating that some farmers are very unsatisfied with their livelihood, negatively influencing the mean.

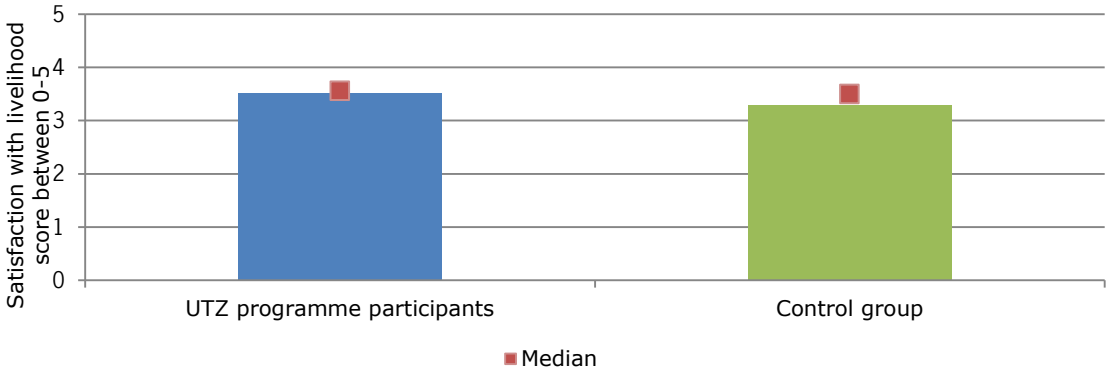
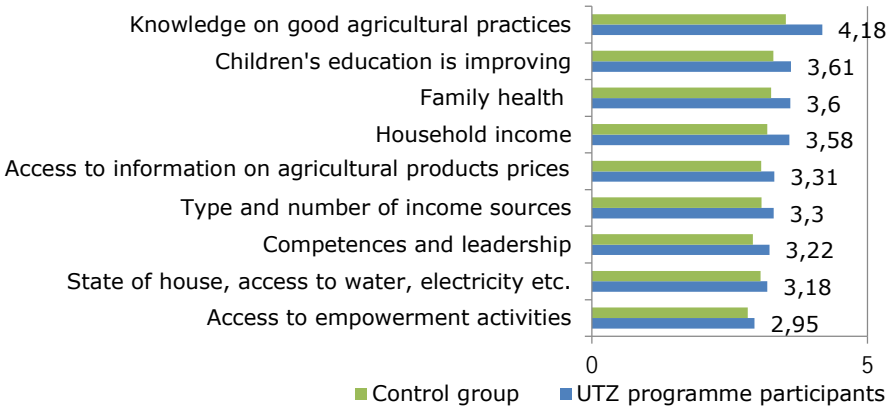


Figure 15 *Farmers satisfaction with livelihoods.*

In Annex 10 more information on satisfaction levels regarding particular livelihood aspects is provided.

Figure 16 illustrates that farmers participating in the UTZ programme have higher levels of satisfaction on a range of livelihoods indicators, compared to the control group. This suggests that participating in the UTZ programme may lead to higher levels of satisfaction. Future assessments will enable testing of whether this relationship can be attributed to UTZ Certification using the 2013 baseline.



Key: 0 = unsatisfied 2.5= neutral 5 = very satisfied

Figure 16 *Farmers' satisfaction with their livelihoods.*

Overall, farmers are satisfied with the impact of certification and training on their livelihoods, in terms of increased production, increased revenue, thanks to the premium and to generally higher prices paid by traders with whom they are linked. They also indicate a positive outcome in terms of increased collaboration among farmers. Farmers state that they use higher cocoa incomes to pay for everyday needs for the family, for children's schooling and clothes, and to reinvest in cocoa farming, as shown in Figure 17.

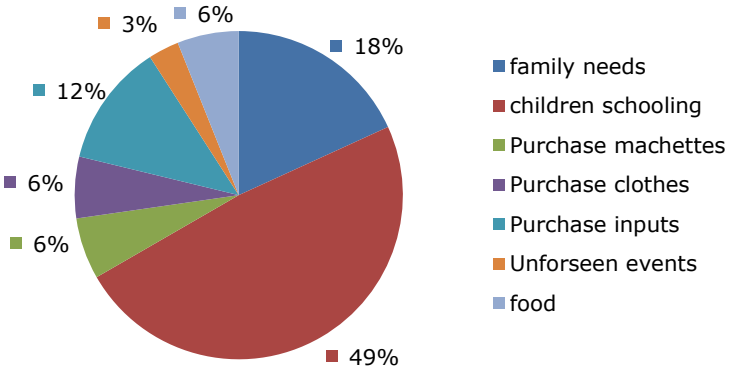


Figure 17 *Use of cocoa revenues by farmers.*
Source: Focus Group (121 participants)

Quote 5 Livelihoods and standard of living

Young farmer, Duékoué:

> *Our way of living has changed because we have changed the way we do many things. For instance, we do not reuse empty tins of chemicals anymore, and we no longer spray in our fields, this is done by professionals.*

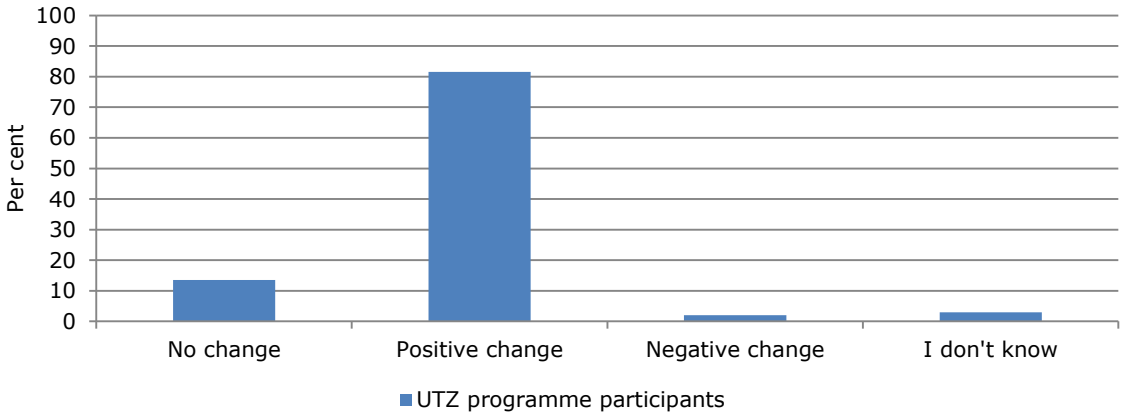
Male farmer, San-Pedro:

> *Before we treated our trees ourselves. Now we have a professional phytosanitation service that treats our fields and so we are less exposed to illnesses.*

Male farmer, Daloa:

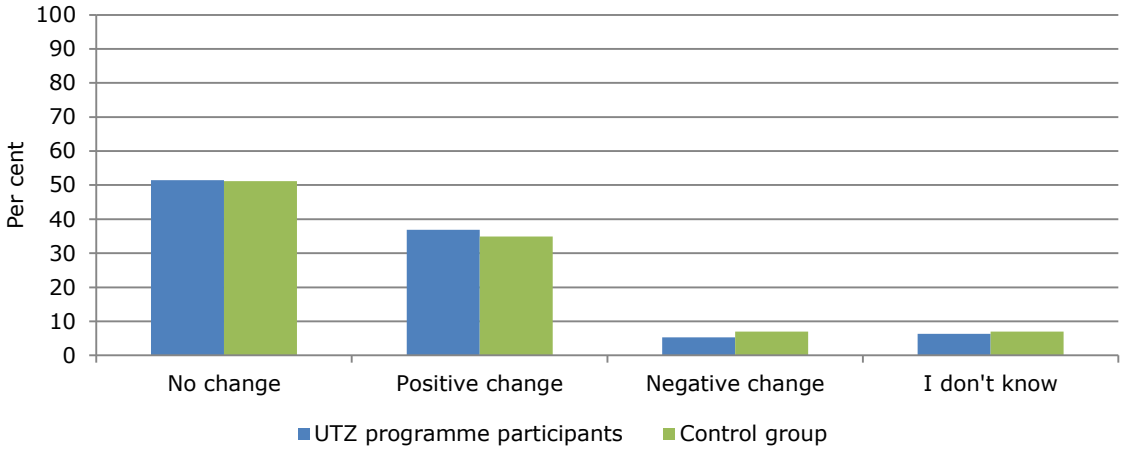
> *The cooperative gave us a machine to spray but they have taken it back. We do not know why because they have not told us. We share the pesticides, but they are not sufficient. Three of us have to share one litre.*

Most of the farmers (82%) experienced an improvement in their living conditions since their participation in the certification programme. Only very few farmers have experienced a negative change (Figure 18).



(N = 200)
Figure 18 *Farmers' perceptions in changes in living conditions since participation in the certification programme.*

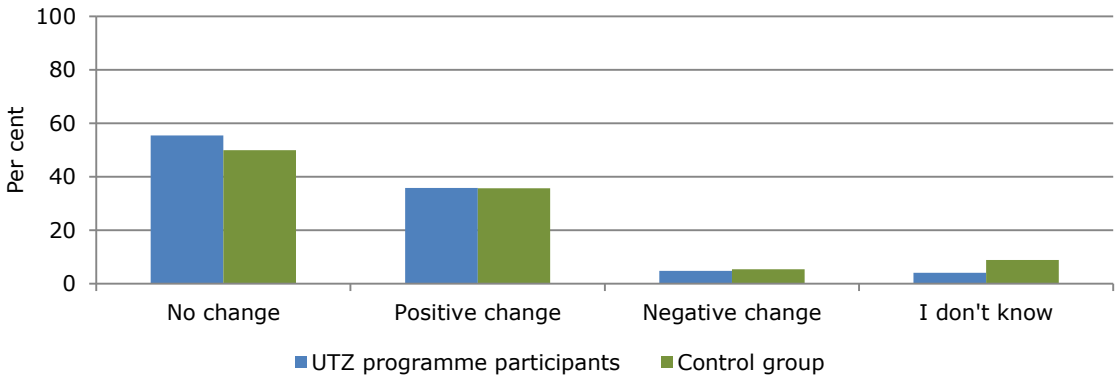
About half of the farmers observe no change in the schooling situation for children (i.e. construction of schools, number of teachers, literacy programme), whereas one third of the farmers reports positive changes (Figure 19).



(N = 249)

Figure 19 *Farmers' perceptions of changes in access to children's to schooling in the last two years.*

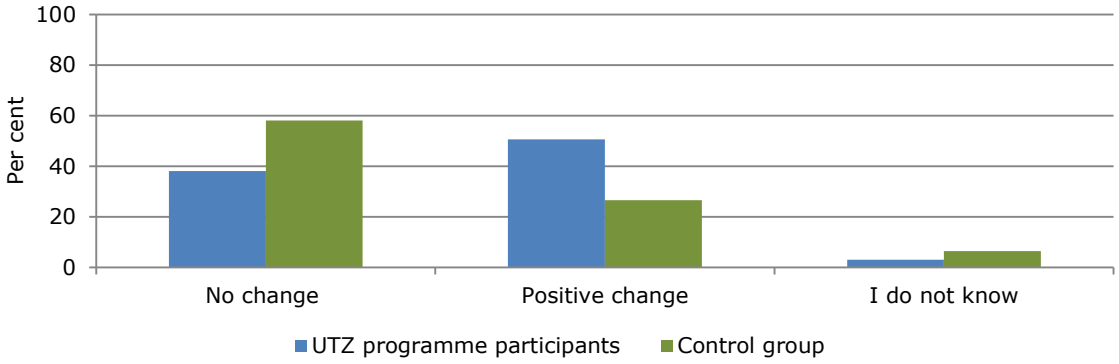
Farmers experience similar types of changes for access to healthcare; about half say there is no change, and one third indicates a positive change. More UTZ programme participants indicate that there was no change in the healthcare situation than control group farmers (Figure 20)



(N = 327)

Figure 20 *Farmer's perceptions of changes in access to health care in the last two years.*

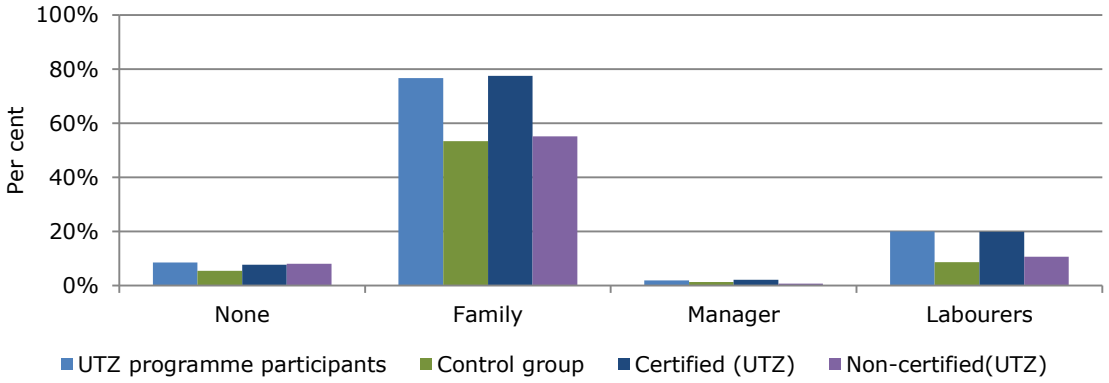
Figure 21 shows that UTZ programme participants more often indicate a positive change in access to inputs than control group farmers, while control group farmers more often say that there is no change compared to two years ago.



(N = 906)

Figure 21 *Farmer's perceptions of changes in access to inputs since two years ago.*

More than half of the farmers share their benefits with their family members (Figure 22). UTZ certified farmers share their benefits more frequently with family members compared to farmers who are not UTZ certified. No other significant differences between the groups were found.



(N = 844)

Figure 22 *Percentage of farmers sharing benefits with other parties.*

The majority of farmers (92%) indicates a variety of positive changes after certification, and 8% indicates no change. The most frequent response (33% of 474 certified farmers) is better farm management due to GAP, 16% indicates they use increased income to construct a house or purchase a motorbike, 12% mentions a better ability to plan and manage their incomes, 9% increased production, 9% increased income, and 4% a general increase in living standards and health. Others (all under 2%) mention increased money to spend on children's education, access to inputs and a decrease in cocoa diseases.

5.4.2 Sustainable practices rewarded by the market

In 2012, the average price received by farmers for a kilogram of cocoa was 725 CFA. This amount does not differ between the different types of buyers: cooperatives, pisteurs, independent traders (*commerçants*) and other buyers. This may be linked to the 2012 price reform. Most farmers in the focus groups indicate that they are satisfied with the result of the fixed price reform. Most farmers (70%) sell their cocoa to their cooperative, while 14% sell to pisteurs, and hardly any farmers (2%) sell cocoa direct to traders or to other buyers. All UTZ certified farmers reported receiving premiums. Of the UTZ programme farmers, 67% reported receiving a premium for their cocoa, as not all farmers had reached the stage of receiving payment and the premium for certified beans. Most farmers (69%) reported receiving a premium of 50 CFA per kg, 27% received a premium of 30, 35 or 40 CFA. Figure 23) shows the differences between the premiums received for farmers in different phases of participation in the UTZ programme. Year 0 indicates from the moment a farm becomes certified. An

explanation of the differences experienced for farmers in different phases appears more related to the policy of their cooperative than time period. Each cooperative agrees with its members the proportion of the premium which is retained by the cooperative and which is paid back to its members. Some cooperatives invest a proportion of the premium to finance cooperative operations and community activities, such as schools, wells, roads, health centres etc., as illustrated in Photo 17.

Although the premium is an incentive for farmers to join certification, it is a small part of the total price paid for cocoa beans, representing 7% of the total kilogram price. The premium was mentioned as one of the most important motivations for farmers to become certified and to sell to cooperatives (by 28% of farmers), in particular in the earlier stages of participation in the programme when productivity and quality increases have not yet materialised. Some traders and cooperatives agree that the premium is a major incentive, and use it to focus attention on and celebrate certified farming and their trading relationship, for example distributing the premium at a special ceremony. However, over 90% of respondents in focus groups were of the opinion that the premium does not sufficiently cover their costs to produce certified beans, particularly the costs for labour and inputs required to implement the UTZ Code. The full costs of certification and implementation of the UTZ code were not assessed as part of this study.

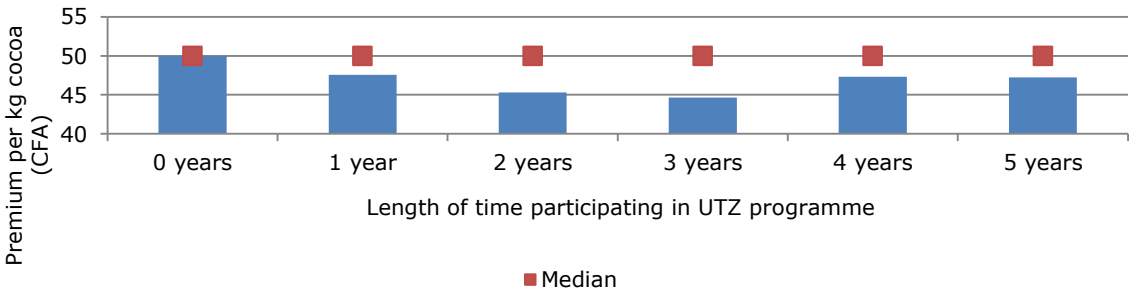


Figure 23 Average premium price received per kg cocoa by farmers.

Photo 14 *Market rewards: Ceremony to distribute the premium*

Photo 15 *Cooperatives and traders paying out certification premiums*

Quote 6 Market rewards

Male farmer, Paulkro:

> *The cooperative pays cash, like the pisteurs, and on top it gives a premium, so we prefer to sell to the cooperative.*

Male farmer, Daloa:

> *It is thanks to the premium and inputs from the coop that everybody wants to be certified.*

Male farmer Dagadji, San-Pedro:

> *The premium and training (for example on the layout), the distribution of inputs, the provision of cars for transporting cocoa or sick people in case of emergencies.*

5.4.3 Stable cooperatives providing better and reliable social services

To test the impact logic and ascertain how farmers feel about their cooperatives farmers were asked about their level of satisfaction with services provided. Farmers are generally satisfied or feel neutral about the services delivered to them by their cooperatives, shown in Figure 24. Farmers who just joined the UTZ programme are the least satisfied. However, there are no observable trends in the satisfaction of participants who have spent more time in the programme compared to recent entrants, and no differences exist in satisfaction level between the UTZ programme participants and the control group. UTZ certified farmers are more satisfied with the services provided by their cooperative, but the difference is not significant.

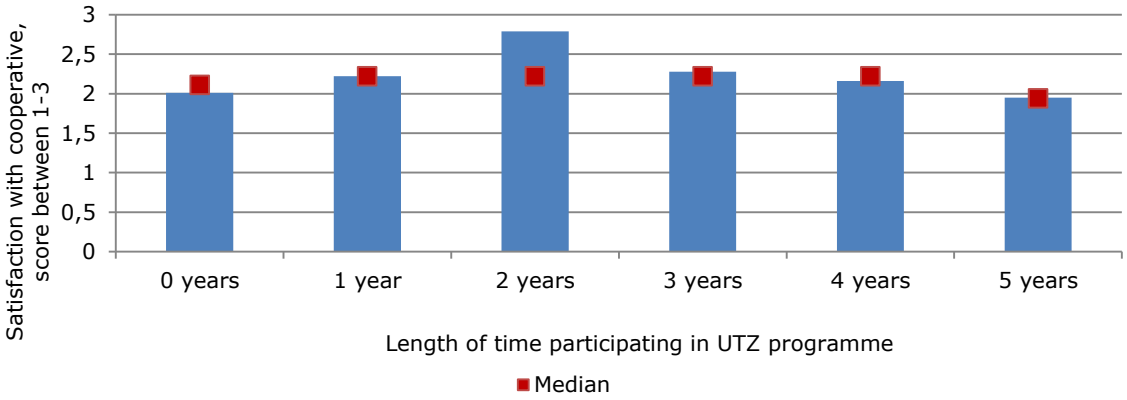


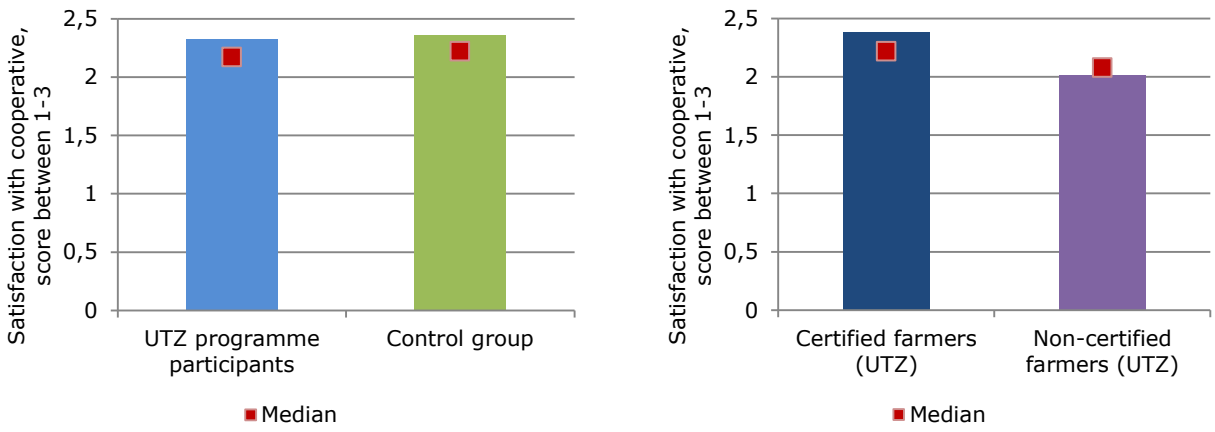
Figure 24 *Average farmer satisfaction with cooperative services.*

Quote 7 ***Stability of cooperatives, services provided and access to market***

Cooperative manager:

> *Yes, since certification, farmers' wishes have become clear and the cooperative tries to serve these needs with credit, materials etc. But this is often not enough. Farmers are also taken up in the phyto sanitation programme and serve as intermediaries. Becoming an intermediary can be used as a guarantee to obtain credit. Because of this they are satisfied as they don't complain. The training has increased production by 30 or 40%. Farmer's profits have increased as the production increased due to GAP.*

Photo 16 *Cooperative services: Careja cooperative nursery*



Key 0 = unsatisfied 2 = neutral, 3 = satisfied

Figure 25 *Average farmer satisfaction with cooperative services.*

Photo 17 *School financed by Coopaga cooperative with UTZ premiums.*

In the focus groups, farmers indicate that they are generally satisfied with the services provided by their cooperative. However, 40% of farmers in the focus groups observed that inputs (fertilisers and seedlings) are not provided regularly or in sufficient quantity, and 30% complained about insufficient access to credit. According to 25% of farmers there is insufficient turnover in the management committee of their cooperative. Another concern was the limited support by cooperatives for children's education and providing health facilities. In Annex 10 more details of farmer's satisfaction levels with different services offered by the cooperatives is presented.

Cooperatives are the main channel by which farmers participate in the UTZ Certification programme and though which they become certified. Farmers are generally happy to be members of a cooperative, pointing to their role in social networking, knowledge exchange and problem solving. UTZ programme farmers indicate generally high levels of satisfaction with their cooperatives as providers of services and marketing their beans: 95% of all farmers participating in the programme offered by a trader are satisfied with the programme, 2% are neutral and 3% have no opinion. Almost all UTZ programme participants (97%) were satisfied with training for UTZ certification, 2% were neutral and none of the farmers were unsatisfied.) Farmers were particularly happy with the access to information provided by their cooperative and that their cooperative sold their cocoa for them, particularly when they receive prompt payments from traders. Farmers were less satisfied with their access to fertilisers, insurance systems, planting material and credit (Figure 26).

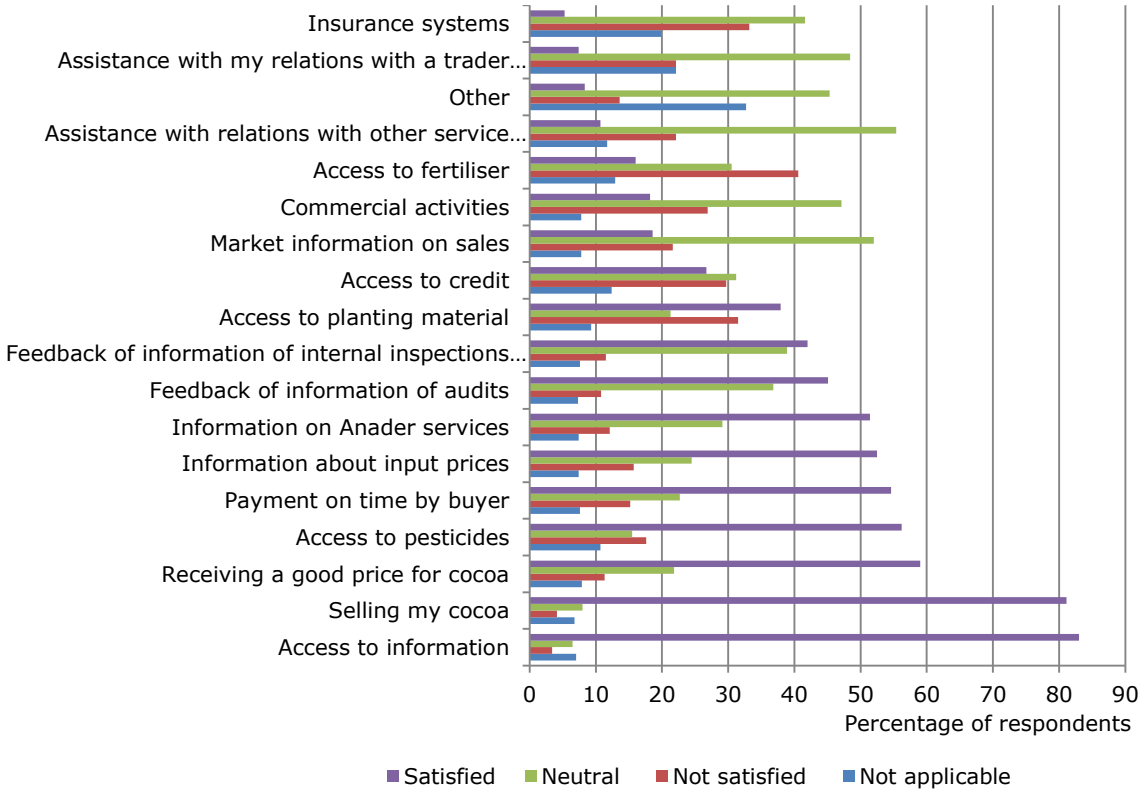
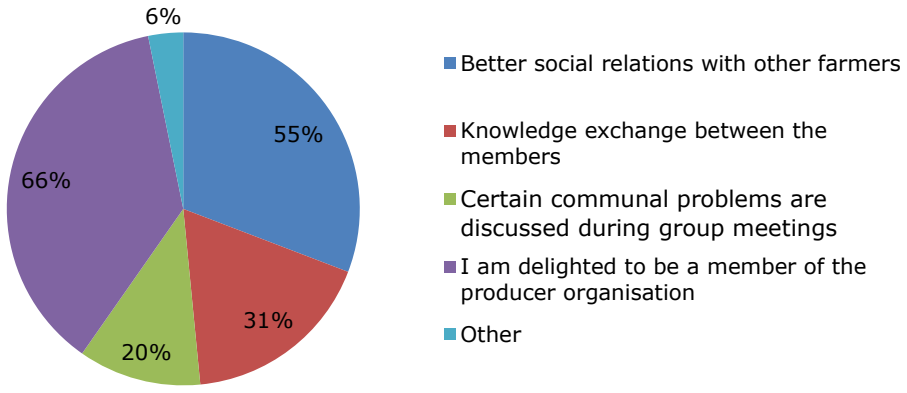


Figure 26 *UTZ programme farmer's level of satisfaction with specific services offered by their cooperative*

Half of all farmers mention that they experience other benefits of group membership (Figure 27). The most frequently named benefits are better relationships with fellow farmers (55%), knowledge exchange between members (31%). One fifth mentioned the benefits of problem solving during group meetings (see annex 10 for more information).



Multiple responses possible.

Figure 27 *UTZ programme participants' perceptions of the advantages of being cooperative member.*

A small proportion (5% of all UTZ programme participants) indicated that there are negative aspects to being a member of a cooperative. Half of these farmers mentioned the reasons being the costs and time involved in being a member of a group, 43% mentioned diverse issues such as rivalry between

members and leaders, being unable to meet commitments to provide advance payments, credit and support; poor management and record keeping.

Quote 8 Cooperative services

Male farmer Anouanzè de Duékoué:

> *We have money to face our problems, even in case of emergencies, since we can access credits from the coop before selling them our cocoa, for instance to pay school fees for my kids or when they are sick.*

Male farmer Daloa:

> *We are not satisfied. The products provided are insufficient, there is no credit and even when there is, there are problems. They make many demands on us. They ask us to make written requests but they never reply.*

Female farmer:

> *No, we are not satisfied. The cooperative did not do anything to improve health and education.*

5.4.4 Respect of labour rights

The UTZ Code of Conduct sets out conditions for workers' rights in terms of wages and contracts. The Code promotes contracts (based on local norms, written or verbal with witnesses), between the recognized land owner and the sharecropper, specifying mutual rights and duties, including payment frequency. Generally labour rights are not well respected by any of the farmers, although already certified and programme participants have slightly better performance than farmers not yet certified or farmers in the control group. The majority of all farmers does not make formal contracts with their labourers, with no major difference between groups, shown in Figure 28. However, more certified and programme participants do make contracts, suggesting that lessons learnt in the Code of Conduct are being implemented.

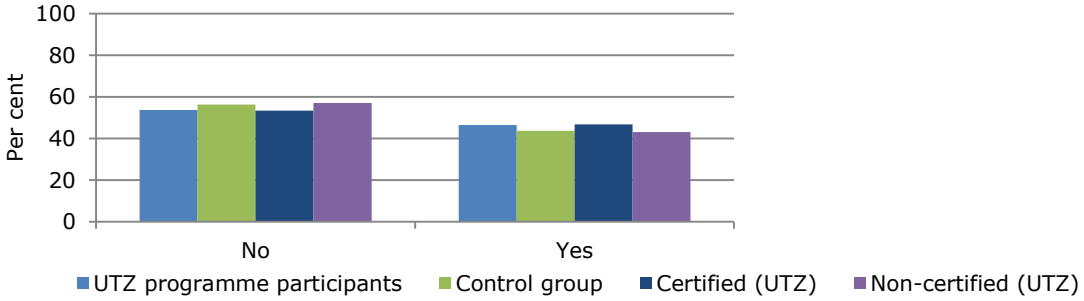


Figure 28 *Extent of labour agreement between farmers and workers.*

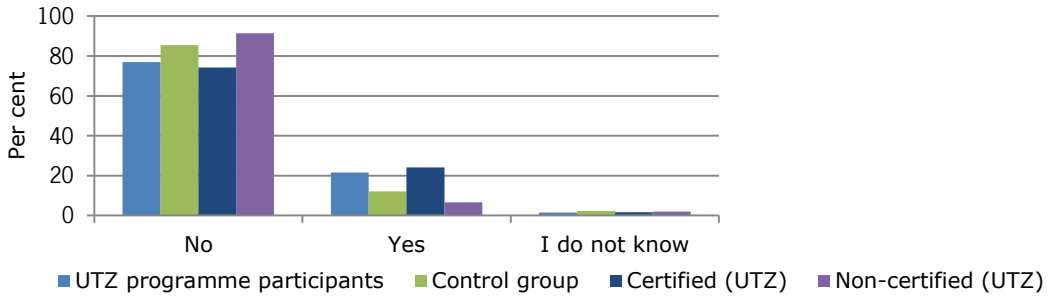


Figure 29 *Extent of registering workers with social security insurance.*

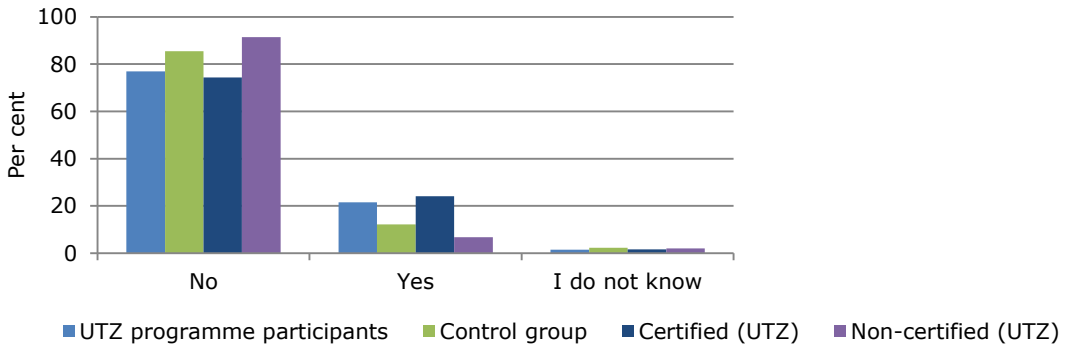


Figure 30 *Extent of farmer knowledge of workers' rights.*

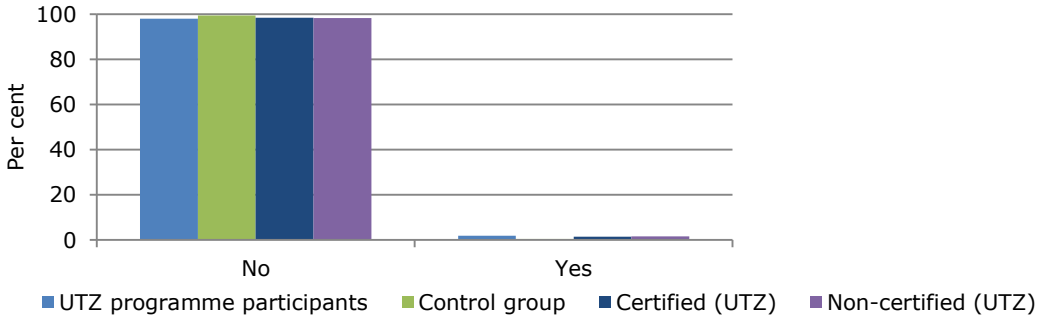


Figure 31 *Access to workers to organisations concerned with labour rights.*

About half of all farmers interviewed make any type of prior agreement or contract (*accord préalable'*) with their labourers prior to hiring them, with no major differences between the groups (Figure 29). This is in contrast to the UTZ Code of Conduct which requires that producers interact with sharecroppers and workers according to local norms. A contract (written or verbal) should be made between the recognised land owner and the sharecropper, specifying mutual rights and duties, including payment frequency. Very few farmers register their labourers with the social security insurance (CNPS), with no difference between the groups. This is despite the UTZ code of conduct stating that employers hiring permanent and temporary workers have to comply with national legislation and sector agreements.

Between 10 and 20% of all farmers know about labour rights legislation (Figure 30). This is in contrast to the UTZ Code of Conduct which requires the cooperative to inform all producers about labour rights and that in each community one lead farmer is appointed who is responsible for monitoring labour rights and to whom workers can file complaints. This person should be in contact with the certificate holder and local NGOs (if applicable). UTZ programme participants and UTZ certified farmers have higher levels of knowledge than the control group and non-certified farmers. All the farmers interviewed stated that they have little access to organisations concerned with labour rights, as between 7 and 22% have contact with lead farmers about labour rights (Figure 31). However UTZ programme participants and UTZ certified farmers are more likely to have links than control group farmers and non-certified farmers. There is no correlation between the length of participation in the programme and farmers' responses on any of the questions concerning labour rights.

Overall there are challenges to be addressed with regard to labour rights, as half of the UTZ programme farmers do not make agreements, most farmers do not know about labour rights legislations nor record their farmers with the social security system (CNPS).

5.4.5 Respect for children's rights

According to the UTZ Certified Code of Conduct, children and minors (below 18) are only allowed to conduct light work on family farms for a limited number of hours as long as the work does not jeopardise their physical and mental well-being or interferes with their schooling. In addition, children are not supposed to conduct hazardous work in unhealthy situations, at night, or with dangerous substances or equipment and should always be accompanied by an adult relative.

Of the 720 programme farmers, 687 (95%) indicated that they know the minimum age at which children are allowed to perform cocoa farming activities. A small proportion (13%) correctly stated that the minimum age is 18 years. Most (83%) non-programme farmers indicated that they knew the minimum age, but only 17% correctly stated the minimum age.

Farmers' knowledge of which activities children are allowed to conduct in relation to cocoa production was relatively low. UTZ programme participants' knowledge on prohibited activities is low (0.35 out of 1), but they have significantly higher levels of knowledge than non-programme participants (0.28). UTZ certified farmers also have a higher knowledge on prohibited activities than non-certified farmers. No trend was found between the duration of programme participation and knowledge levels.

The maximum number of hours permitted for children to work on their family farm, according to the UTZ Code of Conduct, is 14 hours a week (728 hours a year). Children spend between 40 and 60 hours a year on cocoa farm activities in 2012[16]. UTZ certified farmers are also assisted by their children in activities (see Table 12 and Figure 32) typified as hazardous for children, although the number of hours children spend on these activities per year are below the limit specified in the UTZ Code of Conduct. Children at UTZ certified farms spend more time on some activities than children of non-certified farmers (Figure 32).

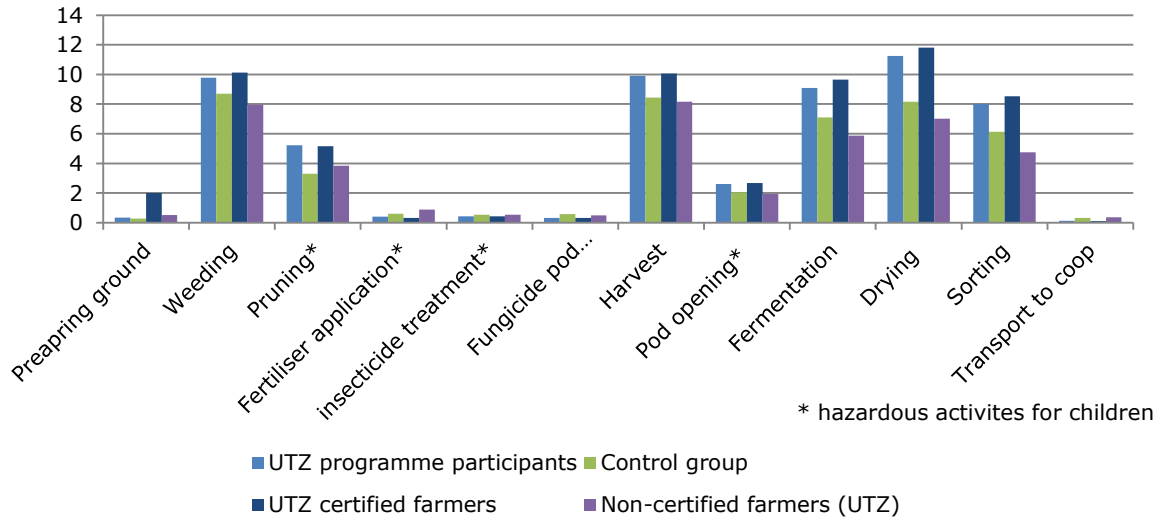


Figure 32 *Average hours spent by children per cocoa production activity in the year 2012.*

UTZ programme participants and UTZ certified farmers make significantly more use of children (in terms of hours spent) than non-certified and control group farmers. On a small number of UTZ programme farms children spend comparatively more time working (up to 1332 a year), raising the average for UTZ programme farmers. In comparison, farmers reported the maximum time spent by children on non-UTZ farms was 431 hours per year. A reason for this could be that UTZ certified farmers have on average larger cocoa farm sizes than non-certified farmers. No differences were

[16] Farmers were asked which activities they conducted on their farms, how many times in the last year, and the number of days they, their workers and children spend on these activities and if there were any changes in the last two years (see question 29 in the Producer questionnaire in Annex 5).

found between farmers who had participated longer in the UTZ programme and recent entrants. The median hours spent by children on the farm is zero, for all groups, indicating that at least half of all farmers are not assisted by their children in cocoa farming activities.

Children of programme participants spent on average 57 hours per year assisting their families on the farm, generally on non-hazardous activities. Children of control group farmers spend on average 46 hours. The children of certified farmers spent 60 hours on average and children of not-yet certified farmers spent 42 hours. These figures are significantly under the maximum number of hours annually (728) specified in the UTZ Code of Conduct. Of the time spent by children of UTZ certified farmers, 84% was on non-hazardous activities, for non-certified farmers this was 82%.

Photo 18 *Child labour: Prohibited activities at CEPO cooperative.*

Table 12

Average number of hours spent by children on cocoa production activities in the year 2012.

Activities seen as hazardous for children	UTZ programme participants	Control group	UTZ certified farmers	Non-certified farmers (UTZ)
Pruning	5.23	3.31	5.15	3.83
Fertiliser application	0.40	0.60	0.31	0.89
Pesticide treatment	0.43	0.54	0.42	0.54
Pod treatment	0.31	0.57	0.32	0.49
Breaking cocoa pods	2.61	2.04	2.67	1.95

Teachers and school directors have very little or no knowledge of UTZ and traders' initiatives to stimulate children's education. Ninety percent of respondents stated that there are no such initiatives in their school or villages. It is difficult for teachers to distinguish between the children of certified and non-certified farmers, and to compare attendance rates. Teachers stated that in general dropout rates for boys are higher than for girls (from 5 to 8% higher). School absences are mainly due to sickness and do not increase during cocoa harvesting seasons. The average distance between schools and farms is 4.5 km. The presence and distance from a household to school are seen as major determining factors of school attendance.

Quote 9 Children's rights

Male farmer, Daloa:

I take care of weeding of my field. If it is too much, I call my brothers to help me or if I have money I ask the youths in the village to help me. Women do not weed. After we have broken the pods, the women help us to put cocoa in the trucks. But children do not work; they just collect water for us.

Farmer's wife and child:

The children help their mothers to cook for the workers.

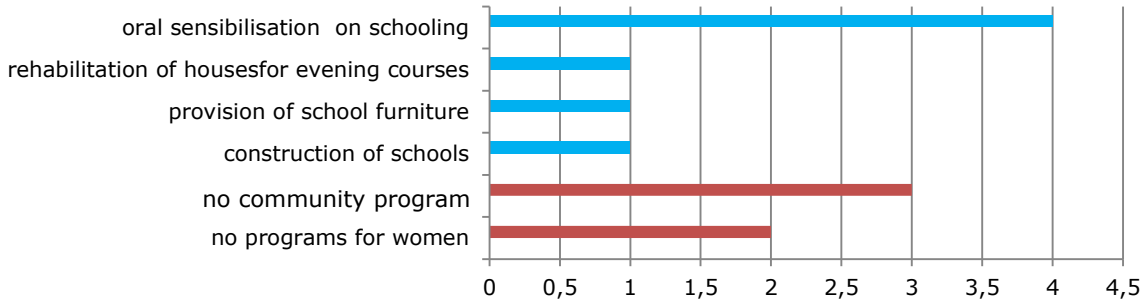


Figure 33 *Activities associated with children's rights, mentioned by farmers.*
**Blue indicates activities positively affecting rights, red indicates the absence of such activities*

Quote 10 Respect of child labour and rights

Cooperative manager:

We have built a school, and offered a school kit to most children of our farmers.

Cooperative manager, Guitry:

No, we do not have any particular programme to stimulate access to school. We do only oral awareness raising about the need for children to go to school.

Photo 19 Healthy and safe working conditions: COOPAGA cooperative health centre.

Knowledge and implementation levels about the use of personal protective equipment (PPE) are higher for UTZ programme participants and UTZ certified farmers than for non-certified and control group farmers, even though they still score relatively low (0.33 out of 1 and 0.27 out of 1 respectively, See Figure 34). The reason for this may be that farmers who started the programme are already more knowledgeable and already implemented PPE practices at the start of the programme, as no positive trend can be detected related to the length of participation in the programme. There is a significant negative relationship between knowledge levels on PPE and the use of PPE, contradicting the impact logic.

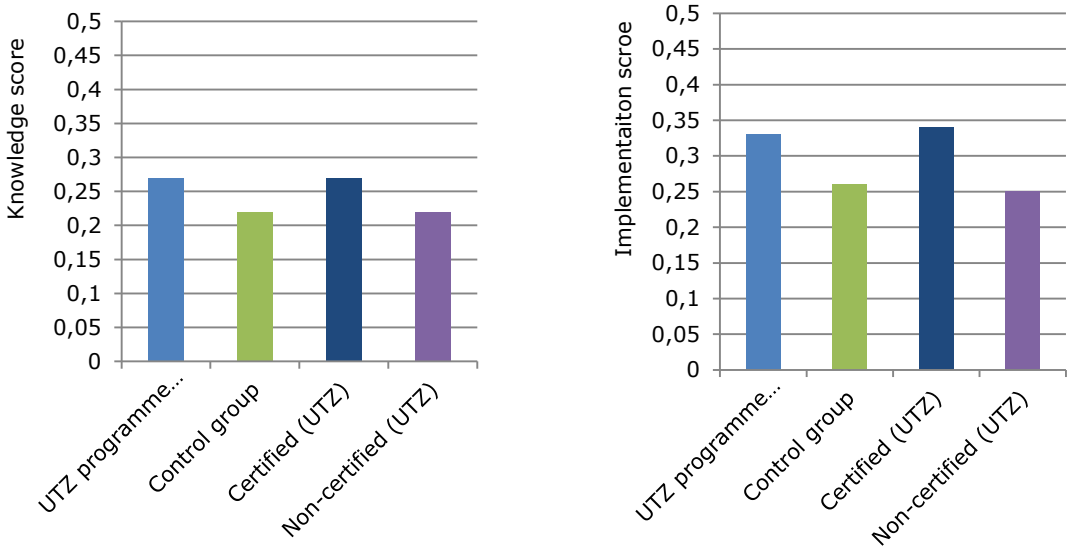


Figure 34 *Average knowledge and implementation score concerning the use of PPE.*

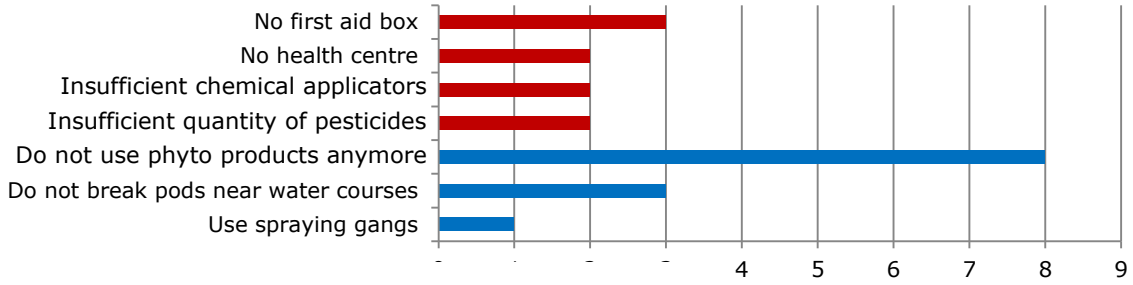
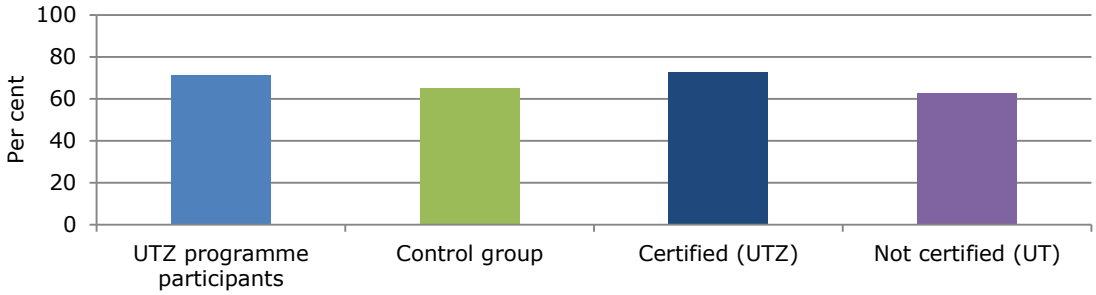


Figure 35 *Changes in healthy and safe working conditions and healthcare.*

Farmers indicated that a number of GAP contributed to better working conditions; however access to improved health care was not noted, as indicated in Figure 35. About 30% of farmers have had accidents or know someone who has had accidents during cocoa production activities. Significantly more UTZ programme participants and UTZ certified farmers report 'no accidents' compared to the control and uncertified groups and significantly less UTZ certified farmers report accidents than non-certified farmers (Figure 36). No correlation was found with the duration of UTZ programme participation and the number of farmers reporting accidents (Figure 78).



(N = 918)

Figure 36 *Farmers reporting no accidents during cocoa activities in the last year.*

5.5 Impact on better income and better crops

Box 5 Summary: Impact on income and crops

UTZ certified farmers and UTZ programme participants obtain significantly higher yields per hectare on average (467 kg/ha) than non-certified and control group farmers (315 kg/ha). Yield increases are mainly attributed to GAP training.

The majority of cocoa farmers (up to 90%) use credit, despite difficulties to obtain it. Up to 60% of farmers are able to purchase inputs. UTZ certified farmers have better access to inputs thanks to their cooperative or programme activities.

Cocoa quality is generally very high; only 2% of the farmers have experienced a rejection of their cocoa in 2012. More than a third of certified farmers indicate that quality had improved following certification.

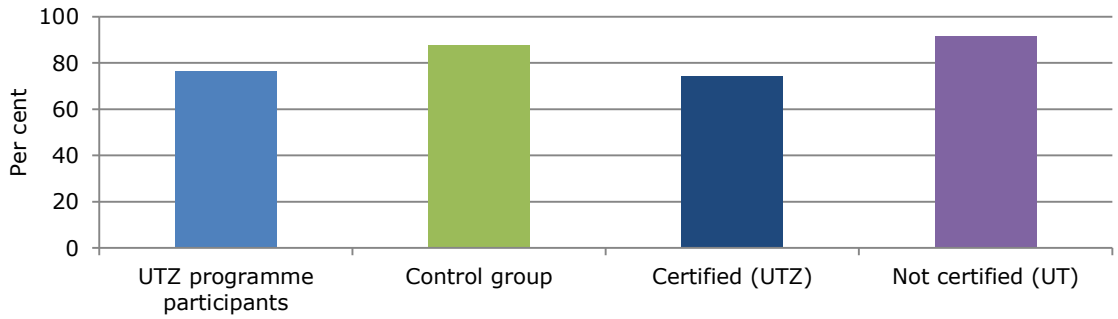
Farmers participating longer in the programme tend to produce more efficiently and tend to have higher gross and net income from cocoa than later entrants.

In addition to higher yields per hectare, UTZ certified farmers and programme participants also have significantly lower production costs per kilogram, compared to uncertified and control group farmers. Surprisingly, however, their net income from cocoa is not significantly higher than that of uncertified or control group farmers, because their total production cost is also significantly higher. Likewise, their economic efficiency ratio (gross income divided by total production costs) is not higher than that of non-certified or control farmers. Again, this is the result of the higher production costs.

In general, cocoa farmers do not see cocoa farming as a viable option for their children. Farmers who have been farming cocoa for most of their lives have difficulty in changing to other crops. Half of the farmers feel 'stuck in cocoa farming' and see few alternatives. The other half of the farmers is more positive about the future outlook of cocoa farming.

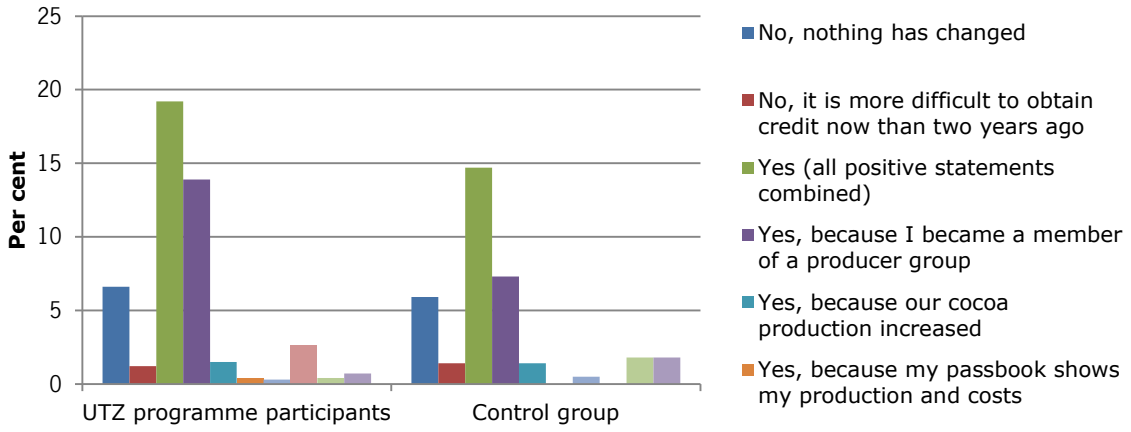
5.5.1 Farmers' access to credit

Although farmers have difficulties in accessing credit, between 70 and 90% of the farmers had borrowed money in the last two years (Figure 37). UTZ programme participants and UTZ certified farmers had received significantly less credit than the control group. No relationship was found between the duration of UTZ programme participation and credit. All farmers indicate that access to credit is difficult. However, more UTZ programme participants experience a positive change compared to the control group (Figure 38). UTZ programme participants indicate that the improvement can be explained by the fact that they joined a cooperative. When asked about their priorities if they would have access to additional financing, 90% indicated that they would buy additional fertilisers and new varieties of cocoa to rejuvenate their plots. All farmers reported difficulties in balancing household income and expenditure over the year.



(N =263).

Figure 37 *Percentage of farmers taking credit in the last two years*



(N = 263).

Figure 38 *Changes in access to credit compared to two years ago.*

5.5.2 Productivity

Productivity is defined as yield per hectare, based on farmers reports of their yields and their farm size. UTZ certified farmers and UTZ programme participants have significantly higher levels of productivity than non-certified and control group farmers in 2012 (Figure 40 and Figure 41), with a mean of 467 kg/ha compared to 315 kg/ha for control group farmers (Figure 40). These figures are comparable to some benchmark figures but lower than studies of certified cocoa production. It should be noted that productivity data is not accurate[17], given that 73% of farmers to under or over-estimated their farm size (see Figure 39 and Annex 8 GPS measurement results), shown in the programme, especially GAP. Productivity increased with increased participation in the programme participation, but is not statistically significant. During focus groups, around 60% of farmers attributed productivity improvements to the programme, especially GAP.

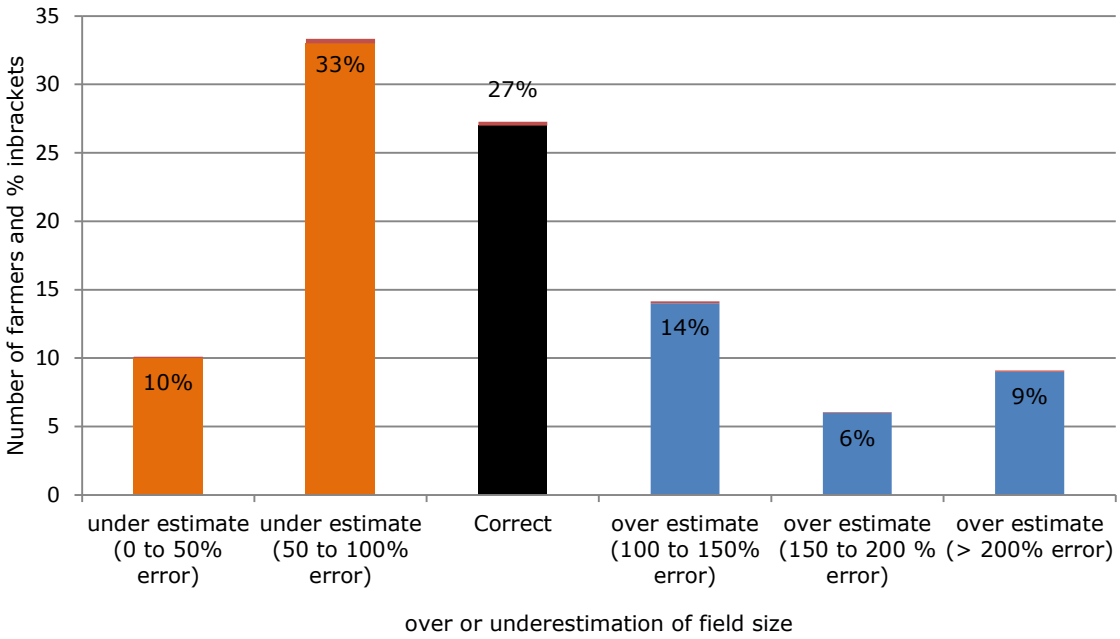


Figure 39 *Percentage of farmers over and underestimating field size.*

[17] Both for this study and comparing with other studies, as the extent to which productivity was calculated based on measured or perceived farm sizes is not specified in all the studies used as benchmarks.

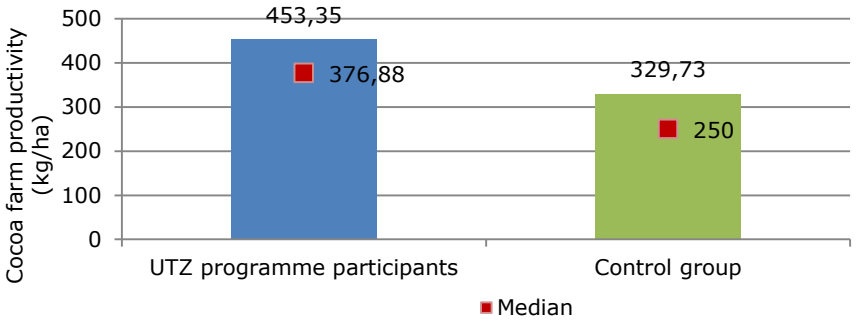


Figure 40 *Average farmer productivity of programme participants and control group.*

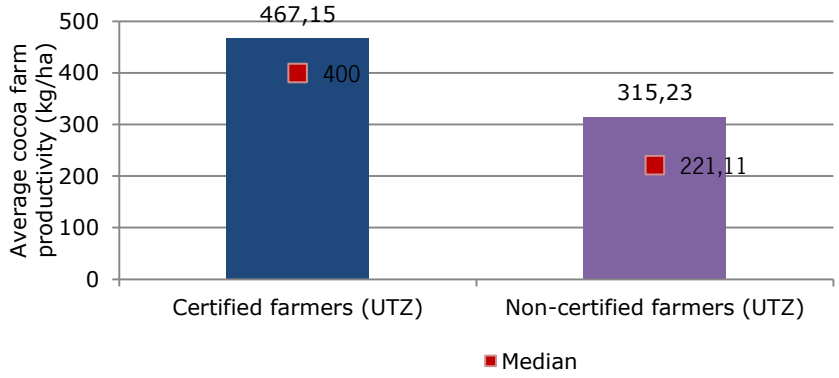
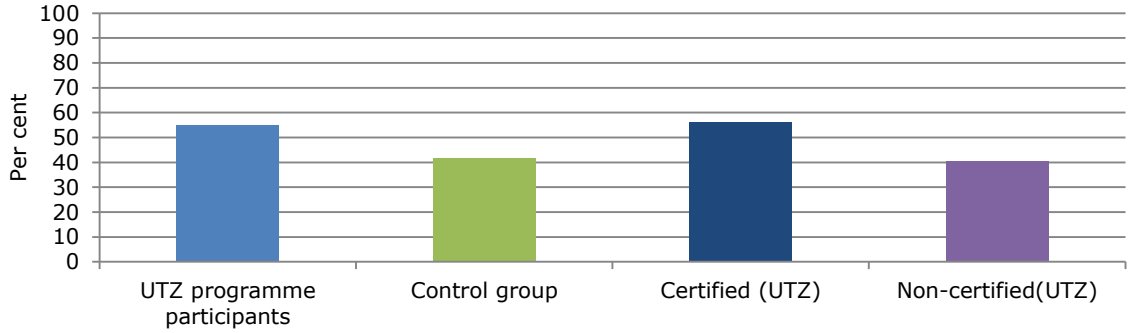


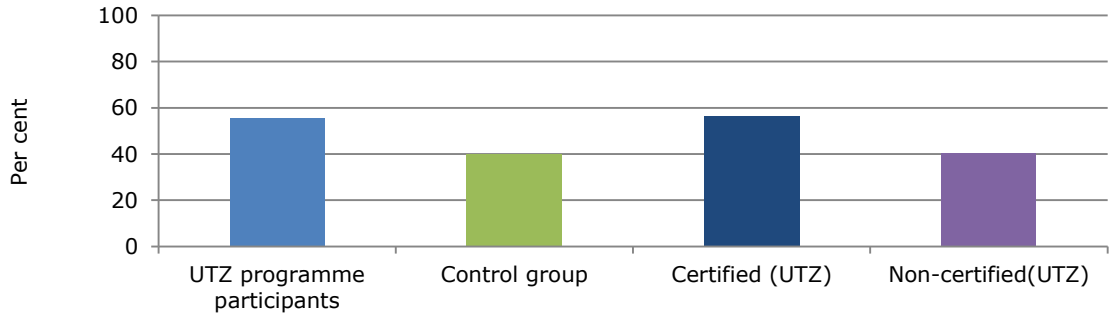
Figure 41 *Average farmer productivity certified and non-certified farmers.*

Between 50 and 60% of the farmers are able to purchase inputs when needed (Figure 42). A small number of farmers (24) receive 'free' inputs via spraying teams. This service is generally paid for by the premium. UTZ certified farmers have access to inputs more often than non-certified farmers and the control group, but there is no correlation with the length of time a farmer has been participating in the UTZ programme, suggesting that this service has not improved.



(N = 940)

Figure 42 *Percentage of farmers reporting increased access inputs compared to two years ago.*



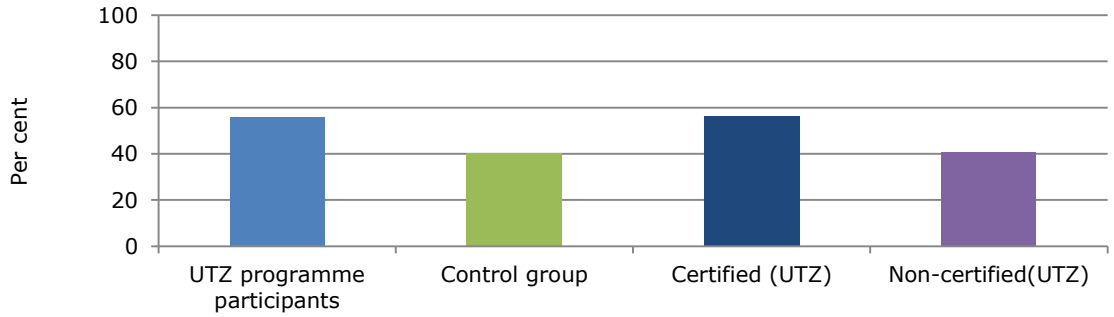
(N = 938)

Figure 43 *Percentage of farmers able to buy inputs needed.*

Box 6 Benchmarks: Productivity

620 kg/ha certified (N'Dao 2012)
576 kg/ha RA certified (RA 2013)
570 kg/ha non-certified (N'Dao 2012)
565 kg/ha (KPMG 2012)
450 kg/ha (HatlØy 2012)
352 kg/ha (Gockowski & Sonwa 2007)
334 kg /ha non- certified (RA 2013)

UTZ programme participants and UTZ certified farmers indicated that access to inputs through markets and cocoa buyers had improved, more often than the control group and non-certified farmers (Figure 44). There was no difference between early and later entrants in UTZ programme.



(N = 924)

Figure 44 *Percentage of farmers reporting improvements in access to inputs.*

Quote 11 Productivity

Male farmer, Guitry:

I have half a hectare. During the small season harvest I used to harvest only half a bag, while now I harvest almost two bags. I am also happy about the new techniques I have learned.

Male farmer, Nizahon:

Thanks to training, productivity has increased.

Male farmer, Duékoué:

Production has increased from one to three bags per tree, or 1500kg/ha.

Cooperative manager:

Productivity has increased from 350kg/ha to 700 kg/ha mainly for those farmers who follow the recommendations of our trainers.

Cooperative manager:

The costs of the inputs have increased but we obtain credit that we can pay back over a period of six months.

5.5.3 Improved economic farm efficiency

Figure 45 shows that UTZ programme participants have an average production efficiency ratio (gross income divided by total production costs) of 12.2. This indicates that investing one euro in cocoa production generates 12.2 euro. Generally, the longer farmers participate in the UTZ programme, the better (higher) their efficiency. However, an exception is the farmers who just started in the programme (0 years) as they have a relatively high efficiency ratio. A possible explanation may be that these farmers receive benefits (the price and premium) but do not incur higher costs associated with implementing all the practices required by the UTZ Code of Conduct. The lower median figure shows that average efficiency ratios are influenced by a small number of farmers who have very high efficiency. The average therefore hides large differences between farmers in the programme.

No statistically significant differences were found in efficiency ratios between programme and non-programme farmers or certified and non-certified farmers (Figure 45). This may be due to a time delay, as changes in farming take time and this study is the first measurement, but can also be attributed to the higher total production costs of such farmers. A positive correlation however was found between the duration of programme participation and participation in Farmer Field Schools and farmer's efficiency ratios. This suggests that efficiency may be increased by programme participation. Efficiency was also positively related to farm and farmer characteristics, such as, the age of the farm, input costs and total farm size.

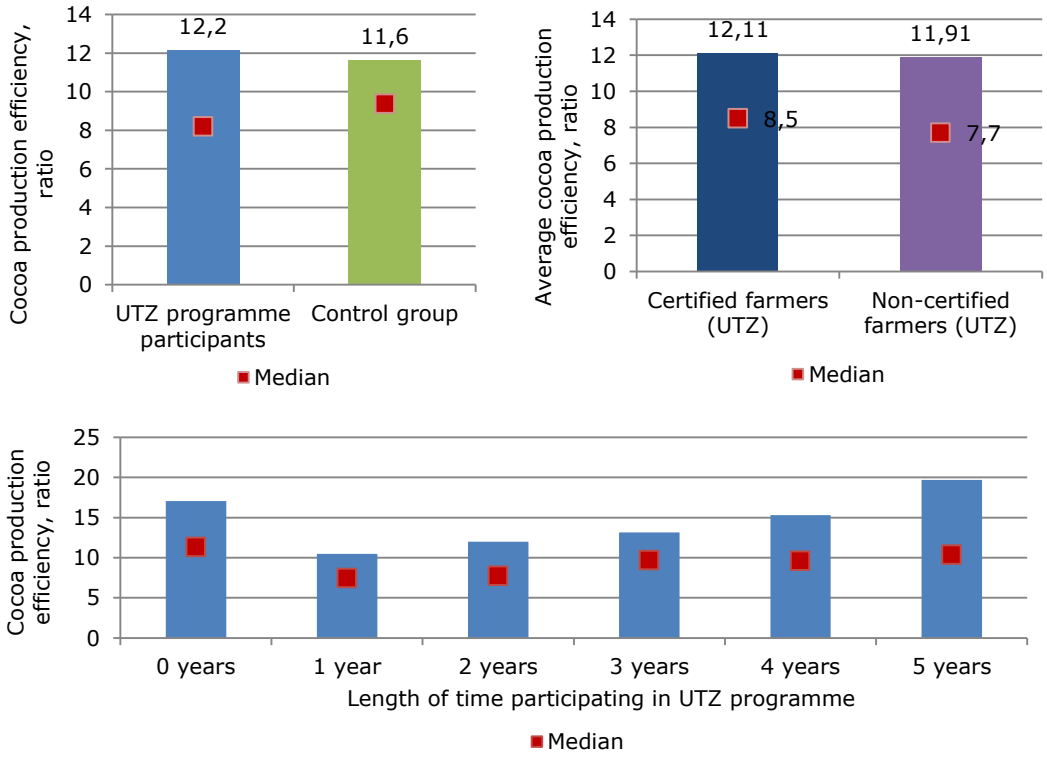


Figure 45 *Cocoa farmers average production efficiency ratios.*

Photo 20 *Improving farm efficiency: Cooperative access to crop protection products; CEPO cooperative shop.*

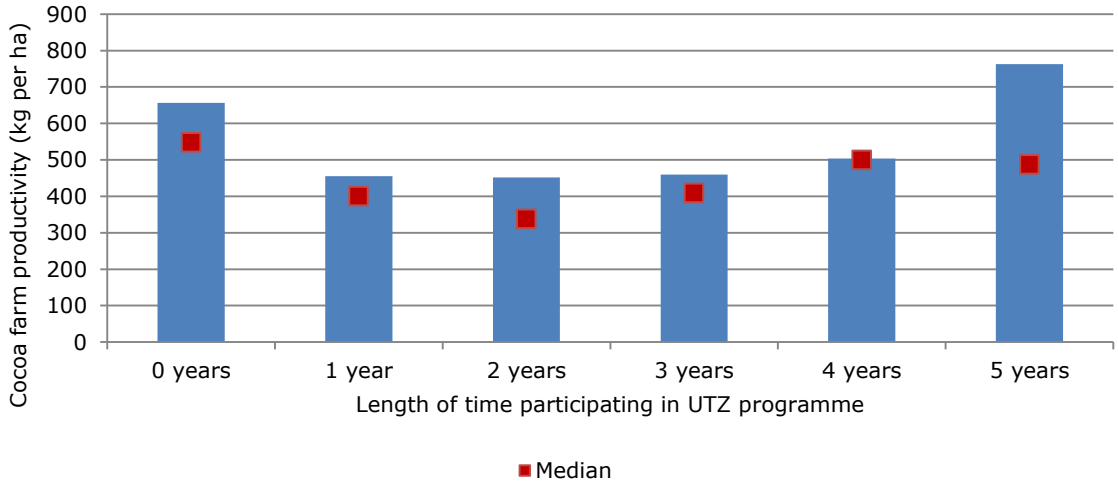


Figure 46 *Average cocoa farm productivity kg/hectare.*

5.5.4 Quality meets market demand

Quality is measured by moisture content with maximum allowable mould level at 4% and maximum allowable moisture level at 8% at point of export. Cocoa quality is generally seen as very high by farmers, coops and traders, with only 2.1% of all farmers experiencing rejected cocoa due to non-compliance with quality standards. More than a third of certified farmers indicate that quality had improved following certification.

Three traders also reported that quality had improved following certification while all traders reported that quality standards had been met. In 2011/2012, maximum levels of rejection are 8 and 12% respectively. Traders were surprised that quality standards had been met so easily, but comment that external influences (such as the favourable weather conditions in 2012/2013) could have influenced bean quality and size. Anecdotal evidence from farmers and traders for the mid-2013 harvest indicates that bean size was smaller. It is expected that the full impact of the 2012 cocoa market reform will only become fully apparent in future assessments.

Photo 21 *Quality: Drying beans.*

Quote 12 Quality meets market demand

Male farmer, Guitry:

Since I started applying good agricultural practices (weeding and pruning) I produce better quality cocoa, I observe my plantation better and know what is good and what is bad, and this gives me higher productivity. We ourselves adopt the best therapy for our fields.

Manager cooperative:

Quality has improved after starting certification.

Cooperative manager, Guitry:

Quality has improved since the start of certification. This year it has also improved thanks to the reform. All cocoa is clean this year and last year as well.

5.5.5 Increased profitability and long term viability of farmers and groups

Profitability was calculated based on reported total cocoa production costs[18] and costs per kilogram of cocoa. The total production cost influences net income. However, the variable of production cost per kilogram or hectare is more meaningful to compare farmers.

Quote 13 Impacts on profitability

Male farmer, Daloa:

At production level there is an improvement and an increase in social cohesion between the farmers. And there is the premium, which is the most interesting.

Male farmer, Dioligbi:

The season was over and my children were surprised as there was still money. I explained to them that this is due to the certification.

[18] See Annex 7 for how costs were calculated.

Male farmer Dioligbi:

I was paid at the beginning of January and I bought phytosanitary products as well as giving money to my children.

Male farmer, San-Pedro:

My profits increased and I paid the school fees for my children. When I experience difficult times, I use my extra income to buy fertilisers.

Farmers participating longer in the programme do not have significantly different cocoa production costs than farmers who just started their programme. However, UTZ programme and UTZ certified farmers do have higher total production costs than control group and non-certified farmers. For UTZ certified farmers, the reason for this is could be that they have larger farms. UTZ certified farmers have significantly higher labour costs than not yet certified farmers, probably due to their larger farms, and this difference does not occur between UTZ programme farmers and their control group.

Photo 22 *Profitability: making the balance.*

A more meaningful way of comparing costs is to look at production costs per kilogram. Production costs per kilogram of cocoa do not change significantly according to the length of time a farmer participates in the UTZ programme (Figure 47). However, UTZ programme participants and UTZ certified farmers have significantly lower production costs per kilogram than uncertified farmers (Figure 47). This is a contradiction with information from focus group discussions in which farmers indicated that certification 'costs' them more, both in terms of their own and hired labour input. Whether the lower costs per kilogram found for certified and programme farmers is a result of the programme or due to the selection of respondents will only become clear in subsequent evaluation. In general, farmers do not calculate their production costs or labour costs or keep track of the cost per kilogram of cocoa. Farmers also tend not to calculate labour as a cost and generally did not see attending training and cooperative meetings as costs.

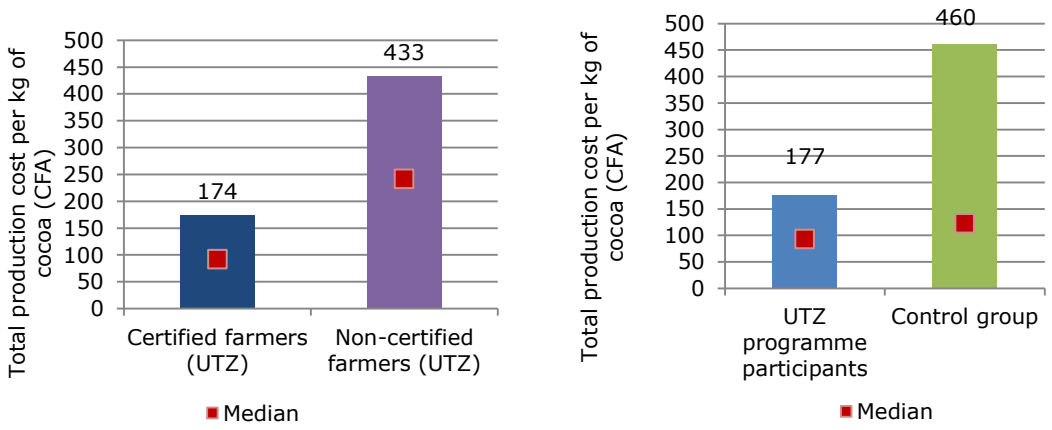


Figure 47 *Total production costs per kilo of cocoa.*

Net income from cocoa production is also a measure of viability and profitability. About 50% of farmers in focus groups say that income has increased since the start of certification. Cocoa farming is their most important source of revenue. As shown in Figure 48, an UTZ certified farmer household earned on average a net income of 1,535,157 CFA in 2012 from their main cocoa farm (equivalent to 4,110 CFA per day, 6.27 USD per day). The longer farmers participate in the UTZ programme, the higher the net income they tend to earn. UTZ programme participants and UTZ certified farmers do not earn a statistically significantly higher net income than non-certified and control group farmers.

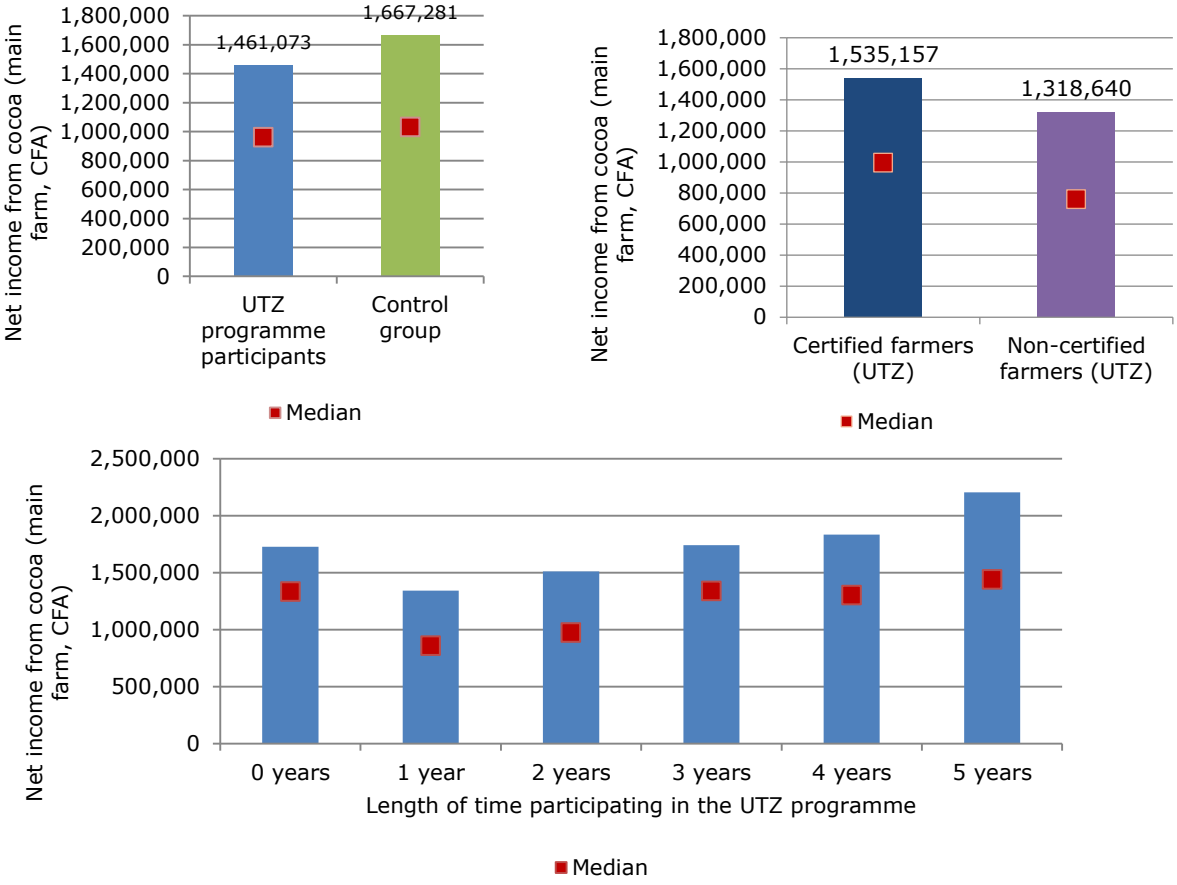


Figure 48 *Average net household income.*

Cocoa farming forms on average 79% of all farmers' total gross household income, indicating strong dependence upon cocoa revenues.

Shown in Figure 49, UTZ certified farmers earn a statistically significantly higher gross household income than non-certified farmers. No difference in gross household income was found between UTZ programme and control group farmers. Total household income is higher for farmers who participated longer in certification activities, but this trend is not statistically significant.

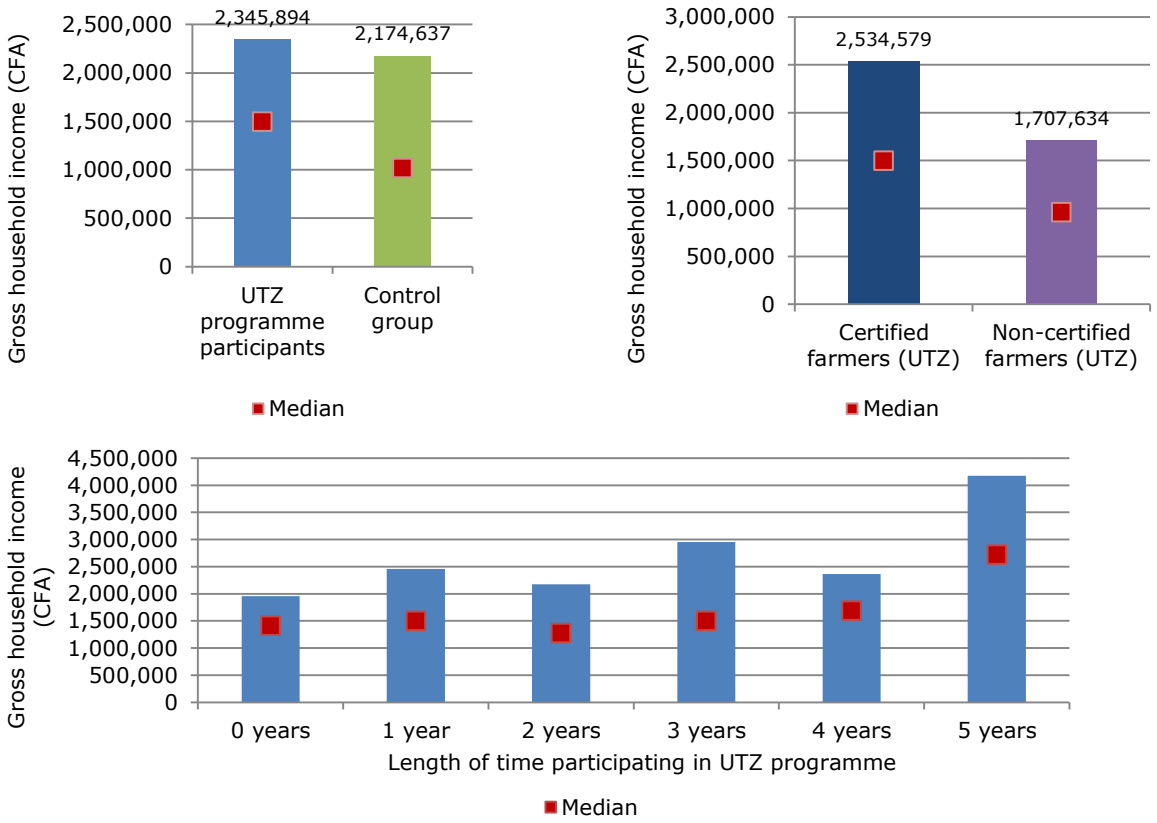
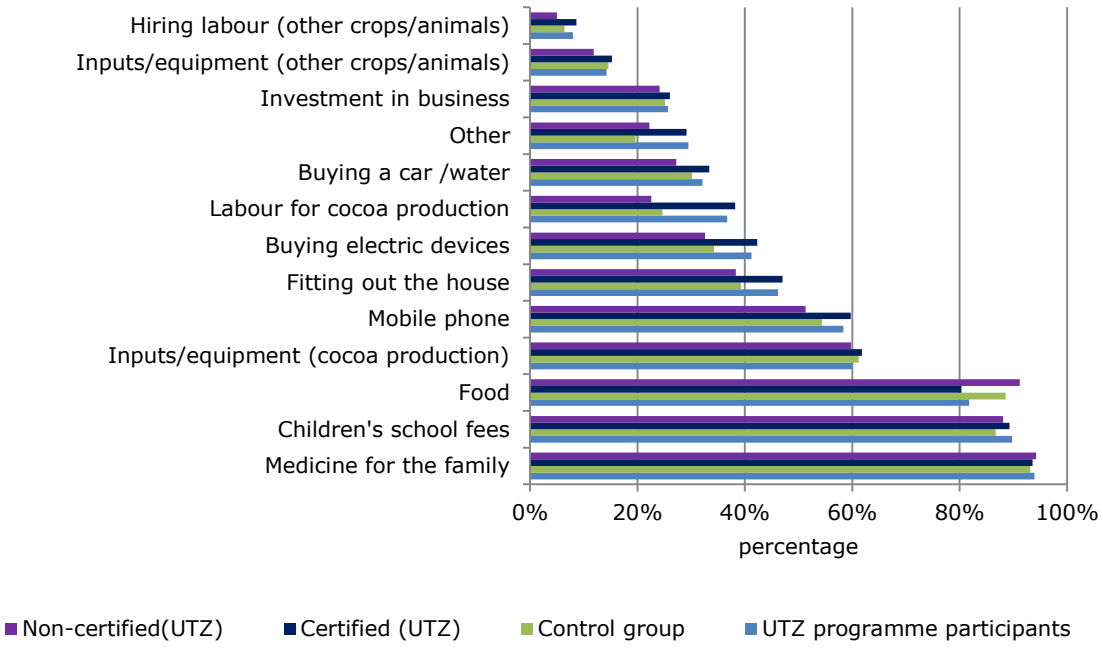


Figure 49 *Farmer's average gross household income*

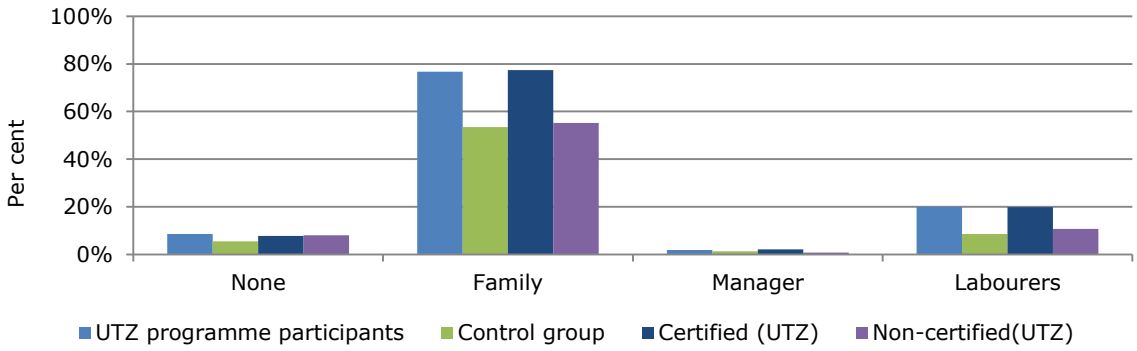
Most of the farmers spend revenues of their cocoa production on medicines, school fees and food (Figure 50). They spend least of their cocoa revenues on hiring labour for other activities than cocoa production. Not much difference was found between the groups, although 10% more farmers from the control group and non-certified farmers spent income on food than UTZ programme and UTZ certified farmers and 10% more UTZ farmers spent revenues on hiring labourers for cocoa production.



(N = 937 multiple response possible)

Figure 50 *Farmers' spending of cocoa farm revenues.*

Over half of the farmers share their revenue with their family members. UTZ programme participants and UTZ certified farmers share benefits more often with family members and labourers than non-certified and control group farmers.



(N = 844)

Figure 51 *Percentage of farmers sharing benefits with other parties.*

The future viability of cocoa farming was measured by asking farmers about their perceptions. About two thirds of farmers do not want their children to become cocoa farmers. During the focus group discussion, also 71% of the 121 respondents did not want their children to become a cocoa farmer. Farmers who participate longer in the programme are more positive than farmers who just started, although this trend is not statistically significant. In focus groups, children stated that they prefer to become teachers rather than cocoa farmers.

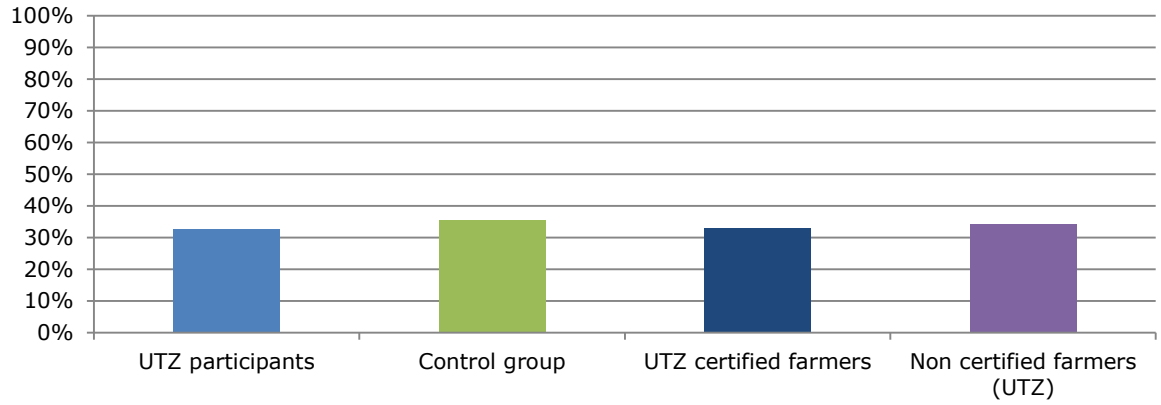


Figure 52 *Farmers wishing their children to continue cocoa farming.*

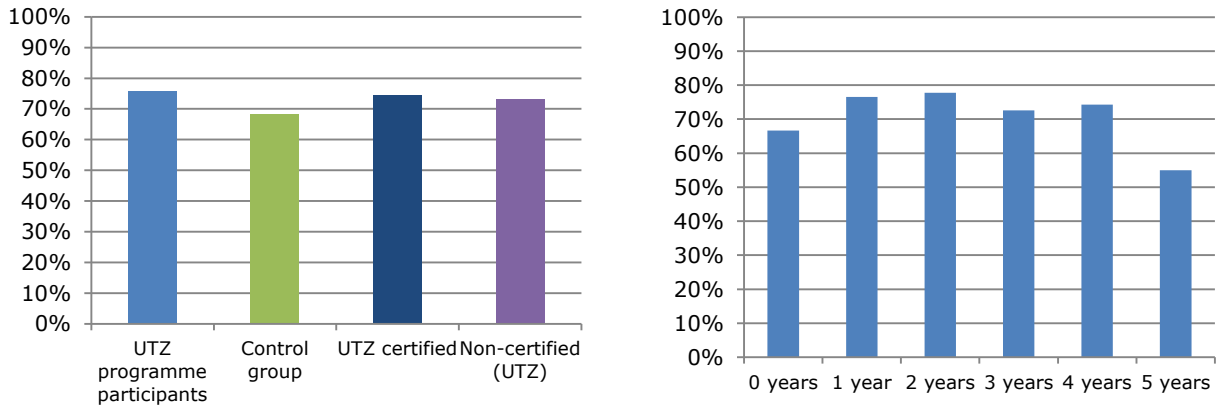


Figure 53 *Farmers expecting to continue in cocoa farming*

Farmers responded very differently to the question whether they expect to continue cocoa farming in the next 5 to 10 years. 70% to 75% expect to continue cocoa farming (see Figure 53). The majority of farmers in the focus groups do not perceive cocoa as a viable business in the long run. Some farmers explain this by saying 'it is cocoa or nothing'. Such findings are attributed to the lack of other sources of cash income for half of farmers, few other income generating opportunities and the old age of farmers. Farmers also express that cocoa requires 'a lot of work'. Farmers hope that different opportunities will arise for their children. Around half of the farmers is diversifying into crops that provide more regular income and are more profitable and less work, such as rubber. Farmers noted that they had asked their cooperatives to help diversify their sources of revenue. Farmers participating in the programme longer have a more positive opinion with regard to their continuation of cocoa farming; farmers who participate longest appear to be more positive than later entrants, but this trend is not significant.

Quote 14 Long term viability of cocoa farming

Male farmer, San-Pedro:

Yes, I will continue investing in cocoa if I get extra finance to extend my cocoa farm and to buy fertiliser.

Male farmer, San-Pedro:

With the new CNRA cocoa variety, yields are improving.

Male farmer, Bohoussoukro:

I can't increase my cocoa farm because there is no space, but even so, I don't want to because it's too tiring, I think I'll go into rubber.

Male farmer, Daloa:

I won't continue with cocoa because we don't earn enough at the moment; when I find a bit of land I will produce rubber.

Male farmer Gligbéadji:

I produce both rubber and cocoa because of the soil type; it is good to diversify to increase my income.

Quote 15 Long term viability of farmers and groups

Female farmer, Dekoue:

No, I don't want my children to be cocoa farmers, I want them to become a civil servant, because they've been to school.

Male farmer, Guiglo:

I would like my son to be a cocoa farmer, I don't want him to be a slouch, I want that he can take care of me when I am old. He has already started planting some rubber. '

Female farmer Bohoussoukro:

I am not going to accept that my son becomes a cocoa grower because there are no more fields available. I prefer that he learns another type of job like tailoring, carpentry or barbering .

Photo 23 *Access to markets: COOPAGNIPI cooperative truck.*

5.6 Impact on a better environment

Box 7 Summary: Impact on a better environment

A small proportion of all farmers use crop protection products (17% use herbicides, 55% pesticides, 10% fungicides). All the products used comply with the UTZ and Ivorian regulations. Fewer than 20% of farmers use compost from cocoa production waste or other sources, suggesting a low but positive impact on soil quality. The correct use of crop protection products is according to farmers one of the main positive environmental impacts of GAP for the on- and near farm environment.

UTZ programme participants and UTZ certified farmers have significantly higher knowledge about water and soil conservation measures and the protection or restoration of natural habitats than non-certified and control group farmers, but their overall knowledge and implementation scores are low. A significant, positive relationship was found between the length of participation in the programme and the implementation of biodiversity conservation practices. Whether this is due to the training programme remains to be seen in subsequent assessments. Farmers also score low on their knowledge and implementation of waste management and reduction practices, with very few differences between programme participants and the control group. Although up to 58% of farms has been cleared from primary forest, these were all before the 2008 as required by the UTZ Code of Conduct. More control group farms had been cleared from forests. These results suggest that practices improving the environment, particularly soil and water quality and conservation appear to have been implemented to a limited extent and may have had limited impact to date. Field based monitoring is required to verify this.

Maintained and improved soil and water quality

To ascertain soil quality, farmers were asked about the GAP practices that impact soil quality (such as how they implement clearing, pruning, mulching, compost etc.) and related to water quality (clearing vegetation and chemical and waste handling near water courses) the type and quantity of agrochemicals used and their perceptions of soil quality.

Farmers use of compost is promoted by the UTZ Code of Conduct to improve soil fertility and was used as a positive indicator of improved soil quality. Comparing the crop protection products used by

farmers (see Annex 9) to the UTZ list of prohibited products (UTZ Certified 2012), and products banned by the government in Ivory Coast (Republique de Ivory Coast 2008), no banned products are used. The proportion of farmers using crop protection products is low: 17% use herbicides, 55% pesticides, 10% fungicides and 23% fertiliser and compost. Fewer than 20% of farmers use waste from cocoa production activities as compost, with 12% of UTZ certified farmers using such waste as compost, more than non-certified farmers (Figure 79 in Annex 10). This suggests an improvement in soil quality.

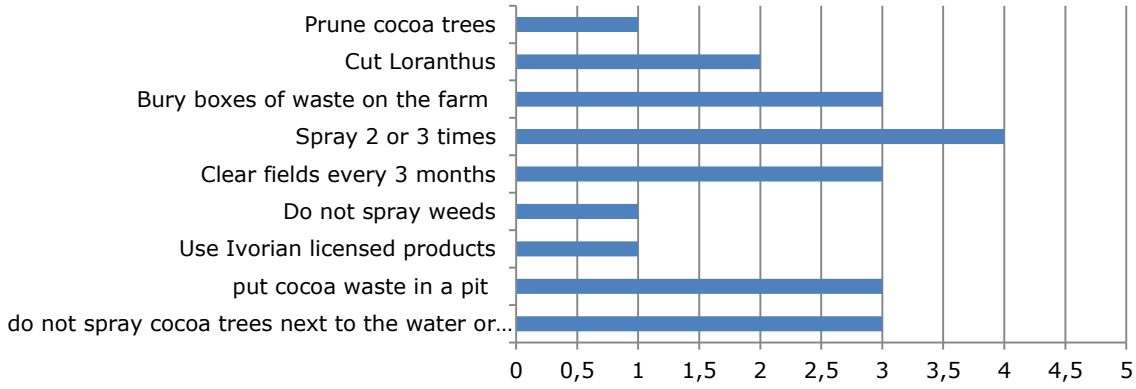


Figure 54 *GAP lessons learnt on protecting the environment.*

Photo 24 *Maintaining soil quality: COOPAGANY fertiliser shop.*

UTZ programme participants and UTZ certified farmers have significantly higher knowledge about water conservation measures than non-certified and control group farmers (Figure 55). No positive relationship was found between the length of programme participation and farmers' knowledge levels.

UTZ certified farmers have significantly lower levels of implementation of water conservation measures than non-certified farmers (Figure 56). There is a significant negative correlation between knowledge and implementation of water conservation practices, contradicting the theory of change. Reasons to explain this are not known.

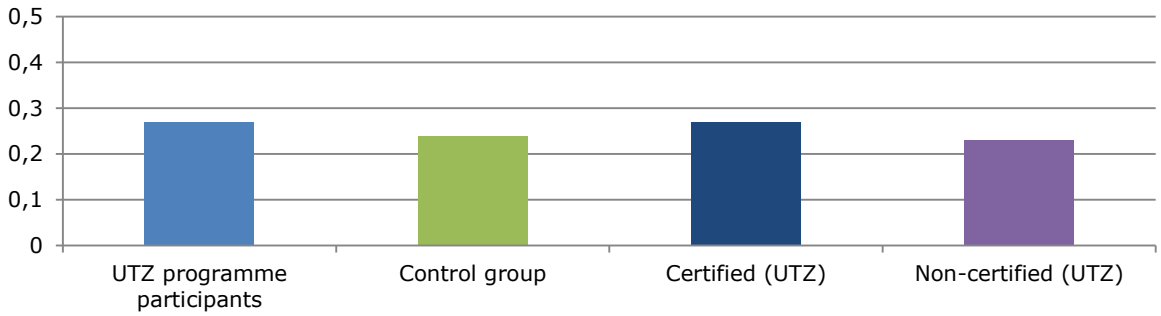


Figure 55 *Average knowledge levels on water conservation measures.*

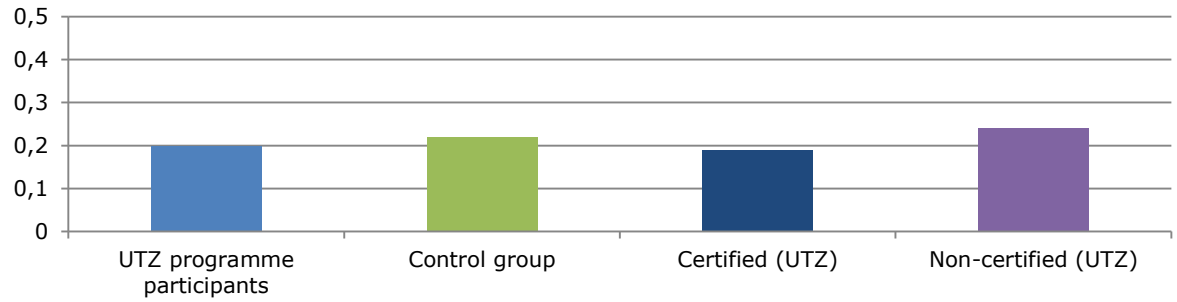


Figure 56 *Average implementation levels of water conservation measures.*

Figure 57 shows that UTZ certified farmers have higher knowledge levels with regard to soil conservation measures than non-certified farmers but this does not correspond in higher levels of soil conservation practices (Figure 58). No differences were seen between groups about knowledge levels and their implementation of soil conservation practices, and no relationship was found between duration of participation in the programme, knowledge and implementation levels.

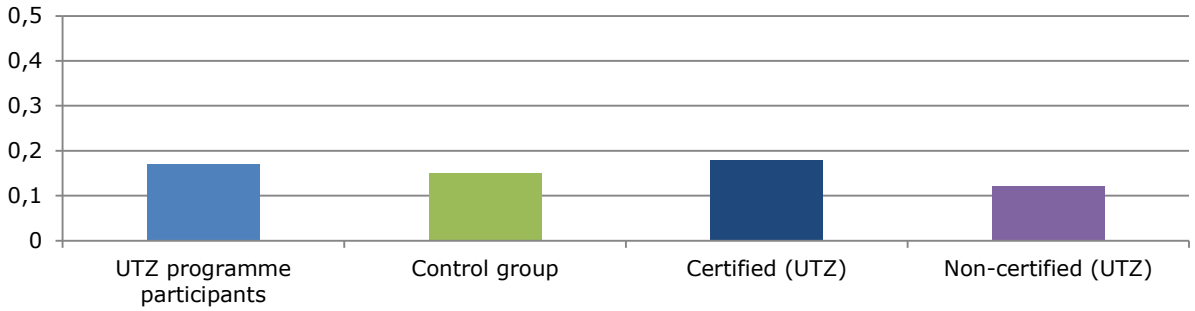


Figure 57 *Average knowledge levels about soil conservation measures.*

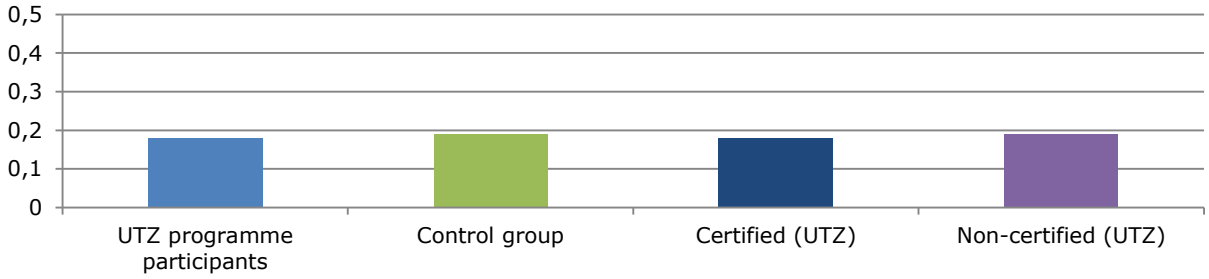


Figure 58 *Average implementation levels of soil conservation measures.*

5.6.1 Protection or restoration of natural habitats

To ascertain the level of protection or restoration of natural habitats (biodiversity conservation), one of the subjects of the UTZ Code of Conduct, farmers were asked about the their preferences for shade trees before and after certification, about the status of their farm prior to growing cocoa and land clearance for cocoa, the number of shade trees on their cocoa farms and planting of shade trees.

UTZ programme farmers and UTZ certified farmers implement biodiversity conservation practices (Figure 59) in a significantly better way than non-certified and control group farmers, although their average score is low, at 0.17 and 0.2 (out of 1) respectively.

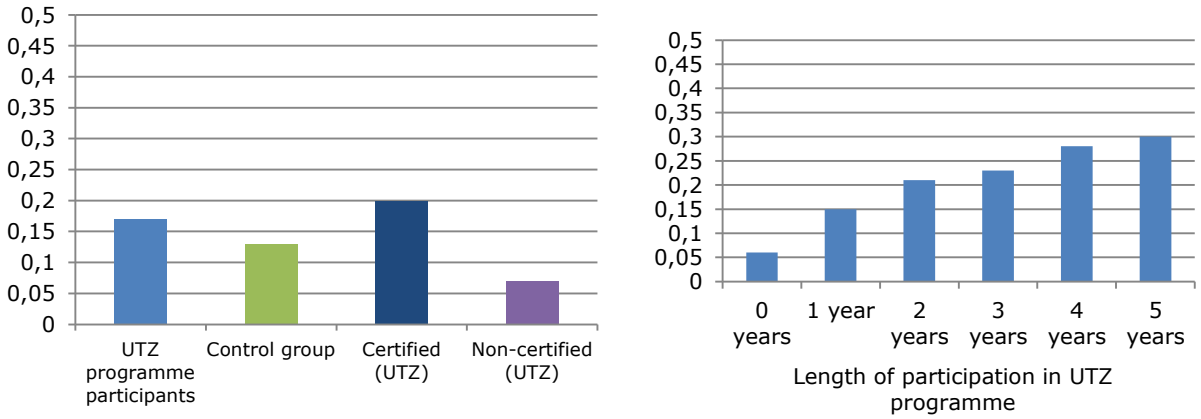


Figure 59 *Average implementation levels of biodiversity conservation practices.*

There is a significant, positive relationship between the length of participation in the programme and the implementation of biodiversity conservation practices. Whether this is due to the training programme remains should be investigated through a subsequent measurement.

5.6.2 Effective waste management and waste reduction

Here Figure 60 shows that none of the farmers scored higher than 0.27 out of 1 for the implementation of waste management practices, and the average implementation level is rather low (0.12). No differences were found in the implementation levels between the groups. Nor was any relationship found between the duration of programme participation and implementation levels. Cooperative managers also indicated that farmers face difficulties with implementing the GAPs concerning waste management.

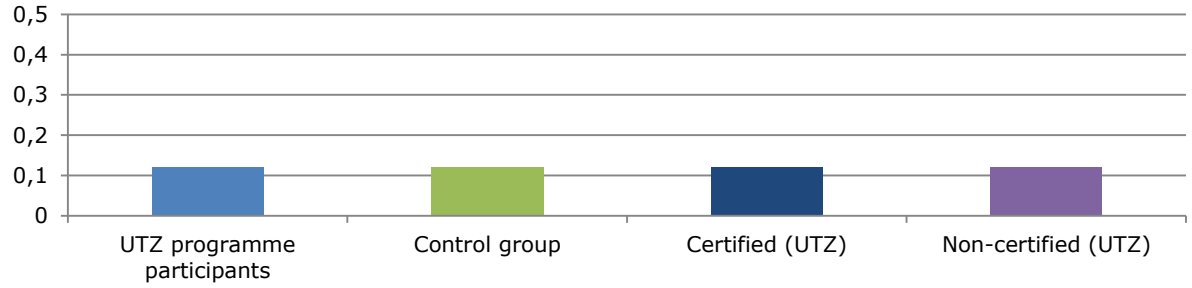
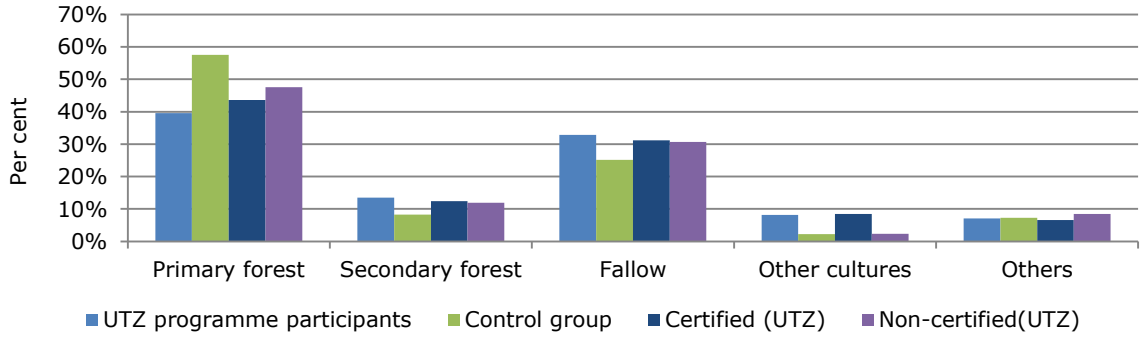


Figure 60 *Average implementation levels of waste management practices.*

Photo 25 *Waste management on-farm- discarded chemical products*

5.6.3 Protection restoration of natural habitats on or near farms

Figure 61 shows that between 40 and 58% of the cocoa farms were previously primary forest, and between 25 and 33% were planted on fallow land. As farms were established on average 21 years ago, the majority of deforestation on UTZ certified farms fields took place several decades ago. The most recent farms were established before 2011 and did not originate from primary forest, indicating compliance with the UTZ Certified Code of Conduct that prohibits degrading or deforesting primary forest since 2008. Farmers in the control group mentioned more often that they converted their fields from primary forest than UTZ programme participants.



(N = 953 due to multiple responses)

Figure 61 *Previous use of land of cocoa farms.*

Photo 26 *CANWORI cooperative cocoa and shade tree nursery.*

6 Added value of UTZ certification for cocoa farmers

6.1 Introduction

This chapter responds to the third research question, presenting data on the added value for farmers of going through the UTZ certification process and being certified. It assesses farmers' and stakeholders' perceptions of the process and impacts of certification and training on their livelihoods in terms of improved wellbeing, professionalism, trust and communication between farmers and cooperatives, how certification influences the loyalty of members towards a group and a farmer's willingness to invest in cocoa farming. It also looks at how training and certification interventions influence and/or strengthen each other. It assesses the various opinions of farmers, cooperatives, traders, traitants, exporters, trainers about the process and impacts of certification and training on their livelihoods benefits in terms of improved wellbeing, professionalism, trust and communication between farmers and cooperatives.

Box 8 Summary: The added value of UTZ certification for cocoa farmers

The UTZ certification premium is one of the most important motivations for farmers to become certified, by embodying the market reward for sustainable, responsible production. It also gives a financial stimulus to farmers, particularly in the earlier stages of participation in the programme when the expected productivity and quality increases have not yet materialised. Farmers and cooperatives expressed concerns that if payments of the premium were to be discontinued, one of the added values of maintaining certification would disappear.

Farmers indicate that implementing GAP as taught by the programme leads to higher productivity and related income.

UTZ Certified farmers and members of a cooperative have access to traders and tend to sell repeatedly and uniquely to preferred traders who have provided them with support. For traders this loyalty contributes to a secure supply of certified, good quality beans. These relationships help secure market access for farmers and their groups and increase access to support services that improve production. They also allow access to other social and community activities, which have a lower priority for farmers, but are still seen as important.

Certification has supported and massively promoted collective action in the form of cooperatives. Farmers note numerous benefits such as marketing their beans at a good price, access to information and training, providing a forum for exchange and building social capital. It has contributed to a perception by some farmers that cocoa is a viable cash crop. Certification has aided access to seedlings, crop protection products and credit. Activities associated with certification, often provided by traders, have also contributed to professionalize cooperatives, by providing training, internal control systems, financial support and transport.

Certification has also had some unintended consequences. It has added to farmers' difficulties in managing large, seasonal cash flows. The payment and auditing process is perceived as vulnerable to corruption. The premium setting process is not transparent and appears unlinked to actual costs at farmer, cooperative or trader level. Multiple certification is complex and has been difficult to manage for some traders and cooperatives. Rapid up-scaling and out-scaling of certification related activities (especially training), has resulted in perceptions of a variable quality lack of minimum standards, witch possibly influences farmer's knowledge and practices.

6.2 Added value of training and certification

The added value of UTZ certification was examined by investigating by asking farmers about their perceptions on how certification influences trading and cooperative relations, and their level of satisfaction with their cooperatives, the services provided and professionalism and trading patterns.

6.2.1 Certification influences trading practices of farmers and cooperatives

As the majority of cooperatives is affiliated with traders, their perceptions of the added value of certification in terms of the trading relationship is important. Interventions made as part of the certification programme appear a factor in the choice of to whom a cooperative sells its members' beans, in combination with the price offered by traders. About 60% of farmers know which trader their cooperative sells to. Figure 62 shows that of those who know, most mention that their cooperative sells to Cargill. As 62% of cooperatives in the sample are affiliated with the Cargill sustainability programme and Cargill is one of the largest traders in Ivory Coast (Oxfam International 2009), this figure is not surprising. Four other exporters are mentioned by about 5% of farmers. As 40% of farmers do not know who their cooperative sells to, it appears that cooperatives do not share information about whom they sell cocoa to and why they select a specific buyer.

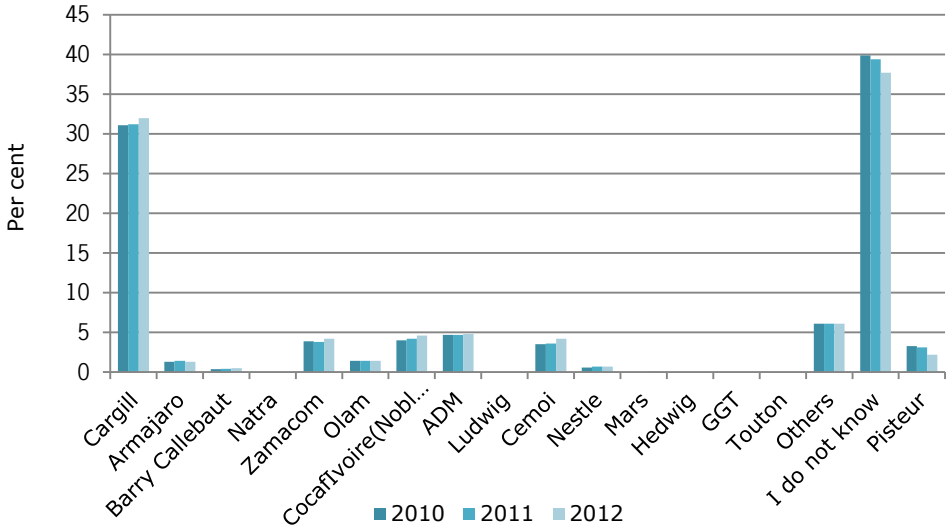


Figure 62 *Traders buying from cooperatives according to members (2010-2011-2012).*

The relationships between farmers, their cooperatives and trader(s) was assessed by asking farmers about selling patterns and loyalty to particular buyers. Over half of the farmers indicate that their cooperative sells to a certain trader for a specific reason (Figure 63). Most mention that this is due to traders offering training, the price paid or because inputs are provided. Qualitative responses from farmers mirror this, with loyalty to a trader (19%), price paid (10%), premiums (10%), provision of inputs (7%) and training (7%) among the most frequent responses.

(Note: multiple responses possible)

Figure 63 *Reasons why cooperatives sell to specific trader, according to farmers.*

6.2.2 Certification influences the formation and professionalisation of cooperatives

The majority of cooperatives (75%) has been formed as part of the programme activities since 2008. The formation and support of cooperatives has been one of the major activities accompanying certification by five of the traders participating in the UTZ programme (Figure 64). Farmers are very satisfied with the types and level of services provided by their cooperative (Figure 65). They also point out that their cooperatives need to be more transparent and accountable, particularly in providing information on prices and benefits, on how premiums are used by the cooperative and the need to train managers.

Cooperative capacity building has been one of the main activities conducted by traders in conjunction with the UTZ Certified programme, with 80% of groups sampled having received support to professionalise. This support included mainly training but also financial support to become legalised, provision of transport, equipment, and payment of the salaries of support staff.

The cooperatives in the UTZ certification programme seem to function relatively well, as between 59% and 74% of farmers feel represented by their officials. Farmers have experienced that complaints lead to action and note that officials are replaced when they do not function properly (Figure 74 in Annex 10).

Even though UTZ programme farmers are relatively satisfied with the functioning of their cooperative, about two thirds made suggestions for improvements. Similar observations were made in the focus groups and other stakeholder interviews A third mentioned that the need to improve transparency of information on prices and benefits; 20% indicated the need for (more) information on how the proportion of the premium retained by the group is used, that accountability should be improved and that managers should be trained (see Figure 80 in Annex 10).

Cooperative managers' perspectives:

1. Cooperative managers are generally satisfied with certification but request that the premium be increased.
2. More vehicles are required to transport beans.
3. Access to inputs has increased with certification but is still insufficient.
4. Improve services by cooperatives by providing transport in case of sickness, loans for healthcare, support in building schools.
5. The incentives for farmers to join cooperative are mainly the premium price and prompt payment.
6. The main incentive for cooperative to be certified are the financial gains and training.
7. For all cooperatives revenue has increased due to the application of GAP and the cost of inputs has reduced as they either obtain credit or benefit from bulk prices e.g. via spraying gangs
8. Inspection is important to monitor adoption of GAP.
9. Successful farmers are those who diversify their sources of revenue.

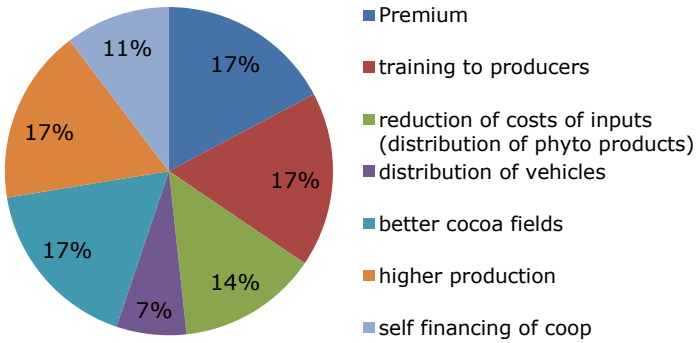


Figure 64 *Advantages for cooperatives of participating in the UTZ certification programme.*

Quotes 1 Sustainable practices rewarded by the market

Cooperative manager, Haut Sassandra:

> *The coop has a good image. The fields of our farmers are clean, the yields are high and farmers are well trained. But it is difficult to transport cocoa from the fields to the sections, we have too few vehicles.*

Cooperative manager, San Pedro:

> *The advantages are: higher quality, increase in volume, self-financing of the cooperative, improvement in living conditions. The programme gives me de opportunity to save money and time.*

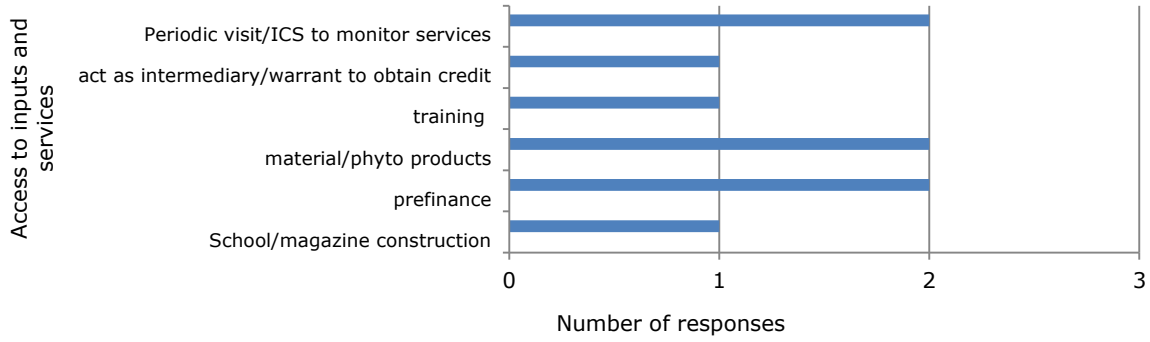


Figure 65 *Farmers' perceptions in access to inputs and services since participation in the programme.*

6.2.3 Knowledge and implementation of GAPs increased

Section 5.2 and 5.3, summarised in Box 3, illustrate that generally, knowledge and implementation of GAP appear to contribute to positive impacts on crops, incomes, the environment and lives. However, not all knowledge acquired appears to have been implemented and for some areas, knowledge levels are either low or show little difference to farmers in the control group.

6.3 Farmers' and stakeholders' perceptions of the process and impacts of certification and training on their livelihoods

Box 9 Farmers' and stakeholders' perceptions of certification and training on livelihoods

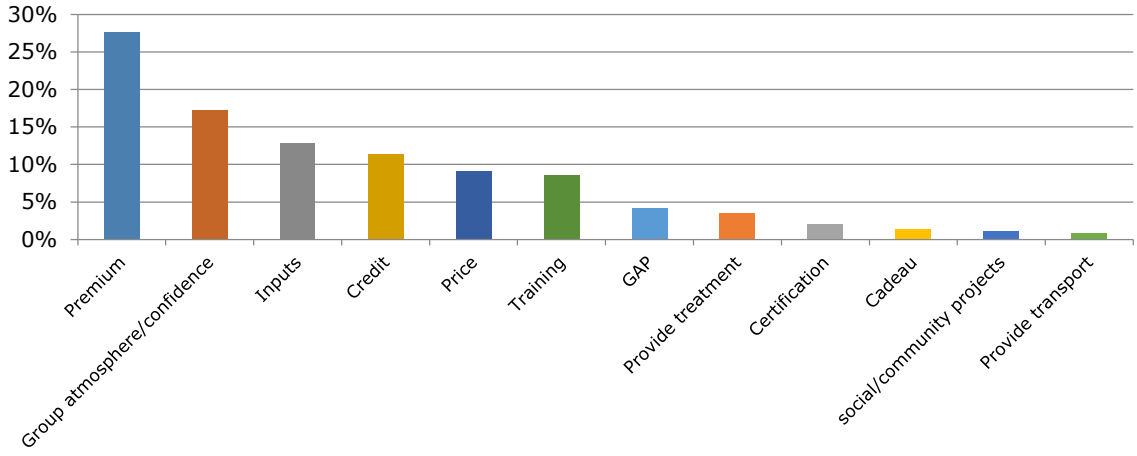
The vast majority of farmers indicated their satisfaction with the programmes offered by traders and UTZ Certification. They do, however, believe that there is room for improvement in making specific GAPs easier to implement. They would value higher premiums to compensate for what they see as additional work.

The vast majority of farmers (95%) who participate in a certification related programme offered by a trader reported being generally satisfied with the programme. They are satisfied with the training offered (especially on GAP) and resulting quality and productivity increases, the opportunity to obtain a certification premium, the improved access to inputs, and with the creation of better and safer working conditions. Farmer's perceptions and satisfaction with specific services offered by their cooperative varies.

Almost all (97%) of the 665 farmers participating in the UTZ Certified programme are satisfied with the training on UTZ certification (see Figure 72 in Annex 10). The majority (94%) of UTZ programme participants stated there are advantages of being certified. These include better knowledge of GAP (40%) and the premium (29%). However, 61% also mention disadvantages. Most (40%) mention the time and effort needed to implement GAP, with other disadvantages including difficulties to access (correct) inputs, in implementing certain GAP (such as composting, black pod removal, working without support from children) and that the premium is low.

6.4 Influence of certification on members loyalty towards a cooperative and willingness to reinvest in cocoa farming

Prices offered by the different buyers hardly differed in the study period. Most farmers (70%) sold their cocoa to their cooperative. They generally prefer to sell to their cooperative, rather than to traitants or independent buyers. By doing so, most obtained the premium (92%). Other advantages of being part of a producers group include higher fixed prices and prompt payment. Loyalty is influenced both by financial gains, illustrated by the fact that 28% of farmers sold to their cooperative because of the premium. Loyalty is also enhanced by building up social capital with 17% stating the group atmosphere or cooperative spirit as important. Finally loyalty is facilitated by the different services and support provided to farmers by their group, shown in Figure 66.



(936 respondents, n=1348 multiple responses possible)

Figure 66 *Reasons why farmers sell to cooperatives.*

6.5 Unanticipated impacts of UTZ Certification and training

UTZ Certification and training has also had some unanticipated impacts. The following were mentioned by farmers and stakeholders in the focus groups and verification meeting:

1. Lack of understanding at cooperative level about the division of premiums and costs of certification.
2. Difficulties of the market to absorb surplus certified beans not required or purchased by traders.
3. Premium payments leads to corruption, especially the large payments.
4. Decrease in the quality of GAP training for farmers since 2008 .
5. The creation of fictional cooperatives.
6. Insufficient technical expertise in consultants and in government to upscale the services provided as part of certification.
7. The lack of transparency in the premium set by traders.
8. Corruption in the auditing process (i.e. payments to achieve a positive audit) .
9. Difficulties for farmers to manage large sums of cash premiums paid out in one go.
10. Difficulties both for traders and cooperatives in managing multiple systems of certification with similar, but slightly different demands.
11. Wide range of different certification systems and interventions implemented by traders and cooperative but uncertainty about what works.

Photo 27 *Workers at COOPAGRO cooperative.*

7 Conclusions and recommendations

This section summarises the main conclusions from the preceding sections. Preliminary evidence suggests that the UTZ Certification programme is improving the livelihoods of around 44,000 cocoa farmers, their communities and their environment in the last five years. Farmers and their cooperatives generally perceive support activities as effective, relevant and adequate. However, the extent will only be known after subsequent assessments. The contribution of the support activities is difficult to separate from interventions prior to the programme as well as parallel interventions.

This assessment was conducted to meet three objectives:
1. To obtain information about achievements of the UTZ Certified programme
2. To assess whether the activities/strategies lead to the desired outcomes (effectiveness)
3. To draw lessons learned so as to improve the quality of the programme

The findings in relation to the first objective are detailed in Chapters 4 to 6. This chapter focuses on second and third objectives. As explained in the first chapter, the second objective was separated into three main research questions about the inclusiveness of the UTZ Certified cocoa programme in Ivory Coast, about how certification and related activities have affected farmers' knowledge and implementation of good agricultural practices, social and environmental issues in line with the UTZ Certified Code of Conduct and concerning the added value of certification. These questions are reiterated and responded to below.

To facilitate UTZ Certified and their partners to take actions, recommendations are provided. They are based on the research team's interpretation of the data gathered and analysed, and recommendations made by farmers and farmers' groups during interviews and the validation workshop. A summary of recommendations provided directly by the stakeholders is also provided in Box 10. Some reiterate the research, others provide reflect wider development issues of concern to farmers and their support organisations. Recommendations are also proposed relating to improving impact assessment methods and data quality and monitoring.

7.1 Is the UTZ Certified cocoa programme in Ivory Coast inclusive?

Conclusion
The UTZ Certification programme for cocoa has been inclusive in reaching all targeted farmers, but women are under-represented. The upscaling of the programme, and the range of associated support activities to over 44,000 cocoa farmers from 2008 to 2013 has been rapid. All the targeted farmers have been involved in activities such as cooperative development support, training and assistance to become UTZ certified. A much smaller proportion of farmers have benefited from access to associated activities which improve crops, such as access to crop protection products, fertilisers and seedlings, and which improve lives, such as community and social programmes.

Women and youths have generally not been directly included in the programme. Traditionally, Ivorian and Burkinabe women work on cocoa farms but do not own them. As activities have targeted registered cooperative members who own or sharecrop farms, female farmers and labourers have not been explicitly included in certification related activities, although this appears to be changing with a more recent focus on gender in the last year and several sector and country wide initiatives. Around a third of non-certified and control group farmers passed on training to their wives, family members and their workers, but the quality and extent to which training has been passed on is not known. In focus group discussions, women indicated their lack of awareness of, and involvement in, support activities

and certification. Women appear to benefit indirectly from certification-related increases in cocoa revenues, as three-quarters of women in the focus group discussions reported receiving a higher proportion of cocoa income from their husbands when cocoa income increased.

Recommendations

Include workers and particularly women and youths in certification activities

Based on the assumption that the programme can have positive effects on these groups, the results of the focus groups and qualitative interviews, the ageing farmer population, pessimism about the future of cocoa farming, the characteristics of both certified farmers and those who work on their farms, and how tenure is commonly organised in Ivory Coast, a change in inclusion strategy is recommended. A targeted and much broader inclusion of female farmers and workers in certification activities could enable higher levels of implementation of rights, as well as of GAP and adherence to UTZ Code of Conduct. The female farmer's cooperatives, nurseries and learning groups, supported by traders such as Cargill and CEMOI and their partners provide possible role models and opportunities for exchanges between women's groups concerning the activities and methods which have successfully targeted women.

7.2 How do certification and related activities of UTZ and implementing partners influence knowledge and related behaviour/practices of cocoa farmers in Ivory Coast?

Conclusion

Certification appears to contribute to influence the knowledge and implementation of good agricultural practices. However, levels of knowledge and practices of programme participants were relatively low compared to what could be expected of correct knowledge of the standards contained in the UTZ Code of Conduct. Particular areas where knowledge and practices can be improved are environmental aspects, children's and labour rights, personal protective equipment, waste management and composting. Stakeholders suggest focusing on the quality and quantity of training and trainers, more adaptation to farmers preferred learning styles of extension and field-based learning.

Knowledge levels were predicted in the impact logic to improve with training and increased participation in the UTZ Certification programme. A pronounced result of the study is the higher levels of knowledge and implementation of GAP by farmers who have participated longer in support activities and are certified, and that multiple certified farmers (UTZ and Rainforest Alliance certified) have even higher knowledge levels than non-certified farmers. This is attributed to similar types of knowledge acquired. Knowledge and practices that could potentially be attributed to the UTZ Certified programme have been acquired by farmers.

It is however not possible to attribute this only to programme activities, as other factors and prior knowledge and skills are likely to be inflecting factors. Negative associations were found between knowledge levels for farmers participating in farmer field schools and farmer apprenticeship training. These could be explained by farmers having different levels of knowledge prior to joining the programme. As this was not measured prior to joining the programme, it is impossible to qualify this for existing participants. This study however provides a baseline for farmers joining in 2013.

Although UTZ programme participants and UTZ certified farmers have significantly higher knowledge levels than farmers in the control group and non-UTZ certified farmers, the levels of knowledge and practices of UTZ programme participants are relatively low. They are at around 25% of what could be expected of correct knowledge and / or implementation respectively of the standards contained in the UTZ Code of Conduct. Surprisingly, there was a negative association between knowledge and participation in farmer field schools and field apprenticeships: with UTZ programme participants having lower knowledge level than non-participants. This finding is difficult to explain.

Knowledge levels are also associated with other variables. Positive associations are found between farm size and knowledge levels: the larger the main farm and the size of all farms, the higher the knowledge level. Farmers in excellent agro-ecological zone have higher knowledge levels than farmers in the good or marginal zones. These two findings may be explained as farmers have the possibility to apply knowledge and benefit from slight efficiencies in scale and a more favourable environment for growing cocoa. Members of a cooperative have higher knowledge scores than farmers who are not members, which could be attributed to cooperative membership facilitating exchanges between members or to the fact that knowledgeable farmers are likely to be members of a cooperative.

A critical assumption in the impact logic is that higher levels of knowledge contribute to better implementation of GAPs. The preliminary evidence again suggests that this assumption is correct. The length of participation in the UTZ Certified programme is positively correlated with the overall implementation of GAPs, record keeping and biodiversity conservation practices. UTZ programme participants and UTZ certified farmers also performed better in implementing GAPs than farmers in the control group and farmers who are not UTZ certified. However, whether these effects can be attributed to the UTZ certification programme, or other factors will only be apparent in subsequent assessments. However, as with knowledge levels, farmers' levels of implementation of GAPs are quite low, at 24% of what could be expected with full implementation, despite increasing with the length of participation. As the knowledge and implementation levels of farmers were not tested prior to their joining the programme, it is not possible to attribute changes only to certification and related activities.

Recommendations

Address areas of low knowledge and implementation of good agricultural practices

Ensuring that training results in the desired knowledge and that is translated into practice is critical. Although knowledge of certified and programme participants is higher than the control groups, the similar levels of knowledge between farmers participating in different phases indicates that knowledge does not increase over time. This is contrary to what could be logically expected. This indicates there are possible issues to be addressed with how training is provided. The main areas of low knowledge and implementation levels to focus on include:

- Children’s and labour rights
- Weeding
- Record keeping
- Shade trees, soil
- Conservation and field buffer zones
- Fertiliser and crop protection use
- Pruning
- Waste management and
- Disease management.

Stakeholders suggested that improvements could be made in the frequency, quality and quantity of training and the competences of trainers, particularly as certification has been rapidly upscaled. Training could be better adapted to farmers learning styles, with extension and field-based learning preferred over classroom teaching. A critical evaluation of the methods, intensity, and the frequency of training for farmers at different stages of certification and participation in the programme is strongly recommended.

Conclusion

UTZ Certification appears to contribute to improve farmer's lives, incomes, crops and environment. This initial assessment indicates that most impacts are felt on lives, incomes and crops.

Although the programme has contributed to improvements in the lives of cocoa farmers, more time is needed to determine the effects of the activities; changing ideas, altering and improving practices takes time. Farmers’ incomes appear to increase with certification, but farmers have concerns about the long term viability of cocoa farming and possible discontinuation of the premium for certified cocoa. Data on actual costs benefits needs to be improved to aid understanding of impacts. Respect for children’s rights is generally good, although action areas are apparent. The impacts of the programme on the environment are encouraging: UTZ programme participants and UTZ certified

farmers perform better than non-certified farmers with regard to knowledge and implementation rates on water and soil conservation measures and the protection or restoration of natural habitats. However, all programme participants have low knowledge and implementation levels on environmental indicators, indicating that practices to positively impact soil and water quality and biodiversity conservation can be improved.

Farmers participating in the UTZ programme are generally satisfied with their lives, their cooperatives and the traders their cooperatives sell to. However, there is room to improve farmers' compliance and respect of labour and children's rights. Certification may have an impact on incomes. Farmers participating longest in the programme tend to produce more efficiently and have higher gross and net cocoa-based incomes than later entrants. UTZ programme participants have significantly higher levels of productivity. Farmers perceive that implementing the GAP taught by the programme leads to higher productivity and therefore income. UTZ programme and certified farmers have significantly lower production costs per kilogram than uncertified farmers and non-participants, but do not have higher efficiency ratios. The latter can be explained because their total production costs are higher Certification seems not to reverse a trend whereby cocoa is generally not seen as a viable option for the future. Many farmers feel 'stuck in cocoa farming' and cannot easily change their means of earning income and have no or few other opportunities. However, certification and related activities appear to be offering a ray of hope, focussing attention and revitalising the sector. Practices improving the environment, particularly soil and water quality and conservation appear to have limited impact to date.

Recommendations

Continued focus on ensuring respect for children's and labour rights

Despite the training and awareness programmes, gaps still exist between rights of the workers and children and practices. Support activities that focus on the viability of cocoa farming in the long term need to ensure that children learn the art of cocoa farming safely and responsibly. Continuing actions are needed to ensure that the rights of children and workers are universally known and respected.

The provision of schools and day care may help, as well as continued training and awareness raising about child labour and labour rights issues. As these problems are rooted in a combination of factors, continued partnerships, including with the government, are ways to work towards solutions.

As indicated above, knowledge levels about these issues are often low. Training and regular on-farm follow-ups to areas where poorer knowledge and implementation scores are apparent may alleviate the knowledge problem. Monitoring and noncompliance-reporting mechanisms, as well as follow-up actions, can help solve implementation problems. A more targeted and much broader inclusion of female farmers and workers in support activities could also enable higher levels of implementation of rights, as well as of GAP.

Address productivity and efficiency

Many farmers indicated that, although they intend to continue producing cocoa as long as it is profitable, they do not see it as a viable future commodity for their children. The input from farmers and their cooperatives and the conclusions of this study are used to make recommendations on how activities could be adjusted and improved to meet UTZ Certified's 'better farming, better future' objective.

Farmers' knowledge needs to be supplemented with a better and more targeted system to increase productivity, incomes and profits. Farmers and their cooperatives need a better understanding of their cost and benefit streams over time of participating in certification schemes, given the signals and perceptions of farmers and cooperatives about the costs of certification costs. This reflects the results of other studies (KPMG 2012).

It is crucial to increase productivity and monitor its progress to make cocoa farming more attractive for farmers. The GAPs upon which UTZ Certification is based provide a good basis for helping improve agricultural education and adopting integrated farming systems, sustainable intensification and renewing trees to increase productivity and incomes. These activities are sufficiently complementary

to be implemented in tandem with training and implementation of basic GAP. The knowledge and implementation scores indicate that despite the number of farmers being trained in GAP, farmers do not implement them, partly because cocoa production is not sufficiently profitable.

Higher productivity may be achieved by upscaling support to farmers to access disease-resistant tree varieties and associated farming methods to improve soil fertility and reduce pest and diseases. By working with partners to provide access to credit and beans for inputs, access to appropriate, affordable inputs can be achieved on a much wider scale.

Training should be provided in improved cultivation techniques, particularly through regular on-farm training followed up via cooperatives. Certification and training have not bridged this gap to date, but other support activities have stepped in here. Certification provides a good channel to address this collectively by supporting cooperatives to be more responsive and proactive to member needs. Membership of a cooperative is pivotal as cooperatives are used by traders to provide services to farmers. As the profile of the most recent participants is different compared to the first cooperatives which joined the programme and became certified, support activities need to adapt to farmers with larger farms in less productive regions who are less accustomed to working in groups.

Training and regular on-farm follow-ups should be focused on areas where poorer implementation scores are apparent, particularly shade trees, fertiliser application, weeding methods, soil fertility improvements, and record keeping. This implies creatively tackling record keeping in the context of low levels of literacy. The farmer field schools and apprenticeship should be continued with a higher quality and regular training input; cocoa should be part of the whole farmer system approach.

Address profitability

Many cocoa farmers do not see cocoa farming as a viable option for the next generation. Both farmers and their cocoa trees are ageing, with cocoa trees showing low (and very likely declining) rates of productivity. However, around half of farmers have no other incomes sources but cocoa. Other crops and activities are seen as more profitable, easier to do, less risky and providing more regular income streams. This combination of factors may lead to decreasing production and incomes within a decade. Support activities appear to contribute towards prosperity, and the premium is valued - particularly in the first years of certification - but the baseline evidence suggests that payback takes time. Although UTZ's trader partners bear many of the upfront costs of becoming certified, there is a need to close this gap to keep cocoa farming attractive. This means increasing investment and ensuring that partnerships can continue to support farmers, providing alternatives to create more diversified farms, and professionalizing those farmers with potential. Nonetheless, this will involve changing farmer and cooperative mind-sets from donor-driven to business-driven and rolling out broad entrepreneurial support for those that demonstrate interest.

Farmers and their workers - both male and female - want to have sustainable, diversified livelihoods from other subsistence and cash crops that complement cocoa. Farmers were interested in cash crops such as rubber, bananas and palm oil and other food crops for own consumption. This means that new business models should be tested, such as intensification and contract farming, which implies a shift to think more broadly about the role of (certified) cocoa as just one element in farmer’s livelihoods. This could imply engaging the certified cocoa farmers’ families and farm labourers to participate in the certification programme and support activities. It also implies exploring how women and youths particularly can be empowered to have more say in proportion with the effort they put into cash crop cocoa farming and other complementary farming activities. In particular, the business case for young entrepreneurs to farm cocoa should be strengthened.

It is recommended to continue working with the private sector, civil society partners, and the government, to ensure viable livelihoods for farmers and their children and effective partnerships.

The certification premium should be maintained and perhaps even increased to enable certification costs to be fully covered for farmers and cooperatives in the future. In parallel, ways to increase the kilogram price for farmers could be even more beneficial in increasing farmer's additional income.

Recent studies (KPMG 2012, GBCG 2012) confirm the perceptions of farmer and cooperatives that they bear substantial costs related to certification. However, it is recommended to conduct a cost-benefit analysis based on a wider sample of farmers and including both financial and economic costs to allow farmers and cooperatives to understand the true costs and benefits of certification and confirm if their perceptions are correct. Although cooperatives keep records, most farmers do not to keep records of their yields, production, costs and benefits, making an accurate assessment difficult as the reported figures are based on farmers' recall, which can be subject to inaccuracy (See Chapter 3). Supporting farmers to have better insights in to their farm productivity, costs and incomes (i.e. through training, providing log and account books, support from cooperatives etc.) is therefore strongly recommended. In line with this, farmers could be trained to manage revenues better and to farm more professionally.

It is recommended to reduce the costs that are associated with activities related to multiple certification schemes, for example, audit and record keeping costs for farmers and cooperatives.

The cooperatives, especially those newly formed, should continue to be strengthened to ensure they are well-managed and able to respond to their members' needs by providing effective, efficient, inclusive, professional services. Cooperatives can be supported by prefinancing cocoa purchases, and by supporting cooperatives and families to obtain credit.

Address market rewards
The timescales of investment and benefit flows associated with switching to sustainable production systems are only beginning to be understood. At the moment, the costs of sustainable, certified production for farmers and cooperatives do not appear to be fully rewarded by the market or perceived as such by farmers. This is a burden they can ill afford.

Farmers and cooperatives need to be more aware and engaged in the debate about the equitable distribution of costs and benefits though the supply chain, and about the timescales of the anticipated flows of costs and benefits prior to engaging in activities. To date, costs are not well understood, particularly on farmer and cooperative level and appear largely underestimated or focused on net income rather than gross income and profitability. This is partly because different parties in certification bear different costs and farmers and cooperatives are not aware of the full costs of certification. Working with cooperatives and farmers to calculate the cost and benefit flows over time is strongly recommended to allow all parties to make more informed decisions.

Market reward for sustainable production needs to look at what is sustainable from the farmers' perspective and not from only the industry's perspective. For example, the IDH, WCF and UTZ Certification are oriented towards market and consumer perceptions of sustainability and rewards. There may be alternative paths to reward farmers for sustainable farming practices that also make cocoa farming more attractive, also to address farmers problems of minimising the risks attached to a globally traded cash crop. In addition, it is essential to continue to stimulate demand for sustainable cocoa and the willingness to pay for its costs to create truly sustainable supply chains and to secure demand.

7.3 What is the added value for farmers of going through the UTZ certification process and being certified?

Conclusion
Certification has provided a means to rapidly upscale sustainable cocoa production and allow farmers to access to certified markets where they can benefit from premium prices which reward sustainable production. Certification has promoted producer associations which farmers perceive as providing a range of benefits.
By organising farmers into cooperatives and aiding their professionalisation, activities have been up-scaled to over 44,000 farmers across the country. Partnerships thus appear critical channels that add value to certification for farmers. They may possibly enhance their effectiveness and efficiency, as

duplications of effort are avoided. The perceived negative impact of multiple certification schemes for farmers, cooperatives and traders is an example of where collaboration and partnerships could help minimise or mitigate negative impacts. The many different activities implemented by traders in the framework of, or associated with certification, shown in Chapter 3 highlight that certification has an added value not only for farmers but also for traders, and organisations running projects and programmes.

The premium price received by farmers for certified cocoa is perceived by farmers as one of the important added-values of certification. It is an important motivation for farmers to become certified. Although the premium is an incentive for farmers to join certification, particularly in the earlier stages of participation in the programme when the expected productivity and quality increases have not yet become apparent, it is small, representing 7% of the total kilogram price. A high level of attention is given to the premium, due to most cooperatives paying it out separately from the main payment for beans. The premium is also used as means to create loyalty and recognition between farmers, their cooperatives and traders. Farmers and cooperatives expressed concerns that, if payments of the premium were to be discontinued, one of the main added values of maintaining the certified status would disappear.

Certification influences trading practices to produce a range of positive outcomes. UTZ Certified farmers, as members of a cooperative, have access to traders and tend to sell repeatedly and uniquely to preferred traders which have provided them with support. For traders this loyalty provides a secure source of certified, good quality bean supplies. These relationships help secure market access for farmers and their cooperatives and increase access to support services that aid production. They also allow access to other social and community activities, which have lower priority but still seen as important by farmers.

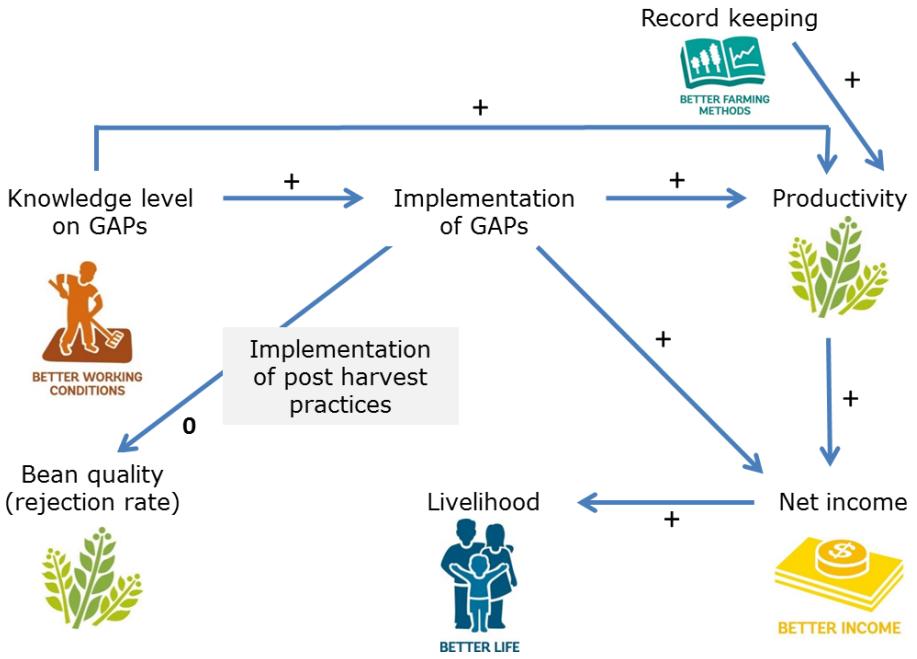
Certification has supported and promoted collective action in the form of cooperatives. Farmers note numerous benefits of collective action, such as marketing their beans at a good price, access to information and training, providing a forum for exchange and building social capital. It has contributed to a perception by some farmers that cocoa is a viable cash crop. Certification has aided access to seedlings, crop protection products and credit. Activities associated with certification, often provided by traders, have also contributed to professionalise cooperatives, by providing training, internal control systems, financial support and transport.

Certification also has some unintended consequences. It has added to farmers' difficulties in managing large, seasonal cash flows. The auditing process is perceived as vulnerable to corruption. The premium setting process is not transparent and appears unlinked to actual costs at farmer, cooperative or trader level. Multiple certification is complex and is difficult for some traders and cooperatives to manage. Rapid up-scaling of certification related activities (especially training), has led to perceptions by some partners and cooperatives that the quality of training (and possibly its impacts) has varied, due to a lack of minimum quality standards.

7.4 Was the impact logic correct?

Conclusion
The impact logic of the UTZ programme appears to be correct in assuming that higher knowledge is related to improved implementation of good agricultural practices, higher productivity, higher net income and higher satisfaction levels with regard to farmer livelihoods.

Both higher knowledge levels and improved implementation of record keeping are positively related with increases in productivity. There is no relationship between the implementation of GAPs or the implementation of post-harvest practices and bean quality, indicated by the rate of rejection. This may be affected by external factors, such as the recent reform which included a requirement to meet

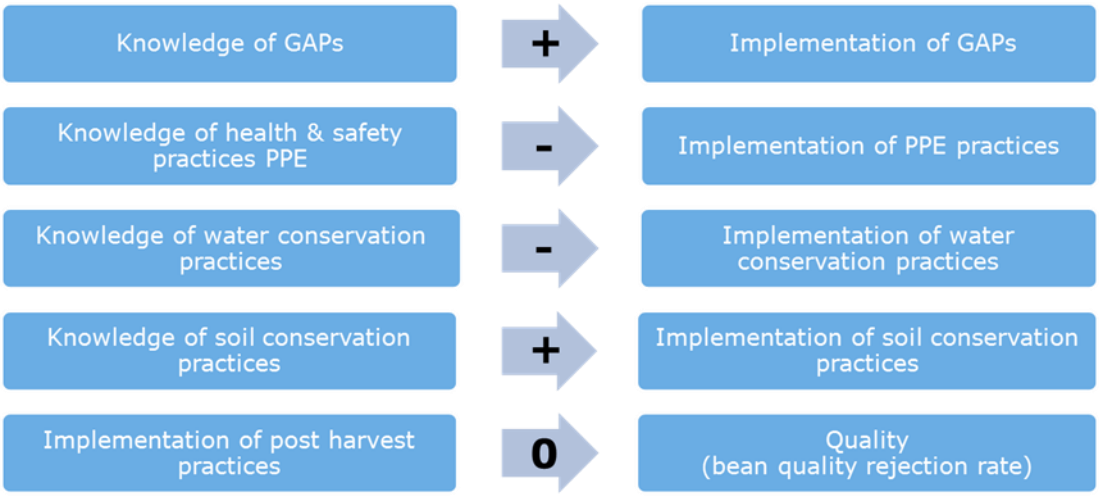


higher bean quality standards. In the verification meeting, participants indicated that so far this requirement has been met, apparently easily, but that the 2013 mid-season harvest has not produced sufficient quality, due to unfavourable weather conditions.

+ significant positive correlation between indicators, **-** significant negative correlation between indicators, **0** no significant correlation between indicators

Figure 67 *Correlations between impact logic and outcomes.*

The impact logic (shown in Figure 3) assumes that training and adherence to the code of conduct will lead to better crops and better environment outcomes and knowledge is turned into practice. Figure 68 shows that overall, higher knowledge levels are positively related with improved implementation of GAPs, confirming the impact logic. However, for specific agricultural practices (waste management, soil management, water and biodiversity protection), this is not always the case. The correlations between the specific indicators suggest that there is a general relationship between knowledge of and implementation of GAPs.



+ Significant positive correlation between indicators, **-** Significant negative correlation between indicators, **0** No significant correlation between indicators

Figure 68 *Correlations between impact logic: knowledge and implementation of GAPs*

Lessons learnt

Partnerships are a common pathway to reaching impacts and appear to bring in different and relevant expertise to meet the diverse needs of the many farmers participating in the UTZ Certification programme.

The impact logic (shown in Figure 3) assumes that partnerships are critical to the implementation of the UTZ Certification programme in Ivory Coast. The study showed that indeed a complex path of implementation occurred by and through different traders, exporters, cooperatives and a wide range of their partners such as NGOs, consultants and the government extension agency.

Recommendations on ensuring transparency and efficiency in partnerships

To ensure that the aims of UTZ Certification are consistently met, dialogue and harmonisation with all the partners is essential. This means that direct and indirect impacts should be considered prior to engaging partnerships and implementing diverse support activities. A concerted dialogue - such as through platforms with other traders, with the government and with lead farmers are needed to address issues outside of UTZ Certified's sphere of influence. Areas of inefficiency - such as the issue of multiple certification and possible associated costs discussed earlier - need to be addressed.

Box 10 Farmer's and other stakeholder's recommendations

Many farmers indicated that while they to continue producing cocoa as long as it is profitable, they do not see it as a viable future commodity for their children. To meet this challenge, maintain good quality production and sustainable livelihoods, farmers and their cooperatives proposed the following recommendations:

1. Support farmers to obtain sustainable, diversified livelihoods from other subsistence and cash-crops complementing cocoa.
2. Maintain and increase the certification premium to enable costs to be fully covered for farmers and for cooperatives.
3. Training on managing revenues and farming more professionally.
4. Support to replace old trees, introduce seedling businesses and improve farm soil fertility.
5. Increased and more regular in-field extension services with farmer field schools.
6. Training on improved cultivation techniques, particularly regular on-farm training and follow up.
7. Continue with the support to obtain competitively priced inputs and planting materials.
8. Continue with support to cooperatives to provide services such as inputs to members.
9. Strengthening and professionalising cooperatives and cooperative managers.
10. Stimulate women farmers' participation in cooperatives.
11. Pre-financing cooperative cocoa purchases and/or for cooperatives and families to obtain credit.
12. Training and strengthening of village level trainers on GAP.
13. Stimulate activities supporting young farmers and women's empowerment.
14. Strengthen the business case for young entrepreneurs to farm cocoa.
15. Further support to cooperatives to provide services to their community (water, health care and education etc.).
16. Attract other companies and organisations to invest in cocoa production areas.

Source: Focus groups meetings November 2012 to April 2013 and verification meeting Abidjan 2013

7.5 Improving future assessments

Assessments of livelihoods and natural resources often experience difficulties, as situations in the field often differ from those expected (Angelsen et al., 2011). Based on the experiences described in methodology in Chapter 2, several recommendations are made to improve data quality and methods based on the above mentioned factors and the results of the study. To address the limitations discussed in the Methodology chapter and Annex 7 and improve the design of future impact assessments the following recommendations are made.

Recommendations on research design

As stated in the methodology, this assessment provides a pragmatic baseline of the situation in 2013, after the programme had started and in the absence a baseline prior to the programme commencing in 2008. This means that only a comparative assessment is possible, rather than a difference-in-difference. This means that causal claims about the impact of the UTZ programme since the start of the programme cannot be made, as programme may already have had impacts on the participants

which cannot be determined using a comparative approach. Impacts may be perceived and inferred by farmers and other stakeholders to the programme and related interventions. For future assessments, a review of the selection criteria for the control group and their size will be important elements.

Taking the time to design the study, in particular the impact logic in collaboration with UTZ has been crucial. The multiple methods used, including verification with stakeholders, enabled information to be gathered on stakeholders' perceptions of benefits and challenges, the outcomes and impacts of UTZ certification in the cocoa chain. The quality of the results depends on the combination of the design, timing, tools chosen and used and the capacities of the research team. The capacities of the client to steer, clarify, deliver data and input also effect the result. Finally the context of the sector and in the country has an influence.

The impact logic (theory of change) proved an essential tool to define and clarify assumptions, predict unintended effects, and external influences. It is recommended that the impact logic should be periodically reviewed, at least every two years, to reflect changes in the operation and aims of UTZ Certification programme.

Allocating a longer time period to discuss and budget the design and allowing the research questions to determine the method, and not vice versa, is important. With hindsight, data on productivity and environmental indicators could have been more effectively gathered using different methods (structural in-field observations on implementation of practices, measurements of yields and productivity, farmer logbooks for costs and incomes; audit, ICS and cooperative records; environmental monitoring, satellite images). These methods however have cost and time implications.

Combining the requirements of different clients (UTZ/IDH Cargill/Solidaridad) turned out to be an efficient and cost-effective way of implementing the research creating economies of scale and enabling a large sample size to be interviewed. In hindsight, logistical problems, delays in obtaining data and accessing certain cooperatives had major repercussions for the time scale of data collection and caused delays in deliverables for all parties. It is recommended to carefully consider the number of partnerships and implications for logistics of future studies planning and deliverables.

The general feeling among participants was that the validation workshop successfully achieved its aims. A future approach is recommended to follow a similar approach, but to include other stakeholders such as farm workers, government representatives and more service providers, women and youths.

Recommendations on research methods

The difficulties in confirming the status and affiliations of cooperatives with traders indicates that more time should be taken to verify this in conjunction with UTZ, cooperatives and traders prior to interviews in the field.

The male and female enumerators, their language skills, experience in the sector and training resulted in a very low rejection rate of interviews, with only one respondent refusing an interview.

It is recommended to use the mix of one-on-one producer interviews and focus groups, and other stakeholder interviews that enabled more sensitive data to be verified and triangulated.

The use of (Most Significant Change) story telling accompanied by photos and video was not successful in providing a large amount of qualitative and visual data due to the inexperience of the team with this method. But if accompanied by training, this could be a useful method to provide contextual and qualitatively rich data.

The GPS-based field measurements enabled the validation of farm sizes and confirmed that significant over- and under-estimates of farm size by farmers occurs. It is recommended to continue measuring a sample and to work more closely with traders and ANADER who are conducting a similar exercise, to obtain better insights into farmer productivity.

Data entry and checking should be done directly after the interviews and preferably by the enumerators with a supervisor. Future assessments should consider possibilities to enter data directly into an intermediate database (i.e. tablet-based and possibly online) before transferring to a statistical software package, to save time and minimise errors.

If a larger amount of qualitative data is collected in future assessments, the use of specialist data analysis programmes may be effective to code and analyse data. Due to the modest quantity of qualitative data collected, the use of specific qualitative data analysis software was not considered to be efficient. The use of excel and Stata programmes to process quantitative data is recommended, and will allow current and future data sets to be easily combined. For a future impact assessment, is worthwhile considering other methods (i.e. propensity score matching and contribution analysis) to analyse the data, particularly bearing in mind how representative a future control is deemed to be and its size.

This study provides a baseline assessment and coordinated data on certification activities during and prior to the programme period. It is recommended that such data is streamlined and included in UTZ Certified monitoring and evaluation system, to facilitate data collection of key impact assessment indicators to be systematically and regularly gathered and analysed.

To interview the same farmers in subsequent monitoring and impact assessments, traders, cooperatives and farmers need to be notified in advance to ensure their presence on their farm/in the community on the day of the survey. This holds true especially for owners who may not necessarily be present on-farm.

The current study is based on periodic and one-off 'snapshot' data. By collecting longitudinal data, data from a specific period can be better placed in context. For example, on-going monitoring of a selected number of individuals and stakeholders could provide detailed histories of the impacts of interventions and provides stories with a 'face', using farmer logbooks could provide more accurate data on livelihood impacts. A panel of farmer and worker households could provide systematised gathering of perceptions. The rapid improvement in access to internet and phone networks and their decreasing cost in Ivory Coast mean that methods using mobile and inter-based data collection may be possible for some technology literate farmers and workers. Adjustments to the audit and ICS may allow a limited amount of additional data to be periodically collected.

Recommendations on representativeness of sample

Explicit efforts were made to interview women and youths during the stakeholder interviews. However, the nature of the programme such that the focus is on certified farmers led to small number of total interviews with female farmers. It is recommended to include an additional target group of workers to measure inclusiveness. A small specific study would also enable a baseline to be set that could complement the current study and allow a comprehensive mid-term impact evaluation. These experiences suggest that future assessments should more systematically survey women and young male workers on cocoa farmers. The sampled population of certified farmers is believed to be not representative of those working on cocoa farms in Ivory Coast generally, due to the proportion of farmers who are cooperative members and higher proportion of older men than indicated in the literature, by stakeholders and in the verification meeting. In future monitoring and impact studies, it is recommended to sample both certified farmers and their farm workers and include workers as a separate group of stakeholders, as outcomes and impacts are believed to be different for farmers and different types of workers, as indicated by a study in Ghana (de Jong 2012).

Recommendations on indicators

Whether the observed improvements will continue needs to be verified in future assessments. Continued monitoring of the fifteen indicators can help better understand how activities are leading to outcomes and impacts. For future assessments, different questions may be asked, calling into question if the same indicators should be used, or different indicators are needed. The time and effort required collecting data on the large number of indicators and limited effectiveness of some indicators suggests that a smaller number of key indicators for regular monitoring and follow up assessment should be selected. The length of the survey could then also be decreased.

The indicators the research team believe most useful were (1) farmer characteristics, (2) farm efficiency, (3) productivity, (5) profitability, (6) livelihood perceptions and needs, (7) labour rights, (8) child labour, (9) working conditions, (11) inclusiveness, (14) on cooperative services and (15) on sustainable practices and market rewards. For indicators 4 and 5, more accurate production costs (based on recorded data by farmers), and measured farm sizes are needed. The measurement of indicators 7, 8 and 9 could be enhanced by combining the questionnaire with audit results and unannounced audits. It may be possible to use data produced by other government and NGO initiatives monitoring on child labour. For indicator 11 on inclusiveness, better comparative data on the average Ivorian cocoa farmer and worker would make the use of this indicator more robust, as would explicit targeting of specific groups by the programme partners. Indicator 14 should be always complemented with cooperative interviews to provide both sides of the story.

In retrospect the indicators that were not so useful were Indicator 4 on quality, due to the government reforms which now set quality standards. If quality is to remain an indicator, it should be measured comparing traders' data on rejections and quality, and data from cooperatives. The environmental indicators (13, 14 and 15) could be measured using field-based data using different methods. For instance, GIS and satellite images of deforestation satellite to provide more meaningful evidence of impacts.

Other tools could be used to gather both quantitative and qualitative data on indicators such as information from UTZ Certified ICs and audits, cooperatives and traders. This requires making agreements about data sharing and confidentiality, and the use and publication of such results.

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Annex 1 Terms of Reference

Terms of Reference
Impact of UTZ Certification in Cote d'Ivoire

1 Rationale

UTZ Certified is a program and label for sustainable farming worldwide. Sustainable farming helps farmers, workers and their families to fulfill their ambitions and contributes to safeguarding the earth's natural resources, now and in the future. UTZ mission is to create a world where sustainable farming is the norm. According to UTZ, a world where sustainable farming is the norm, is a world where farmers implement good agricultural practices and manage their farms profitably with respect for people and planet, industry invests in and rewards sustainable production, and consumers can enjoy and trust the products they buy.

In 2007, UTZ Certified launched its cocoa program together with the founding members Cargill, Ecom, Heinz, Mars, Nestle and Ahold and the NGO's Solidaridad, Oxfam Novib and WWF. In 2009, the Code of Conduct for Cocoa was launched and the first producers in Cote d'Ivoire were certified (pilot projects). Ghana was the second country where the program was implemented. The cocoa program in West Africa is implemented together with Solidaridad and Solidaridad's sister organisation West Africa Fair Fruit (WAFF).

One of the program's core strategies is to collaborate with implementing partners such as Solidaridad to facilitate of training of producers and producer groups. The training of producers focusses on good agricultural, social and environmental practices in line with UTZ code of conduct. Implementation of better and more sustainable practices is expected to lead to higher and long term productivity, improved quality (better market access and prices), increased efficiency (lower costs per unit of produce), increased income (improved profitability) and improved social and environmental conditions[1]. Training of producer groups focusses on organizational management and ICS and is expected to lead to more effective farmer organizations with more effective input purchasing, cocoa marketing and better service delivery to cocoa growers[2].

In 2011, Solidaridad and UTZ Certified commissioned LEI to evaluate their cacao program in Ghana (baseline study, mid term review and final evaluation). In September 2011, LEI conducted a scoping visit to Ghana to gain insights in the functioning of the cocoa program, context and intended and unintended effects. In March-April 2012 the baseline data was collected. In Ghana, the main method used is the *Difference in Difference* approach, comparing the target group before and after situation and comparison groups.

[1] To be further specified in ToC
[2] Idem

2. Impact assessment in Cote d'Ivoire: differences with Ghana

Following the study in Ghana, UTZ Certified and Solidaridad would like to conduct a similar and comparable study in Cote d'Ivoire, however, with a broader scope in terms of projects (implementing partners) and with a broader set of methods (quantitative and qualitative).

Both in Ghana and Cote d'Ivoire, certification projects are often implemented by the traders themselves and coordinated by trader's in-house personnel. In Cote d'Ivoire, traders play an even larger role in the implementation of the program than Ghana, working with different 'service providers' for producer training, such as for example KDD, Anader and WAFF/Solidaridad.
Ghana and Cote d'Ivoire are also different in terms of parties involved, activities and context. Therefore the ToC, research questions and indicators probably need to be (partly) adjusted. It is also very important that the specific influencing factors (such as the political situation, recent conflict) are taken into account.

Also, in order to be able to better learn from the study results, capture initial results, enable triangulation and to increase communication value, we would like to include a combination of methods (mixed methods); combining quantitative and qualitative methods.

3. Purpose

UTZ Certified would like to assess if the implemented strategies are effectively leading to its objectives as defined in its Theory of Change.

One of the core strategies on farmer level is to collaborate with implementing partners such as Solidaridad/WAFF and other service providers to facilitate of training of producers and producer groups. Just as in Ghana, the effectiveness of training should be part of the assessment. We are very interested the combined effect of training and certification and how the two interventions influence each other.

Other strategies that contribute to the effectiveness of implementation of the Code of Conduct include providing tools and guidance documents, practical criteria (with continuous improvement system), maintaining dialogue with local stakeholders through local representation, workshops and consultation, certification management and audit quality control, increasing market demand and linking certified producers to the market.

UTZ Certified would like to assess the effectiveness of its program for cocoa farmers and cooperatives in Cote d'Ivoire to demonstrate the contribution to impact as well as for learning and improvement.

The objective of the study is three-fold:

1. to obtain information about (early) achievements of the program (1st producers were certified in 2009)
2. to assess whether the activities/strategies effectively lead to the desired outcomes (effectiveness)
3. to draw lessons learned so as to improve the quality of the program

4. Scope

The study will focus on the effectiveness of the UTZ Certified program in Cote d'Ivoire.

As per April 2012, UTZ has 64 certified producer groups in Cote d'Ivoire, representing almost 40.000 individual farmer households (smallholder growers). About half of the UTZ certified groups are linked to Cargill, others are linked to Ecom, Olam, Barry Callbaut and other traders.

In addition, there are many new projects coming up. Some of the traders have indicated that they are planning a strong expansion of certified groups in the coming years.

It would be interesting to include producers that have been in the program for some years, to understand initial results, and to include some new projects that can establish a real baseline.

We would like to select a sample that is as representative (and generalizable) for UTZ Certified producer groups in Cote d'Ivoire as possible. Some factors that we think are important to take into account:

- To which trader are the farmers linked
- Which service provider is used to train the farmers
- Who is the certificate holder (coop/trader)
- Size of the group
- Location of the group
- Year of first certification (first groups were certified in 2009)
- Other certifications (although multiple certifications are reality and cannot be excluded, it would be important to take into account; e.g. which was first
- Other factors (e.g. other support, political crisis, problem cases etc)

For the study in Ghana, some specific learning questions have been formulated. We would like to discuss their relevance in the Ivoirian context and see if any other questions should be added.

1. **How do UTZ and Solidaridad[3] influence cocoa farmers, producer groups in terms of knowledge and practises? And what are the results of those changes (in relation to the programme's goals) on the intended outcomes on people, planet, and profit for cocoa farmers in Ghana?** The impact logic (together with scoping visit observation) will be used to address this learning question. Consequently, the indicators needed to answer this

[3] For Cote d'Ivoire: also including other training programs

question will be selected on the basis of the impact logic. This list of indicators will be checked and (if necessary) complete by using the scoping visit observations. Since the projects are still young, the baseline study will not be able to capture long term results. This requires a final (and possibly a midterm) assessment in future.

2. **Who does the programme reach?** Is the program 'inclusive' to all? To what extent is the treated group representative for the Ivorian cocoa farm holder (high/low income, sharecropper, migrants, women, youth, small/large farms) and does this involve implementing actors beyond the farm owners (spouses, workers, tenants, etc.).
3. **What is the added value of going through the certification process/being certified for the farmers?** This research question must determine the certification programme's added value beyond training; how do these interventions influence/strengthen each other. The process towards (and after) certification encompasses more than just trainings. How do training and certification influence each other?

5. Methodology

- The theory of Change, indicators and research questions need to be (partly) adjusted for the Cote d'Ivoire situation and context. The Theory of Change and indicators will be developed by LEI in consultation with UTZ Certified, Solidaridad and local partners.
- The evaluation should make use of both quantitative and qualitative methods, and both primary and secondary resources.
- The study should include a survey of a sample all UTZ certified groups in Cote d'Ivoire. The sample should be as representative (and generalizable) as possible for UTZ Certified producer groups in Cote d'Ivoire. For producers that are already in program for a number of years, retrospective methods are encouraged.
- Qualitative valuation techniques such as story-telling, story harvesting, and 'most significant change' techniques and other participatory methods of data gathering are encouraged.
- Evaluators are free to propose a methodology, taking DAC principles for reliability, usefulness and independence into account.
- The findings of the research should contribute to external communication purposes of the involved partners. Therefore, alignment to the communication and marketing departments of the involved partners is necessary. Visual documentation (film, documentary, photo) is encouraged.
- Buy-in of local and international stakeholders is important. Local partners and stakeholders should be consulted in the design of the study (ToC, indicators, survey) as well as in the validation of results.

Farmer households are often subject to evaluation studies and surveys. To avoid over-researching and to decrease the burden on farmers, the study should make use to the extent as much as possible of existing datasets i.e. databases at cooperative level and at the level of the traders (i.e. bean quality data, volumes, certified vs non certified volumes, suppliers etc.)

6. Evaluators

The evaluation is coordinated by UTZ Certified.

The evaluation needs to be carried out by an external evaluation team to increase objectivity of the study. The evaluators:

- need to be able to demonstrate sufficient experience in researching effectiveness of interventions
- have understanding of the cocoa supply chain
- have understanding of agronomic characteristics of cocoa production
- have basic understanding of certification structures and procedures
- collaboration with local research partners is preferred
- the researchers should speak English and French; local research partners should speak local languages
- researchers are able to work unbiased

7. Deliverables

The study will lead to the following deliverables:

1. 'An inception report' -including ToC (incl context), methodology (mixed methods), indicators, research questions- before the start of the evaluation submitted for approval.
2. A table of content and draft report for comments and approval
3. A validation workshop
4. a concise evaluation report (< 50 pages, excluding annexes)
    a. written in English, according to this ToR
    b. executive summary in English and in French
    c. in Microsoft Word, fit for external purposes
    d. defined research questions and sub-questions are answered one question at a time in an annex
5. An executive summary and visual documentation materials (pictures, movies) to be used for publicity purposes (fit for external communication and printing)
6. Validation workshop based on preliminary findings for learning and feedback
7. A presentation of the final report to Solidaridad and UTZ in the Netherlands for learning and reflecting

Annex 2 Indicators

Research questions Outcome	Outcome	Indicators	Question numbers Producer questionnaire (other questionnaires used in red)	Remark/comment	Issues for data analysis	Source/methods to obtain data
1, 2, 3	1. Farmer Characteristics	1.0 Name & telephone	6	General demographic and farm data	Indicators as variables to compare certified and non-certified farmers. Compare length time certified, training and other interventions, ethnicity, migration and effect of land ownership/tenure 1.11: Analyse tenure system in Ivory cost 1.12: Farmers' reports on farm size, cross check coops and baseline data, traders & GPS	Farmers Cooperative manager GPS measures
		1.1 Age	7			
		1.2 Gender	3			
		1.3 Participation in a project/sustainability programme (certification, community based, productivity, farmer /field schools etc.) (specify)	16, 44			
		1.4 Length time certified	16			
		1.5 participation in other certification programme s, length time	16, 21 Cooperative			
		1.6 Nationality	11			
		1.7 Native (ethnic group) of area	9, 11			
		1.8 Position in household & societal status	10, 13			
		1.9 Number of children	14			
		1.10 Number & type of training & support interventions	38, 39			
		1.11 Farm tenure/ownership sharecropping/worker status	13, 15, 16			
		1.12 farm size (measured or not?)	16, GPS measures			
		1.13 % contribution of cocoa to household income (gender differentiated)	49, 50			
		1.14 Other sources of income (gender differentiated	50			
		1.15 No of years cocoa farming	16			
		1.16 Number of cocoa trees on all farms	16			
		1.17 Location (village/region)	4, 5			
		1.18 Member coop(s)	9			
1, 3	2. Farm efficiency	2.1 Input/output ratio (agronomic/economic)	29, 30, 36, 37	Cocoa farm efficiency, not all farming activities		Farmers Coop manager Service providers
		2.2 Tree density in practice (vs. prescribed)	16, 82			
		2.3 Defined (trained) spraying team with a manager competent on dosages	Cooperative			
1, 3	3. Increased productivity	3.1 Yield per tree and hectare	16, 77, 69, 70	Cocoa farm efficiency, not all farming activities	Compare to other baseline data	Farmers Cooperative manager Village chiefs Local authorities Service providers
		3.2 Annual production (last year's harvest)	16			
		3.3 Production and practice change since certification/participation in the programme	17 18, 19, 20, 26, 70 100,101, 102, 103, 104			
		3.4 Change in inputs, seedling distribution,	33, 34			

Research questions Outcome	Outcome	Indicators	Question numbers Producer questionnaire (other questionnaires used in red)	Remark/comment	Issues for data analysis	Source/methods to obtain data
		planting and maintenance and input access				Focus group
		3.5 Proportion (%) sold to certified buyer(s)	18			
		3.6 Influence climatic factors or other external factors (Political, economic and social)	26 Focus group			
	4. Quality meets market demand	4.1 Bean rejection rate	24 Trader	(Proxy)	Triangulation data from farmer - cooperative	Farmers Coop Traders/exporters
		4.2 Rate that requires re-drying	25			
		4.3 Post-harvest practices	77, 78, 79, 80, 110			
	5. Increased profitability and long term viability of farmers and groups	5.1 Increased income Change in price, Frequency of payment, Part of the premium directly to the producer in cash	17 41, 42	How do farmers make decisions and why do they take decisions the way they do		Farmers Cooperative
		5.2 Record keeping/Use of records and other information (e.g. provided by group/ICS) for decision making	62			
		5.3 Knowledge: Is market information used for/in decision making?	Cooperative			
		5.4 What and how is premium distributed (individual and group level)	41, 42			
		5.5 How is premium spent/invested?	51, 58			
	6. Improved livelihoods	6.1 Perceived changes in livelihood (specify…) • Presence of schools or numbers of teachers or child attendance or literacy programme. • access to healthcare or presence of medical staff or number of clinics or pesticide sprayers health checks or first aid training • Access to markets, credits / banks, other products (seeds etc.) • Access to decision-making groups (Coops, Associations, etc.)	53, 54, 55, 56, 57, 59	Livelihood is defined by: natural resources, technologies, skills, knowledge and capacity, health, access to education, sources of credit, or networks of social support.		Farmers Coop Focus group Traders/exporters Village chiefs Local authorities School masters
		6.2 Perceived changes in needs (income, food, water, status, health, education, other)	60			
	7. Respect for labour rights	7.1 Knowledge: (certified vs. non-certified farmers) & if member of association previously? Why/not??	9, 53, 63, 64		Additional 7.3: Check national laws	Farmer Coop Focus group (Labourers / women)
		7.2 Extent forced labour, discrimination & contracts Wage levels paid for hired labour and differences	94, 95			
		7.3 Knowledge of national laws on wages, hours worked	95			
		7.4 Contacts with local community	98			

Research questions Outcome	Outcome	Indicators	Question numbers Producer questionnaire (other questionnaires used in red)	Remark/comment	Issues for data analysis	Source/methods to obtain data
		representative for labour rights				
1. 3	8. Respect for child labour	8.1 Activities of children on cocoa farm (labour)	29	Assessing role of children in cocoa farming only (not other farming activities)		Farmers School teachers Cooperative manager Focus group (youth / children)
		8.2 Knowledge: activities on cocoa farm that can be executed by children?	44, 46, 97, 111			
		8.3 Extent of farmer's children's attendance at school	55, 59 School master			
1. 3	9. Healthy and safe living and working conditions	9.1 Number of injuries during cocoa farming (hired labour, family labour, communal labour): cuts that need stiches and fractures	37, 92, 99	Assumes training leads to safer practises and decreases number of accidents, if accidents occur, should be treated properly		Farmer Cooperative manager Service providers Focus group Trader
		9.3 Use of protective clothing	36, 37, 92, 108 observation			
		9.4 Impact of community development/social projects	Focus group observation			
1, 3	10. Maintained & improved quality of water and soil	10.1 Implementation of practices (pruning, mulching, fertiliser use etc.)	100,101, 102, 103, 104 71, 72, 76, 77, 78, 79, 80, 81 Observation	Proxy indicators (water: water streams protected by vegetation, no spraying next to stream, pollution by chemical waste) Soil: correct fertilisers used, organic fertiliser, soil organic matter		Farmer Q Focus group Traders/Traitants ANADER
		10.2 Use of inputs: agrochemicals, quality and type	73, 74, 75 Observation			
		10.3 Protection & quality of water	86, 87 Observation			
		10.4 perception soil quality	85			
1, 3	11. Effective waste management & reduction	11.1 Implementation: if waste & how agrochemicals & leftovers handled?	88, 89, 90, 91, 93		(cocoa production related)	Farmer Q Focus group
		11.2 Is compost used? Or sold?	31, 32 observation			
1, 3	12. Protection restoration of natural habitats / bio diversity	12.1 Number of shade trees on cocoa farm practice planting shade trees pre-certification	16, 81, 82, 83, 84 Observation		(on/near farm)	Farmers Q Cooperative (audits)Traders Traitants ANADER
		12.2 Preference shade tree (native) pre/post certification	84			
		12.3 Land clearance for cocoa (pre/post cert)	28, 16 Observation			
2	13. Inclusive programmes	13.1 Demographic information of questioned farmers vs. 'general' cocoa farmers in Ivory Coast.	3, 4,5, 7, 9, 10, 11, 12,13,14			Focus group Village chiefs Coop
		13.2 Percentage of lead farmers, internal inspectors, executives, gender, youth in	43, 7, 3			

Research questions Outcome	Outcome	Indicators	Question numbers Producer questionnaire (other questionnaires used in red)	Remark/comment	Issues for data analysis	Source/methods to obtain data
		samples				
2, 3	14. Stable cooperatives providing better and reliable services	14.1 Participation in group, number of years	9	Compared UTZ certified and non-UTZ farmers	Compare certified and non-certified Compare farmers with multiple Cargill projects with those only via certification Compare length time of Cargill projects interventions & certification and reported impacts Triangulation perceptions of farmers, coops and traders	Farmers Q Cooperative Focus group Trader Traitant
		14.2 number of participating members	Cooperative			
		14.3 Membership growth?	Cooperative			
		14.4 Perception usefulness of the group	61, 62, 63, 64, 65, 66			
		14.5 Perception benefits/services of the group				
		14.6 Perception improvements possible	8			
		14.7 perception transparency of ICS	62,65, 66			
		14.9 Does group facilitate access to inputs?	33, 34, 51 Focus group			
		14.10 Does the group facilitate sales?	Cooperative, 35			
		14.11 (Sustainability of the group) ' perception of existence after certification'	Cooperative			
		14.12 extent price/market information provided to farmers	62			
		14.13 member of other groups and sales to other groups/traitants	20			
		14.14 Selling beans to others (traitants, buyers) (loyalty)	18,19,20			
		14.15 (Likert) Perception if group well-managed/ financially healthy?	66			
		14.16 proportion payment to farmers on time	62			
		14.17 Perception of communication with members	62			
		14.18 Perception level of capacities	62			
		14.19 Perception level of bargaining power with traders/traitants	59, 62, 66,			
		14.20 Perception effect of training, support and interventions	45 Trader			
		14.21 How do trader interventions impact loyalty, what are the benefits gained and how they are perceived?	23			
2, 3	15. Sustainable practises rewarded by the market	15.1 Better price / premium	47 Trader		Compare UTZ, & non-certified. Price in future difficult to use as indicator given context IC and reforms, can use for past analysis. Analysis to qualitative indicators	Farmers Q Coop Focus group Trader Traitant Local authorities
		15.2 Long-term buying commitments	Focus			
		15.3 More potential buyers	Focus			
		15.4 Less time needed before a buyer shows up?	Focus			
		5.5 Receive additional inputs, or external support? From who? level & type of services, inputs/support	21 Trader			
		15.6 Do you want your children to become	67, Focus			

Research questions Outcome	Outcome	Indicators	Question numbers Producer questionnaire (other questionnaires used in red)	Remark/comment	Issues for data analysis	Source/methods to obtain data
		cocoa farmers?				
		15.7 Do you plan to continue cocoa farming/intensify/diversify? (5 year timescale)	68			
		15.8 Factors determining becoming and/or staying certified?	62, 63, 64, 65, 66 Focus			

Indicators addressed by the stakeholder questionnaires

Impact on livelihoods:

- Perceived benefits by farmers and other stakeholders of UTZ certification (income, training, participation in cooperatives, certification and related services).
- Evolution of farmers' and other stakeholders' incentives, needs, and challenges at different stages of the programme.
- Perceived changes in access to inputs (fertilisers, financing, becoming more creditworthy)
- Perceived impact of the programme on food security, child labour, education, health, safety and how increased income is used
- Inclusiveness (are benefits reaching other members of the family?)
- Unintended impacts and understanding of how external factors affect farmers' performance. (e.g. assessment of quality of road infrastructure, quality of village health services and school attendance ratios, impact of cocoa reform).
- Farming practices
- Impact on knowledge and use of GAP
- Impact on quality, efficiency, business performance (market reward)
- Perception of farmers and other actors of cocoa productivity increase / decrease due to inputs
- Organisational capacity
- Perception on professionalisation, bargaining power, ownership of the programme and interactions with government
- Trust and communication flow
- Perception of farmers' loyalty to cooperative or to trader
- Perception of farmers satisfaction with cooperative services, benefits of being a cooperative member, how premiums are distributed and invested
- Attitude toward cocoa farming and risk
- Perception of farmers and other stakeholders of the opportunities for the future of the sector (e.g. will future generations continue cocoa farming?)

Annex 3 Stakeholders interviewed

Stakeholder type	Organisation*	Number of people interviewed	Location
Traders	ADM	1	Abidjan, Amsterdam & Geneva
	Cocaf Ivoire (Noble)	1	Abidjan
	CEMOI	1	Abidjan
	OLAM (Outspan Ivoire)	1	Abidjan
	NATRA	1	Phone/email
	Zamacom	1	Abidjan
	Barry Callebaut	1	Abidjan
	Cargill	1	Abidjan & Amsterdam
Focus groups	CACEP	32	Diegonefla
	COOPADA	10	Dagadji (San-Pedro)
	CAESA	12	Djangobo (Abengourou)
	Coopagli	7	Gligbéadji
	LCAG	12	Dioligbi (GUITRY)
	Anouanzè de Duékoué	9	Bohoussoukro (DUEKOUE)
	Allouata	9	Nizahon (GUIGLO)
	Fiédifouê	10	Paulkro (DALOA)
	C.A.E.T.H (C.A.E.T.D)	10	BOWALY (DALOA)
	ECOOPAD	10	Zébra (DALOA),
Cooperative managers	COOPADA	1	Dagadji (San-Pedro)
	C.A.E.T.H.	1	Bowaly (DALOA)
	COOPAGLI	1	Gligbéadji
	CAESA	1	Djangobo
	LCAG	1	Guitry (Dioligbi)
Teachers & School directors	CAESA	1	Djangobo
	-	1	EPP MAHINO II
	COOPAGLI	1	Epp Gligbeadji
	LCAG	1	Dioligbi (GUIYTY
Village chiefs	LCAG	1	Dioligbi (Guitry)
	CAESA	1	Djangobo
Farmers (for Most Significant Change Stories)	LCAG	1	Guitry (Dioligbi)
	Fiédifouê	1	Paulkro (DALOA)
Service providers	ANADER	2	Abidjan
	Solidaridad & REC/WAFF	5	Abidjan & Amsterdam
	Anader	1	Coop Allouata in Nizahon (GUIGLO)

*NOTE: Names of individual interviewees are omitted to ensure confidentiality.

Annex 4 Key data correlations between length of UTZ programme participation and outcome and impact indicators

Table 13

Correlations between length of programme participation and economic outcome/impact indicators.

Indicator	Significant correlation between length of UTZ programme participation and outcome indicators + sign positive correlation - significant negative correlation 0 no significant correlation
Coco production (main farm)	0
Total labour costs	0
Total input costs	0
Input costs (fertilisers)	0
Input costs (pesticides)	0
Input costs (fungicides)	0
Input costs (herbicides)	0
Input costs (planting material)	0
Total production costs	0
Productivity (main farm)	0
Productivity (all farms)	0
Cocoa production efficiency Economic input/output ratio (gross income/total production cost)	+
Gross income from cocoa (main farm)	+
Gross income from cocoa (all farms)	0
Net cocoa income (main farm)	+
Gross income from other sources	0
Gross total household income	0
Cocoa quality	0
Satisfaction with livelihood	0

Table 14

Correlations between length of programme participation and knowledge and implementation of GAPs.

Indicator	Significant correlation between length of UTZ programme participation and outcome indicators + sign positive correlation - significant negative correlation 0 no significant correlation
Overall knowledge level	0
Overall level of implementation of GAPs	+
Record keeping	+
Knowledge of child labour issues	0
Implementation of child labour practices (children assisting in 12 coco production practices)	0
Knowledge on soil conservation practices	0
Implementation of soil conservation practices	0
Knowledge on water conservation practices	0
Implementation of water conservation practices	0
Knowledge on cocoa production practices	0
Implementation of cocoa production practices	0
Knowledge on health related practices (PPE use)	0
Implementation of health related practices (PPE use)	0
Implementation of waste management practices	0
Implementation of biodiversity conservation practices	+
Implementation of post-harvest practices	0

Annex 5 Questionnaires

Survey instruments

1. Semi-structured Interviews with different stakeholders in the chain (see list indicated earlier)

The enumerator explained the aim of the research, the feedback mechanisms in the form of a verification meeting, reports and farmer info sheet. Photos, when permitted, were taken and notable quoted written up. Compared to the farmers' questionnaire, questions in the semi-structured interviews were open-ended and tailored to the particular relationship between the respondent and UTZ certification. The objective of semi-structured interview was to gain a range of insights on both quantitative and qualitative information from a sample of respondents, and following up with probes to get in-depth information. The enumerator sought to confirm what was already known from secondary research, while filling in the information gaps. The information obtained from these interviews was not just to provide answers, but also the reasons for the answers. The semi-structured interviews provided direct and indirect approaches to discuss sensitive labour issues, and to gather data on workers on farms, school attendance, social interaction, perceived benefits and challenges. The semi-structured interview guide detailed a clear set of instructions for the enumerators in order to provide reliable, comparable qualitative data. The average length of the individual interviews was 1.5 hour. An example is provided below.

2. Focus group meetings with different stakeholders

The purpose of focus group meeting was primarily to explore and understand how inclusive the UTZ Certified cocoa programme in Ivory Coast is, what future opportunities are, and the extent that knowledge and benefits reach others (family members, workers etc.) on certified farms. The average time taken to conduct a focus group was 1.5 hour. An example of focus group semi-structured questionnaire is provided below.

3. Story harvesting, 'most significant change' technique

Only a very small number of farmers participated in significant change story interviews. Selection was upon a voluntary basis. Farmers were asked which were the most significant changes experienced since their participation in UTZ certification. This was supported by photos. The average length of the interview was 1 hour.

4. Observation of the context

The survey also uses data from direct and photographic observations recorded by the survey team on the living environment (road access and quality, housing, surrounding environment (forests, fields, degraded land), village schools, general health of farmers, observed child labour, cocoa fields (farm work and presence of shade trees) and processing activities.

Annex 6 Databases

Digital only.

Annex 7 Detailed methodology

Indicators	Indicator measurement
Gross income from cocoa	Yearly production of all cocoa farms multiplied by the average price per kg for cocoa paid to farmers
Labour costs of cocoa production	All reported hours spent on cocoa production activities multiplied by the price of labour (2000 CFA per day). Family labour costs are calculated using the same price as for hired labour. Not included are costs and time spent by farmers on training, communal 'shared' labour gangs, as lead farmers, on internal control systems and on auditing Farmers indicating zero labour costs were not included in the calculations.
Input costs of cocoa production	Number of times a product is applied multiplied by unit multiplied by price per unit of input (fertilisers and crop protection products such as fungicide and pesticide) Time (opportunity costs) to become UTZ certified and investing in PPE has not been taken into account in cost calculations
Total cocoa production costs	Labour + input costs. Not included are costs of equipment and personal protective equipment, costs (in kind) of spraying gangs or communal 'shared' labour. Time (opportunity costs) to become UTZ certified and investing in PPE have not been taken into account in cost calculations.
Net income from cocoa	Yearly production of cocoa from the main farm, minus total production costs for the main farm.
Cocoa production economic efficiency	Economic and agronomic input/output ratio - gross income divided by total production costs.
Productivity	Yield per tree or per hectare based on farmer's reports of their farm size. An alternative productivity result was not presented in the report based on measured farm sizes, as only 30% of farmers had measured their farm size, the remaining 70% were estimates. On average farmers over estimated their farm size by 7%.
Knowledge of good agricultural practices (cocoa)	Farmers were asked 12 multiple choice questions on GAP. Correctly answered questions correspond to the requirements of the UTZ Code of Conduct. The more correct answers a farmer, the higher the score for the individual question. For each question a score was derived on a scale between 1 and 10. The overall knowledge score was measured as an average of all scores for the individual scores.
Implementation of good agricultural practices (cocoa)	Farmers were asked 24 multiple choice questions on GAP. Correctly answered questions correspond to the requirements of the UTZ Code of Conduct. The answers were score related to the correctness of the answer. For each question a score was derived for each farmer on a scale between 1 and 10. The overall score for the implementation of good agricultural practices was measured as an average of all scores for the individual scores.
Satisfaction with livelihood	Farmer perception, 5-point Likert scale
Changes in needs (income, food, water, status, health, education, other)	Farmer perception based on open questions with qualitative answers possible.
Satisfaction with services of cooperative	Farmer perception, 3-point Likert scale
Satisfaction with interventions of traders programmes	Farmer perception, 3-point Likert scale and open question

Box 11 Statistical analyses

The **mean** (average) is the sum of all numbers divided by the number of numbers. The median is the 'middle value' and provides understanding the central tendency of a set of statistical scores. While the mean is a popular measure of a mid-point in a sample when the sample has a normal range, it has the disadvantage of being affected if any single value is much higher or lower compared to the rest of the sample. This is why the median is also presented as an alternative measure of a mid-point of the sample, especially where the sample has a skewed distribution.

The **standard deviation** shows how much variation or dispersion from the average exists. A low standard deviation indicates that data points tend to be very close to the mean (also called expected value); a high standard deviation indicates that the data points are spread out over a large range of values.

Cross **tabulation** allows an examination of the frequencies of observations belonging to specific combinations of categories on more than one variable. By examining these frequencies, relations between cross tabulated variables can be identified.

The **t-test** evaluates the differences in means between two groups. The groups can be independent or dependent. T-tests can be used even if the sample sizes are very small as long as the variables are approximately normally distributed and the variation of scores in the two groups is not reliably different.

The **correlation coefficient** measures the strength of (linear) association between two variables. The value of a correlation coefficient ranges between -1 and 1. The greater the absolute value of a correlation coefficient, the stronger the linear relationship. The strongest linear relationship is indicated by a correlation coefficient of -1 or 1. The weakest linear relationship is indicated by a correlation coefficient equal to 0. A positive correlation means that if one variable gets bigger, the other variable tends to get bigger. A negative correlation means that if one variable gets bigger, the other variable tends to get smaller. Where a correlation is big, but not significant (e.g. it would be significant with 90% confidence interval), it is mentioned, but no conclusions can be drawn on the impact using such correlations.

Regression analysis is a statistical process for estimating relationships among variables. It focuses is on the relationship between a dependent variable and one or more independent variables, to help understand how the typical value of the dependent variable (or 'Criterion Variable') changes when any one of the independent variables is varied, while the other independent variables are held fixed.

Annex 8 GPS measurement results

Farmer number	Agro-ecological zone	Area declared (hectare)	Area measured	Differential	%
87	E	1	1	0	100%
107		2	1	1	50%
116	E	0.5	0.6	-0.1	120%
156		2.5	3	-0.5	120%
160		4	3	1	75%
0-		11	7	4	64%
189		2.5	3	-0.5	120%
362		3.5	3	0.5	86%
321	M	1	0.78	0.22	78%
342	M	2.5	2	0.5	80%
366	M	2	2	0	100%
406	M	3	3	0	100%
413	M	1.5	1	0.5	67%
300	E	3	3	0	100%
301	E	2	2	0	100%
313	E	2	2	0	100%
320	E	2	2	0	100%
323	E	Didn't know	2	-2	
345	E	3	3.5	-0.5	117%
371	E	2	2	0	100%
379	E	3	3	0	100%
404	E	10	5	5	50%
405	E	4	2	2	50%
433	E	2	2	0	100%
449	E	3	3	0.0	100%
168	E	1.5	1	0.5	67%
555	E	2.5	2	0.5	80%
268		3	3	0.0	100%
69	E	3	1.09	1.9	36%
263	E	2	1.32	0.7	66%
264	E	12	2.32	9.7	19%
266	E	12	1.06	10.9	9%
279	E	10	6.02	4.0	60%
281	E	5	5.24	-0.2	105%
282	E	5	4.14	0.9	83%
284	E	2	3.02	-1.0	151%
288	E	8.5	7.6	0.9	89%
298	E	4	3.28	0.7	82%
299	E	7	4.79	2.2	68%
304	E	10	5.11	4.9	51%
305	E	1	4.28	-3.3	428%
306	E	2	1.7	0.3	85%
308	E	5	1.45	3.6	29%
309	E	3	2.28	0.7	76%
310	E	4.5	18.77	-14.3	417%
311	E	6	1.09	4.9	18%
318	E	0.5	0.95	-0.5	190%
319	E	0.5	6.48	-6.0	1296%
320	E	2	5.16	-3.2	258%
78	E	2	3.14	-1.1	157%
79	E	6	1.09	4.9	18%
80	E	2.5	1.6	0.9	64%
81	E	2.5	4.12	-1.6	165%
538	G	9	8	1.0	89%
539	G	13	11	2.0	85%
540	G	6	5.5	0.5	92%
548	G	2	2	0.0	100%
549	G	8	7	1.0	88%
550	G	8	7.5	0.5	94%
551	G	4	4	0.0	100%
425	G	1	4.5	-3.5	450%
541	G	2.5	2.5	0.0	100%
542	G	6	5.4	0.6	90%

Farmer number	Agro-ecological zone	Area declared (hectare)	Area measured	Differential	%
543	G	15	12	3.0	80%
544	G	4.5	4.5	0.0	100%
545	G	5	5	0.0	100%
546	G	2.5	2.5	0.0	100%
547	G	4	4	0.0	100%
5		10	11	-1.0	110%
48		4.8	6	-1.2	125%
211		0.6	1.5	-0.9	250%
216		3.45	3.5	0.0	101%
217		3.5	3.5	0.0	100%
223		5.18	7	-1.8	135%
224		1.3	10	-8.7	769%
228		4.46	6	-1.5	135%
231		4	4	0.0	100%
83		1	2	-1.0	200%
94		2	5	-3.0	250%
111		2	2	0.0	100%
118		2	2	0.0	100%
150	E	2	2	0.0	100%
188		5	4	1.0	80%
191		4	3.5	0.5	88%
247		0.55	1	-0.5	182%
262	E	3	2.5	0.5	83%
269		2	1.89	0.1	95%
303		2	2	0.0	100%
314		2	3	-1.0	150%
54	E	6	5.16	0.8	86%
55	E	6.5	6	0.5	92%
56	E	2	1.11	0.9	56%
57	E	4.5	4.94	-0.4	110%
58	E	1	3.19	-2.2	319%
59	E	2	2.6	-0.6	130%
118	E	3	3	0.0	100%
120	E	6.5	2.86	3.6	44%
561	E	1.8	1.9	-0.1	106%
562	E	2	1.8	0.2	90%
Total 99	**E= G= M=**	**Area declared**	**Area measured**	**Differential**	**%**
Average		*3.97*	*3.70*	*0.23*	*93%*
%				107%	
Median		3	3	0	1
Standard deviation		3.2	2.9	3.0	1

Annex 9 Overview of inputs used by cocoa farmers

Type pesticide product	% respon-dents N= 376	Type herbicide	% respon-dents N= 121	Type fun-gicide*	% respon-dents N= 65	Type fertiliser	% respon-dents N= 80
45sc	0%	Adwumawura	1.7%	Agricao	1.6%	23 NPK	61.3%
Accelam	2%	Binfaga	1.7%	Basf	1.6%	Compost	7.5%
Actara	2%	Kalach	3.3%	Callomile	6.3%	Dechet de Mouton	1.3%
Alm	0%	Daba	0.8%	Caoforce	1.6%	Dechet de Poulet	6.3%
Alpha	0%	Destructor 360 SI	0.8%	Consicao	1.6%	EK 18	1.3%
Atikpa	1%	Fanga	1.7%	Fongicao	14.3%	Hure	1.3%
Basudine	2%	Glyphadaire	10.7%	Forum	3.2%	Fertiliser (unknown Name)	1.3%
Biocao	0%	Gramokate	0.8%	Gliphader	7.9%	Hydrocao	2.5%
Boradyne	7%	Gramoxone	34.7%	Ridomil	49.2%	Marzouza	1.3%
Borex	6%	Herbestra	3.3%	Ridomin	0.0%	Round-Up	1.3%
Borexna	0%	Hercule	1.7%	Rudomine	1.6%	Stpc	1.3%
Bosse Plus	0%	Plyphadèr	0.8%	Round Up	6.3%	Supercao	10.0%
Cabosse 18 Mois	0%	Round Up	37.2%	Tropical	3.2%	Supergro	1.3%
Cabosse Plus	5%	Grifadel	0.8%	Unknown	1.6%	Vita Plus	1.3%
Cacao Super	0%					Éléphant	1.3%
Cacao Vitesse	1%						
Cahomoniac	0%						
Calfan	5%						
Califan	0%						
Calivoire	1%						
Cao Super	0%						
Caodan	0%						
Caoforce	16%						
Caomidax	0%						
Caonet	1%						
Caotiman	0%						
Caovitesse	0%						
Catapulte	1%						
Colidor	0%						
Crobitex	0%						
Engeo	0%						
Enges	0%						
Enjo	0%						
Gawa	2%						
Glypadaire	0%						
Gramoxone	0%						
Grosudine	2%						
Humidor	0%						
Imidor	1%						
Iran	0%						
Kafane Super	1%						
Kolinor	1%						
Mirador	0%						
Miridént	0%						
Morès	0%						
Onex	0%						
Paracao	1%						
Protek	1%						
Sofitan	0%						
Super Gro	0%						
Terminus	0%						
Thiodan	13%						
Thiosulfan	11%						
Thionex	1%						
Tima Super	0%						
Tropicao	1%						
Tropinex	0%						
Turbo Action	0%						

*Note- some farmers indicate the same products for both herbicide and fungicidal use.

Planting materials

Local name for plant material	Unit	Total costs in CFA
18 Mois	100 seedlings sufficient for 1 hectare	25000 CFA to CENERA
Bresil	100 seedlings sufficient for 1hectare	100 for 25000 pay to CENERA
Ghana	Per seedling	Purchase or exchanged with other farmers
Mercedes	Per seedling	Purchase or exchanged with other farmers

Annex 10 Figures and graphs

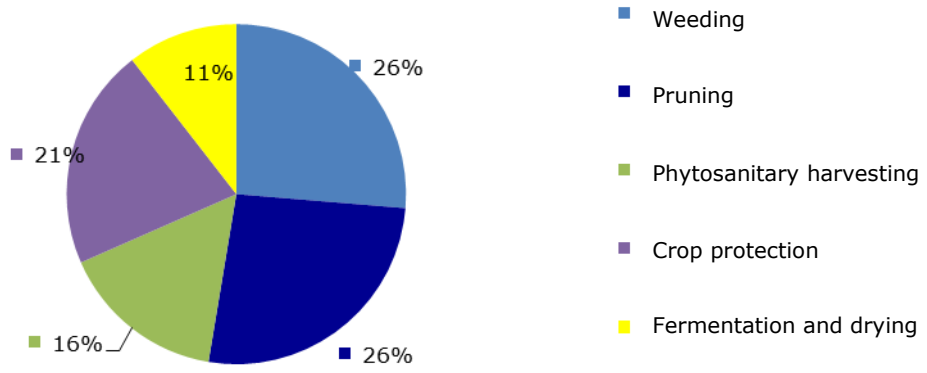
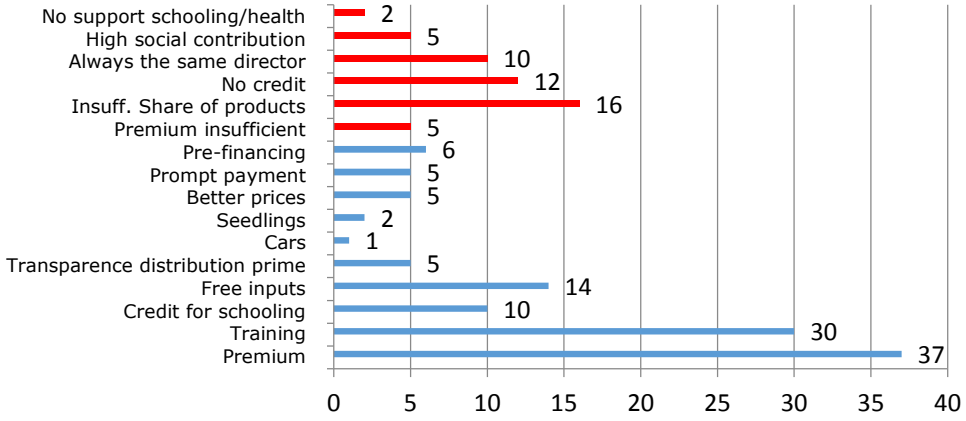


Figure 69 *Farmer perceptions of increased knowledge on GAP.*

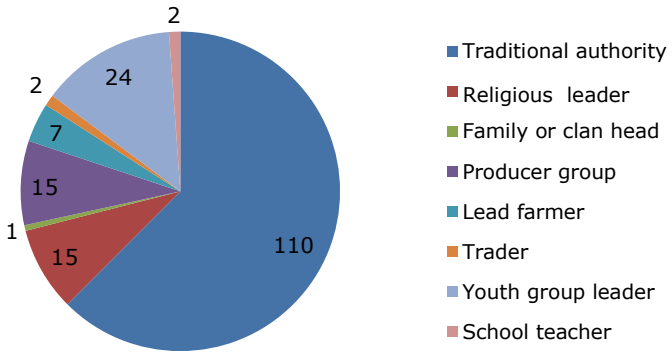


Dissatisfaction - red satisfaction - blue

Source: Focus group (121 participants)

N= 176

Figure 70 *Farmers' satisfaction with cooperatives services.*



N= 176

Figure 71 *Position in the community.*

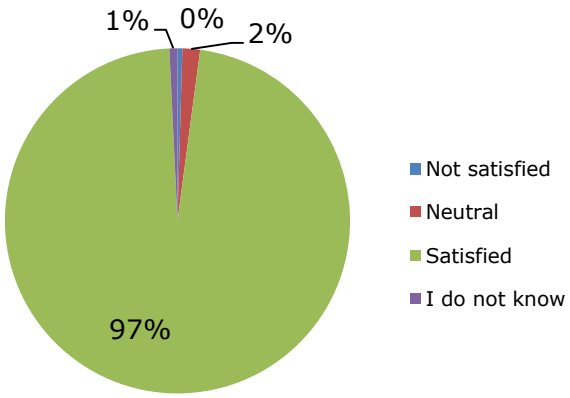
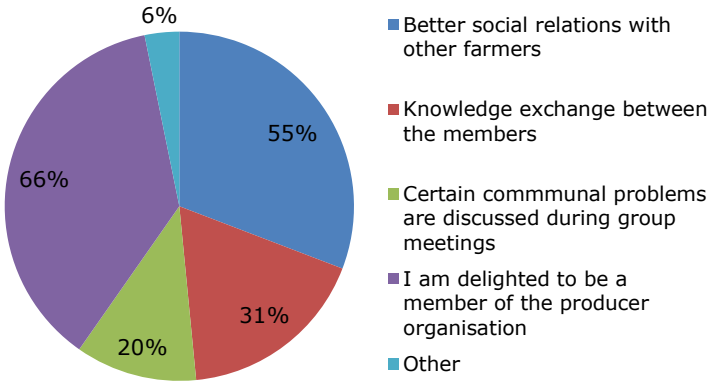


Figure 72 *Farmers satisfaction with UTZ training programme.*



(N = 477)

Figure 73 *Advantages of being member of a cooperative.*

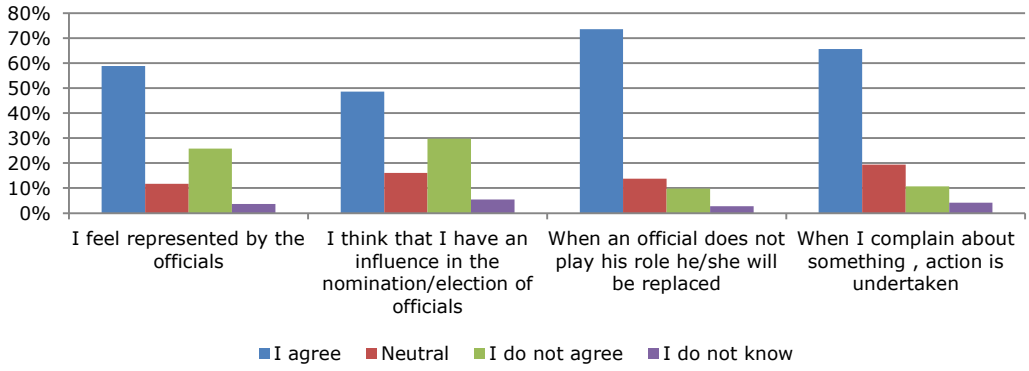
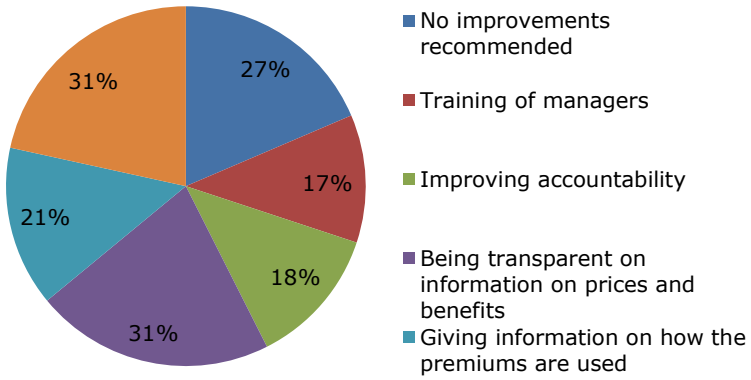
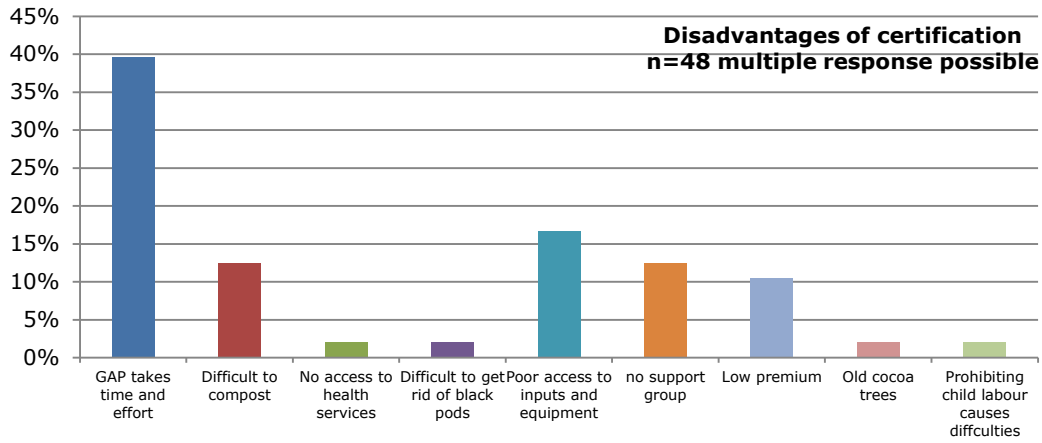


Figure 74 *Farmers satisfaction with functioning of cooperatives.*



(N=717, multiple responses possible).

Figure 75 *Suggested improvements for cooperative by UTZ programme participants.*



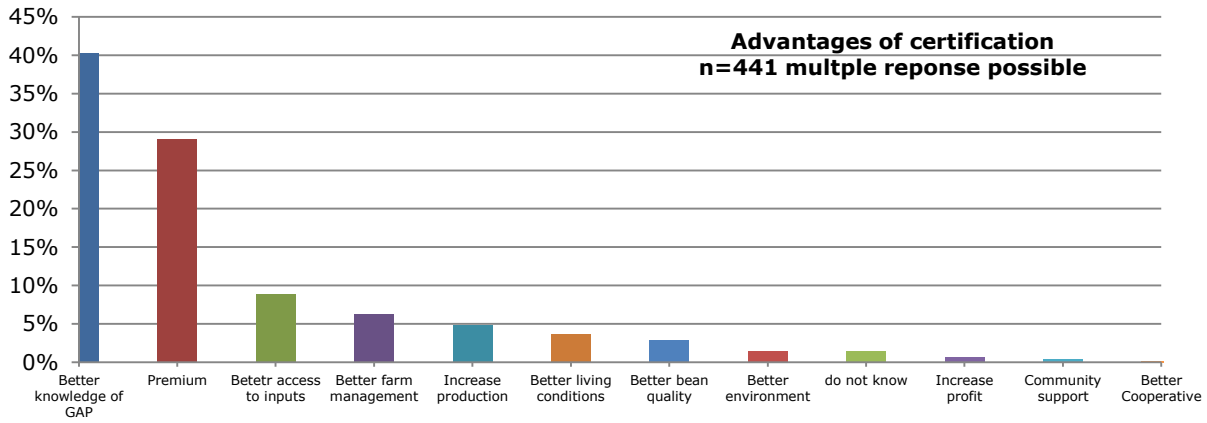


Figure 76 *Farmers perceptions of advantages and disadvantages of certification.*

Table 15 provides the average scores from the responses of all farmers to questions in the producer questionnaire concerning knowledge and the implementation of Good Agricultural Practices (GAPs) contained in the UTZ Code of Conduct. The minimum score is zero (where the respondent did not respond correctly or indicated that they did not know) and the maximum is 100% (indicating that correct response(s) were given). The statistically significant results between the groups are shown in Figure 78.

Table 15

Farmer knowledge and implementation scores.

Question number	Subject Knowledge levels	UTZ programme participants	Control group	Total
101	Production and practice: weeding	4%	12%	6%
105	Production and practice: record keeping	11%	7%	10%
103	Production and practice: soil conservation	16%	12%	15%
104	Production and practice: fertiliser use	17%	17%	17%
106	Production and practice: buffer zone	19%	18%	19%
100	Production and practice: crop protection products	21%	15%	20%
102	Production and practice: pruning	30%	22%	28%
110	Production and practice: bean quality	31%	25%	30%
108	Personal protective equipment PPP	33%	26%	31%
107	Production and practice: agro chemical use	34%	31%	33%
111	Child labour	35%	28%	33%
109	Production and practice: cocoa production	39%	34%	38%
	Levels of implementation	UTZ programme participants	Control group	Total
93	Waste management (how chemicals are disposed of)	3%	5%	4%
89	Waste management (solid waste management system)	5%	4%	5%
76	Production and practice: black pod	6%	3%	5%
73	Production and practice: inputs	8%	13%	9%
69	Productivity	10%	5%	9%
81	Production and practice: shade trees	11%	9%	11%
72	Production and practice: pruning	18%	19%	18%
91	Waste (use of pesticides)	19%	38%	23%
86	Soil & water management	20%	15%	19%
87	Soil & water management	22%	13%	20%
75	Input use	23%	15%	21%
83	Production and practice shade trees	23%	16%	21%
88	Waste management (surplus of chemicals or not)	27%	27%	27%
92	PPP	27%	22%	26%
80	Production and practice: drying	28%	34%	29%
74	Input use	30%	27%	30%
79	Production and practice fermentation	38%	30%	36%
78	Production and practice fermentation	41%	38%	41%
71	Production and practice weeding	42%	47%	43%
90	Waste management	42%	38%	41%
77	Production and practice: harvesting pods	61%	63%	61%

Key 0% =low 100% = correct & high

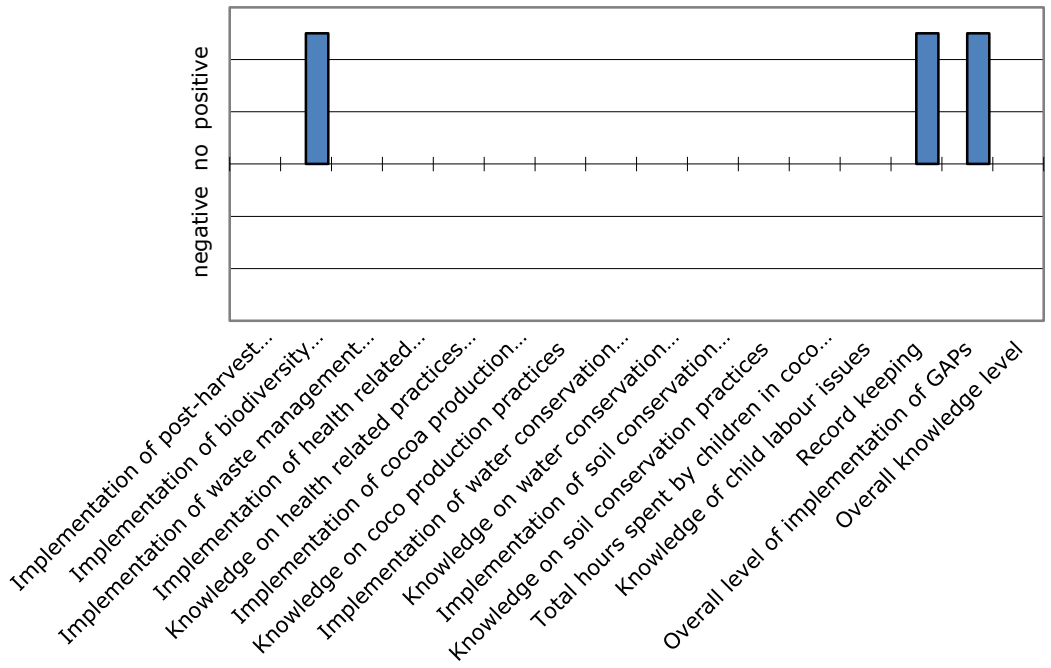


Figure 77 *Significant correlations between knowledge levels and implementation of GAPs & participation in UTZ Certification programme.*

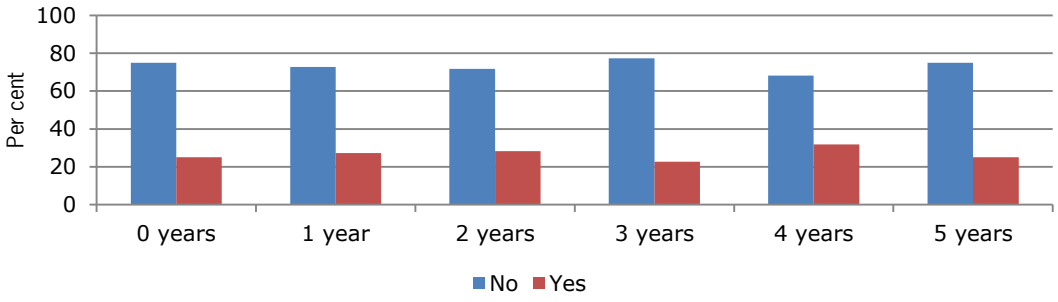
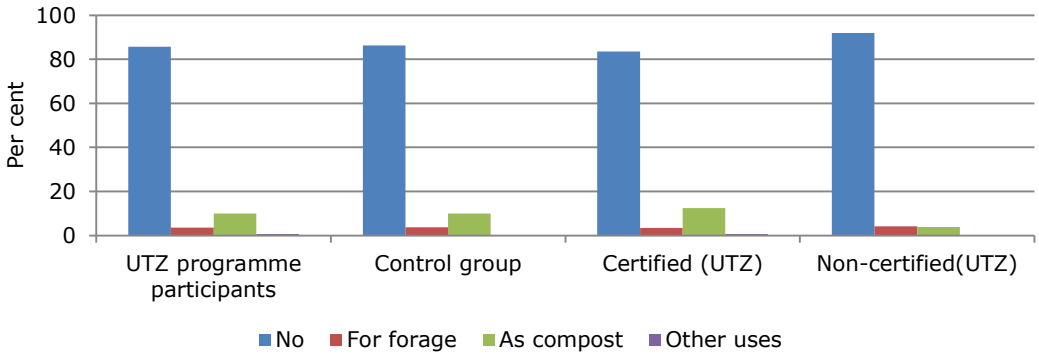


Figure 78 *Accidents during cocoa production activities for farmers in different phases of participation.*



(N = 938)

Figure 79 *Use of waste from cocoa production activities?*

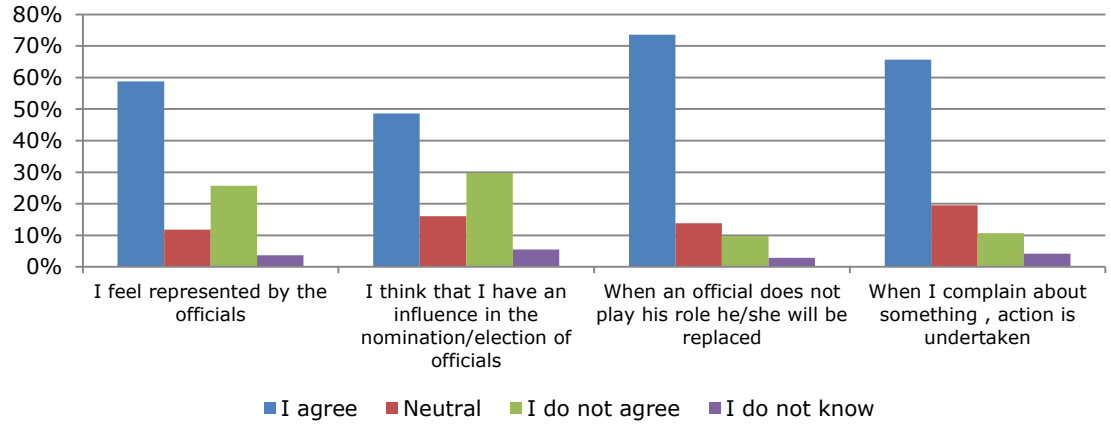


Figure 80 *Farmers perceptions of functioning of cooperatives*

Annex 11 Regression analyses

Regression methodology

To account for both fixed and random effects that may cause variations in knowledge and implementation scores, multilevel mixed-effect linear regression was used in which variables such as age, gender, and level of education were used to estimate fixed effects and explore similarities between the different groups, also to see whether there are selection bias. A separate indicator, the agro-ecological zone, was used to group variables to address effects that may be associated with climate and soil type. Correlations between variables and the length of participation in the programme were also conducted.

The stratified sampling procedure (agro-ecological zones, length of time participating in the programme and certified/non-certified, traders. This allows similarities in some characteristics to be taken account into the analysis. Propensity score matching (PSM) was not used as it would be extremely difficult given the many different treatments, and would require a much larger number of farmers to be interviewed to secure enough similar farmers for comparison (going beyond the time and budget constraints of this study. Also, as this is largely a baseline study with indications for impact, a PSM is not appropriate at this stage but may be possible with a subsequent impact assessment.

Indicator	Unit of measurement
Knowledge level	Score 0-1
Level of implementation of GAPs	Score 0-1
Productivity	Kg/ha
Farm efficiency	Economic input-output ratio
Quality	% rejects
Net income / continue/ follower	Net income, %, %
Livelihood	Satisfaction level
Labour rights	Compliance with Code of Conduct
Child labour (knowledge)	Knowledge score
Healthy and safe living and working conditions	Scores knowledge and implementation of practices
Maintained & improved quality of water and soil	Scores knowledge and implementation of practices
Effective waste management & reduction (cocoa production related)	Scores knowledge and implementation of practices
Protection restoration of natural habitats/biodiversity	Scores knowledge and implementation of practices
Inclusive programme	NONE
Stable cooperatives providing better and reliable services	Level of satisfaction with services
Sustainable practices rewarded by the market	Price premium

Regressions conducted

Explanatory variables taken into account in regression analysis:

- Age of the farmer
- Household size
- Farm ownership (creator, heir, manager, other)
- Knowledge score
- Score for implementation of practices
- Agro-ecological zone
- Duration of UTZ programme participation
- Whether farmers is UTZ certified or not
- Whether farmers is RA certified or not
- Whether farmers is FairTrade certified or not
- Duration of UTZ certification
- Duration of RA certification
- Duration of FLO certification
- Participation in UTZ certification programme
- Membership of a cooperative

- Farm size (main farm and in total)
- Age of main farm
- Total input costs for different categories (planting material, fertiliser, pesticide, fungicide, herbicide)
- Total input cost per ha
- Participation in training programmes: FFS, certification, champs d'apprentisage, community programmes, production programme, other programme

Effect sizes as well as significance levels were calculated and are reported as the coefficient below to provide additional information alongside the significance level. Differences can be significant, but small or large, but not significant (with 90% confidence interval), and are mentioned but do not allow conclusions to be drawn.

Results

Note that a correlation between two variables does not necessarily mean there is a causal effect.

Indicator	Regression results[19]:
Knowledge level of GAP	- Area main farm (positive, 0.004): the larger the main farm the higher the knowledge level (but very small effect 1ha adds up to 0,004 higher knowledge score) - Total area all farms (positive, 0.0015): idem (related to above) - FFS participation (negative, -0.037): FFS participants have lower knowledge level than non-participants. - Participation in champs d'appentisage (negative, -0.027): participants of champs d'apprentisage have lower knowledge level than non-participants. - UTZ certified (positive, 0.062). UTZ certified farmers have higher knowledge level than non-certified farmers (knowledge score is 0.062 higher for UTZ than for non-UTZ certified farmers) - Duration of UTZ certification (positive 0.012): the longer a farmer is certified, the higher his knowledge score (one year extra leads to 0.012 higher knowledge score) - RA certified (positive 0.024). RA certified farmers have higher knowledge level than non-certified farmers (knowledge score is 0.024 higher for RA than for non-RA certified farmers) - Membership of a cooperative (positive 0.076). Members of a cooperative have a higher knowledge score than farmers who are not a member. - Agro-ecological zone (positive 0.017) Farmers in the excellent zone have a higher knowledge level than farmers who are not situated in the excellent zone
Implementation level of GAP	- Knowledge (positive 0.054) the higher the knowledge score, the higher the implementation score - Length of UTZ programme participation (positive, 0.007). The longer a farmer participates, the higher the score. Small effect! - Certification programme (positive 0.013): participants of a certification programme score better than non-participants). - Participation in other programme (positive 0.027): participants of 'other programme' score better than non-participants. - UTZ certification (positive 0.021): UTZ certified farmers score better than non-UTZ certified farmers. - Duration of UTZ certification (positive 0.01): the longer a farmer is certified, the higher his implementation score (one year extra leads to 0.01 higher knowledge score)- Membership of a cooperative (positive 0.037). Members of a cooperative have a higher implementation score than farmers who are not a member. - UTZ programme participation: UTZ programme participants have a higher implementation score for implementation of GAP than the control group. - Ownership (positive 0.019). Managers have a higher implementation score than respondents who are not managers - Zone (positive 0.007). Farmers in the excellent zone have a higher implementation level than farmers who are not situated in the excellent zone

[19] Results of the regression analysis, indicating correlations between different indicators. The coefficient (0.005 e.g.) indicates the size of the effect**.** Only significant effects are included based on 'when other variables remain equal'. See Chapter 3 on the methodology.

Indicator	Regression results[19]:
Productivity	- Age of the farmer (negative -4.097): the lower the age of the farmers, the higher the productivity - Number of persons in household (positive 4.94): the more people in the household, the higher the productivity - Area of the main farm (negative -12.65): the smaller the main farm, the higher the productivity - Age of the main farm (positive 3.24): the older the age of the main farm, the higher the productivity, this may also be linked to approx. 1/3 of farmers replacing old trees[20]. Cooperative members renewed their trees more often than non-group members. - Marginal zone (negative -195.49): Farmers situated in a marginal zone, farmers have lower productivity than farmers who are not situated in a marginal zone. - Champs d'apprentisage (negative -81.74). Participants of champs d'apprentisage have lower productivity than non-participants. - RA certification (positive 118.19); RA certified farmers have higher productivity than non-RA certified farmers - UTZ certification: (positive 151.93) UTZ certified farmers have higher productivity than non-UTZ certified farmers - zone (positive and negative): Farmers in the excellent zone have a higher productivity than farmers who are not situated in the excellent zone. Farmers in marginal zone have a lower productivity than farmers in other zones. Farmers in the good zone have a lower productivity than farmers in other zones. - Farmers who have inherited their farms have a lower productivity than all other types of owners. - Creators of the cocoa plantation have a higher productivity than other types of owners combined. - Cooperative membership: members have a higher productivity than farmers who are not a member.
Farm efficiency	- Size of main farm (positive, 1.49); positive correlation, with the larger the size of the main farm, the higher the efficiency - Duration of UTZ programme participation (positive 0.967): the longer a farmer participates in the programme the higher his efficiency - Champs d'apprentisage: (negative -3.67). Participants of champs d'apprentisage have lower productivity than non-participants. - Size of the total farm (positive 1.11): the larger the size of the total cocoa farm, the higher the efficiency - -RA certification (positive 2.37): RA certified farmers have a higher efficiency than farmers who are not RA certified. - FT cert length, but only 12 observations! The longer FairTrade certified, the higher the efficiency.
Quality	Not conducted
Net income from cocoa production (main farm)	- Age of the farmer (negative - 14800) the older the farmer, the lower the net income - Size of main farm: (positive 257946); the larger the main farm, the higher the net-income - Implementation score: the higher the score, the higher the net income from cocoa. - Champs d'apprentisage (negative -310819): participants of champs d'apprentisage have lower net incomes than non-participants. - Size of total cocoa farm: (positive 195031): the larger the size of the total cocoa farm, the higher the net income - Productivity (positive 2363); the higher the productivity, the higher the net income - Heirs have a higher net-income than other types of owners combined. - The longer a farmer is certified, the higher his net-income is.
Livelihood (score for satisfaction level)	- Knowledge (positive 0.86); the higher the knowledge score, the more a farmer is satisfied with his livelihood - Nr of people in household (negative, very small effect -0.0055): the more people in household, the lower satisfaction with livelihood) - Farmers in good zone: lower satisfaction score than farmers in other zones combined - Farmers in excellent zone: higher satisfaction than farmers in other zones combined - Certification programme (negative -0.15) participants of certification programme have lower satisfaction than non-participants. - other programmes: (negative -0.301). participants of other programme have lower satisfaction than non-participants. - Area total (positive 0.016) the larger the size of the total cocoa farm, the higher the satisfaction level. - Productivity (positive but very small effect 0.0001). The higher the productivity, the higher the satisfaction level. - RA (positive 0.11) RA certified farmers are more satisfied than non-RA certified farmers - UTZ (positive 0.45). UTZ certified farmers are more satisfied than non-UTZ certified farmers
Labour rights	Not conducted

[20] 325 of the 944 farmers indicated renewed their trees in the last 2 years. This may be linked to training and replanting and rejuvenation programmes by traders and government agencies.

Indicator	Regression results[19]:
Child labour (knowledge)	Not conducted
Healthy and safe living and working conditions	Not conducted
Maintained & improved quality of water and soil	Not conducted
Effective waste management & reduction (cocoa production related)	Not conducted
Protection restoration of natural habitats/biodiversity	Not conducted
Inclusive programme	Not suitable for regression analysis
Stable cooperatives providing better and reliable services	- Knowledge level (positive 0.63) the higher the knowledge level, the more satisfied with their cooperative. Members of cooperatives also have significantly higher knowledge levels than non-members! It is not possible to indicate which variable influences each other. - Participation in community programme (positive 0.22): participants of a community programme are more satisfied with cooperative than non-participants. - Whether farmers replanted trees (positive 0.12): farmers who replanted their trees are more satisfied than farmers who did not. But: cooperative members also renewed their trees more often than non-members! It is unclear what influences satisfaction. Farmers in the programme may have had better access to trees. - UTZ certification (positive 0.11): UTZ Certified farmers are more satisfied with the services of their cooperative than non-certified farmers. - Farmers in the excellent zone have higher satisfaction levels than farmers in other zones combined.
Sustainable practises rewarded by the market	Not conducted

Annex 12 Farm ownership and revenue sharing models in Ivory Coast

Seven broad categories of farm ownership, responsibility and revenue sharing are found in the Ivory Coast:

1. Ownership (founder) (*fondeur*)

This implies ownership of both land and crops (i.e. cocoa, rubber, coffee, oil palm, etc.). Both Ivorians and Burkinabe can own land and crops.

2. Manager (Gestionnaire)

A manager of a field(s), which generally belongs to someone in their extended family i.e. father or mother or be managed after a parents death while the family sorts out inheritance. Informally the manager receives one third of the revenue. Generally a higher amount of revenue is obtained when the field is managed on behalf of a father compared to the situation when it is managed on behalf of a mother, due to cultural norms of respect and tendency not to negotiate with one's mother.

3. Inheritance or inheritance with ownership (*Héritier, propriétaire*)

After division of land form inheritance, ownership is complete. Depending upon the region, women as well as men may inherit. In the South and South West of Ivory Coast women inherit more frequently, whereas in other areas only men tend to inherit. Burkinabe women generally have no inheritance rights. Whilst Burkinabe have purchased land in Ivory Coast, generally this is customary and they do not have officially registered land title deeds.

4. Worker with 33% revenue share (Abusan main d'oeuvre en remuneration de 33%)

Workers on productive land with no ownership rights or claims. They receive 1/3 of revenues from the owner of the land worked, the owner keeps 2/3. The majority of workers are male. It is estimated that only a very small proportion of women work as abusan.

5. Worker with 50% share of revenue (Abunun main d'oevre en remuneration de 50% utilisation de terre)

Workers on productive land with no ownership rights or claims. They receive 1/2 of revenues from the owner of the land worked, the owner receives 50%.

6. Under guarantee (Prise en garantie - garantie)

This is an arrangement either between two farmers, between farmer and buyer or between farmer and somebody with financial resources, where the land and crop is used as a guarantee for a loan. The person who has received the farm as guarantee may use Abusan worker to farm the land. Income from the land and crop is the property of the person who has the land in guarantee. Land under guarantee can become the property of the lender in the case of a long-term loan and when an agreement is reached between the two parties. It is also possible that the owner works in the field and has no Abusan.

7. Classified forest (*forêt classée*)

Classified forest is the property of the state and if cocoa is farmed in classified forest it is effectively illegal. In some cases is hoped that in time the state will declassify and the farmer becomes the owner.

Annex 13 Benchmarking data for Ivory Coast farmers

STUDY NAME
Gockwiski & Sonwa, 2008 (date of survey 2001-2002) (Gockowski and Sonwa 2008)
Biodiversity conservation and smallholder cocoa production systems in West Africa with particular reference to the Western Region of Ghana and the Bas Sassandra region of Ivory Coast. West Africa with particular reference to the Western Region of Ghana and the Bas Sassandra region of Ivory Coast.

INDICATORS	RESULTS
Countries	4
Cameroon, Ghana, Ivory Coast, Nigeria	
# villages	337
# HH heads	4426
# HH heads producing cocoa	4034
	Ivory Coast
Average harvested per HH (ha)	5.27
Yield (kg/ha)	352
fungicide cost (USD/ha)	4.05
insecticide cost (USD/ha)	42.4
fertiliser cost (USD/ha)	5.21
seed garden hybrids (%)	12
local unimproved varieties	88
mix of local and seed garden hybrids	na
Shade levels by country and region	
Ghana	2
	45.2
	52.7
ivory coast	24.4
	48.1
	27.5

STUDY NAME
KPMG cost benefit analysis (GBCG 2012; KPMG 2012)

INDICATORS	
Analysis of 3 certification initiatives Fairtrade, UTZ and Rainforest Alliance	
In our model, certification is represented as an intervention on the farmer/coop profit and loss account (P&L) for an archetypal farmer/coop, representing a particular segment of producers, which provides us with information for our base model. The base model was developed and populated with data from interviews with stakeholders in Ghana, Ivory Coast and Europe, a previous study from KPMG (2011) for IDH. The Sustainable Trade Initiative and literature research that has been issued since the model inception (Ruf et al., 2012). This means a business case for certification exists, even when productivity improvement is not attributed to certification.	
Base Yield	kg/ha
Yield increase	with fertiliser use over 3-year period from Ruf et al., 2012.
yield in final year	kg/ha
farm size	ha
group chum	% farmers leaving group per year
retroactive certification	# of years
grant funding	$ per certified ton
grant funding period	# of years
cost of pesticide	$/ha/year
cost of fertiliser	$/ha/year
labour day-rate	$/day
work done by farmer	% of total amount of work
initial farmer time investments	hours
farmer time for ICS	hours per week
farm gate price	% of export price
market price	$/1,000kg
time of selling certified cocoa after first investment	# of years
group size	# of group members
group formation	$/group

STUDY NAME		
KPMG cost benefit analysis (GBCG 2012; KPMG 2012)		
INDICATORS		
Premium paid per certification scheme (in USD per certified ton of cocoa)	Ghana	Ivory Coast
Base Case	195	195
RFA	150	200
UTZ	152.4	140
FT	200	200
Audit costs per certification scheme (in USD per coop per year) (number of farmers per coop in brackets)	Ghana	Ivory Coast
RFA	8500 (1000)	7500 (300)
UTZ	6500 (300-500)	4331 (400)
FT	2561 (251-500)	2561 (251-500)
Chain of custody costs per certification scheme		
Variable (in USD per certified ton)	lower bound	upper bound
RFA	15	15
UTZ	13	13
FT	5	~58.5
Fixed (in USD per supply chain operator)	lower bound	upper bound
RFA	4000	4000
UTZ	325	5200
FT	1638	3003
Net benefit per ton over a 6-year period based on averages of model variables		
input		-338
internal control system		-7
training		-7
labour costs		-39
certification specific investment		-4
Audit costs per certification scheme (in USD per coop per year) (number of farmers per coop in brackets)		-5
fees paid to scheme owner		0
farmer + coop cost		-400
delta income		498
Premium		113
grantfunding		14
net benefit		225
Average benefit over 4-year period		
Ghana		1916.826
Ivory Coast		1072.353
Net benefit per ton over a 6-year period for certification schemes per country		
Ivory Coast	FT	129
	RFA	116
	UTZ certified	96
Ghana	FT	417
	RFA	359
	UTZ certified	370
Base Yield (kg/ha)	Ivory Coast	565
	Ghana	403
	Base Case	500
Yield increase	Ivory Coast	101
	Ghana	89
	Base Case	89
yield in final year (kg/ha)	Ivory Coast	1.136
	Ghana	762
	Base Case	945
farm size (ha)	Ivory Coast	3.7
	Ghana	2.9
	Base Case	2.5
group chum (% farmers leaving group each year)	Ivory Coast	0
	Ghana	0
	Base Case	0
retroactive certification (# of years)	Ivory Coast	0
	Ghana	0
	Base Case	0

STUDY NAME		
KPMG cost benefit analysis (GBCG 2012; KPMG 2012)		
INDICATORS		
grant funding ($ per certified ton)	Ivory Coast	50
	Ghana	50
	Base Case	50
grant funding period (# of years)	Ivory Coast	3
	Ghana	3
	Base Case	3
cost of pesticide ($/ha/yr)	Ivory Coast	96
	Ghana	0
	Base Case	96
cost of fertiliser ($/ha/yr)	Ivory Coast	420
	Ghana	125
	Base Case	135
labour day-rate ($/day)	Ivory Coast	3.5
	Ghana	4.18
	Base Case	0
work done by farmer (% of total amount of work)	Ivory Coast	0
	Ghana	0
	Base Case	100
initial farmer time investments (hours)	Ivory Coast	30
	Ghana	30
	Base Case	0
farmer time for ICS (hours per week)	Ivory Coast	3
	Ghana	3
	Base Case	0
farm gate price (% of export price)	Ivory Coast	47
	Ghana	53
	Base Case	70
market price ($/1,000kg)	Ivory Coast	2463
	Ghana	2463
	Base Case	2050
time of selling certified cocoa after first investment (# of years)	Ivory Coast	1
	Ghana	1
	Base Case	1
group size (# of group members)	Ivory Coast	375
	Ghana	375
	Base Case	375
group forming ($/group)	Ivory Coast	3500
	Ghana	3500
	Base Case	3500
Base Yield	kg/ha	
Yield increase	with fertiliser use over 3-year period from Ruf et al., 2012.	89% G, 101% CdI
yield in final year	kg/ha	
farm size	ha	
group chum	% farmers leaving group per year	
retroactive certification	# of years	
grant funding	$ per certified ton	
grant funding period	# of years	
cost of pesticide	$/ha/year	
cost of fertiliser	$/ha/year	
labour day-rate	$/day	
work done by farmer	% of total amount of work	
initial farmer time investments	hours	
farmer time for ICS	hours per week	
farm gate price	% of export price	
market price	$/1,000kg	
time of selling certified cocoa after first investment	# of years	
group size	# of group members	
group forming	$/group	
certified content	% per group of total	30% RA, 40% UTZ, 100% FT
cost of certification born by actor	% cost born per actor group	94% coops & producers
cost of certification	us/ton	69US/ton
		34USD FT, 80 UTZ, 83 TRA

STUDY NAME		
KPMG cost benefit analysis (GBCG 2012; KPMG 2012)		
INDICATORS		
price premium	% paid to farmers	4% utz, 9% FT, 10% RA
yield-revenue relationship	% of increased revenue attributed to higher yields	60%
net benefit cert cocoa	USD per ton	12
payback benefit from certified cocoa	after 6 years USD per ton with yield incs	114 $ CI, 382 $ Ghana
payback benefit from certified cocoa	after 6 years USD per ton with no yield incs	71$ CI, 38 $ Ghana
premium price	USD ton	180
cumulative net benefit-coop	6 years after cert - per typical coop 375 members - USD	USD1 m CI, USD1.9 m Ghana
cumulative net benefit-farmer	6 years after cert - per farmer in a typical coop 375 members - USD	USD2860 CI, USD 5112 Ghana

STUDY NAME		
Benjamin & Deaton, 1993 (Benjamin and Deaton 1993)		
Household welfare and the price of coffee and cocoa in Ghana and the Ivory Coast		
Lessons from the Living Standards Surveys (1985 Living Standards Measurement Survey)		
INDICATORS	**RESULTS**	
LSMS SAMPLE		
# HH's	(almost half are urban)	1600
Questions were included on:		
Land		
Crops grown		
Age structure of tree crops		
Sharecropping		
Use of inputs		
Livestock		
Farm capital		
Agricultural processing activities		
Income from coffee and cocoa		
strength of LSMS is measurement of HH expenditures		
size distribution of farms in the Ivory Coast, 1985		
size of farms (0.99)	less than 0.99	2.7
	1 to 1.99	4.3
	2 to 4.99	21
	5 to 9.99	27.6
	10 to 19.9	29.1
	20 to 49.9	13.3
	More than 49.9	2
Average Farm size		12.5
Overall cropped area in each farm size category		
size of farms (0.99)	less than 0.99	0
	1 to 1.99	0.3
	2 to 4.99	5.1
	5 to 9.99	14.9
	10 to 19.9	32.6
	20 to 49.9	31.5
	More than 49.9	15.7
Age structure of trees stands and % of cocoa farms growing coffee in ivory coast, 1985		
% of trees in cocoa stands by age structure	too young	39
	fully mature	52
	near end	9
% of cocoa farms growing coffee		78
% of trees in coffee stands by age structure	too young	18
	fully mature	67
	near end	15
% of coffee farms growing cocoa		67
AVERAGE HH INCOME AND EXPENDITURE DATA		
Cocoa	all HH's	All farm HH's
Sales		
Less non-labour inputs		
Lower labour costs		
net cocoa income	110	166

STUDY NAME		
Benjamin & Deaton, 1993 (Benjamin and Deaton 1993)		
Household welfare and the price of coffee and cocoa in Ghana and the Ivory Coast		
Lessons from the Living Standards Surveys (1985 Living Standards Measurement Survey)		
INDICATORS	**RESULTS**	
Coffee		
Sales		
Less non-labour inputs		
Lower labour costs		
net coffee income	56	85
home-produced food	203	307
net other agricultural income	118	178
total agricultural income	487	736
Non agricultural income		
Wages	533	133
Self-employment	306	162
other income	236	115
total non agricultural income	1074	410
Total income	1562	1146
HH expenditure	1638	1161
Per capita expenditure	264	153
Sample Size	1559	1033
Average yield per hectare coffee		
Average yield per hectare cocoa		
Metayeurs (hired labour)		
income		
Cuts in cocoa and coffee prices that have taken place are unlikely to have had a dramatic effect on the distribution of income, essentially because cocoa and coffee farmers are well scattered through the population		

STUDY NAME	
FAFO 2012 (Hatløy et al., 2012)	
Baseline Study Report, Towards Côte d'Ivoire Sustainable Cocoa Initiative (CISCI)	
INDICATORS	**RESULTS**
METHOD	
Conducted by team of 4 people (2 FAFO researchers, 2 Ivorian consultants). Work carried out July-August 2012. Most information collected from Abidjan. Various stakeholders interviewed: List in Report Annex 3 and in Annex 4: complete list of cocoa sector programme and projects	
Section 1.2 Cocoa in Ivory Coast	
600 000 cocoa farms	
4 m of country's 22 m inhabitants	
Average farm size 3 ha	
Yield kg/ha = 450	
Cocoa primary source of income for more than 75% of population	
Income is limited with farmers receiving not more than 40% of the CIF price	
43% of population remain below poverty line	
72% of farming communities have no health centre and other basic services	
60% have no access to drinking water	
Chapter 4: constraints for sustainable cocoa sector	**Page 22**
Social constraints	
Child labour specifically worst forms of child labour	
Access to basic infrastructure	
Ageing of farmers	
HIV/AIDS and malaria prevention	
Farmer safety	
Economic	
Access to finance	
Access to agricultural inputs	
Cooperative organisation	
Ageing of cocoa trees	
Environmental	
Land degradation and deforestation	
Pests and diseases	
Governance	

STUDY NAME
FAFO 2012 (Hatløy et al., 2012)
Baseline Study Report, Towards Côte d'Ivoire Sustainable Cocoa Initiative (CISCI)

INDICATORS	RESULTS
Land ownership, enforcement and planning	
Limited capacity of institutions such as ANADER and CNRA	
Land use planning	
Coordination of actions among stakeholders	
Measuring progress in the cocoa sector	
Lack of data on specific issues such as deforestation	

STUDY NAME
COSA/RA 2011 (COSA 2012) Rainforest Alliance Certification on Cocoa Farms in Ivory Coast

INDICATORS		RESULTS
METHOD		
Ivory Coast Haut Sassandra, Bas Sassandra, Moyen Comoe		
200 farms 2009, 252 farms 2011		
7 coops		
117 RA certified and 135 control non cert farms		
training	**econ**	
cert hours of training in past year improved farm operations		5.5
cert hours of training in past year marketing support		0.5
cert hours of training in past year env issues		4.7
cert hours of training in past year total		20.8
non-cert hours of training in past year improved farm operations		0.8
non-cert hours of training in past year marketing support		0
non-cert hours of training in past year env issues		0.6
non-cert hours of training in past year total		3.6
yields kg/hectare	econ	
cert		576
control non cert		334
revenue US$/hectare		
cert		922
control non cert		542
income US$/hectare		
cert		403
control non cert		113
perception econ circumstances		
worsened	cert	33%
improved	cert	67%
	non cert	26%
changes yields 2009 to 2011		
cert		7%
non-cert		115%
changes revenue 2009-2011		
cert		39%
non-cert		201%
replanting/rejuvenating trees		
cert		63%
non-cert		27%
water protection measures implemented		
cert		80%
non-cert		17%
soil cons measures implemented		
cert		35%
non-cert		4%

STUDY NAME			
IITA, 2002 (IITA 2002)			
Summary of Findings from the Child Labour Surveys In the Cocoa Sector of West Africa: Cameroon, Ivory Coast, Ghana, and Nigeria			
INDICATORS	**RESULTS**		
METHOD			
Baseline Producer Surveys (BPS) were conducted in 203 villages in Cameroon, Ghana, and Nigeria. The sample size for these countries included 3,086 respondents. A BPS has just been concluded in Ivory Coast, and data from this survey are currently being analysed.			
Producer-Worker Surveys (PWS) and Community Surveys (CS) were conducted in Ivory Coast. The PWS covered the entire cocoa producing region visiting 250 localities and interviewing 1,500 producers. The CS included 114 interviews in 15 of the 250 PWS localities.			
Child labour			
% family labour used	CI	87%	
% boys working on farm	West Africa	59	
% girls working on farm	West Africa	41	
average age	West Africa	>14	64%
		CI	Ghana
no. children carry out farm tasks		129410	0
no. children carry out farm tasks- apply pesticides		13200	0
no. children carry out farm tasks- use dangerous tools		71100	38700
no. children paid		5121	0
no. children no family ties		11994	0
no children working via intermediaries		2500	
no children (age 6-17) in cocoa producing hh never attended school	CI	33	
school enrolment rate- working on farm	CI	34	
school enrolment rate- not working on farm	CI	64	
school enrolment rate- children of immigrants	CI	33	
School Enrolment Rate- Children Of Natives		71	
average hh revenues from cocoa	US $ HH Member	30to 110	
cocoa share of total hh revenue	CI	66%	
	Ghana	55%	
average yield	kg/ha ghana207		

STUDY NAME				
IITA 2009 (IITA 2009)				
		CI	Ghana	
total farm gate receipts	USD	1.2 billion	700 m	
government revenues		1 billion	650 m	
yields old cocoa region	kg/ha	200	200	
yields new cocoa region	kg/ha	490	433	
median tree age	years			25

Annex 14 Certification and related activities in the cocoa sector in Ivory Coast 2008 to 2013

Table 16

Overview of certification and related activities in the cocoa sector in Ivory Coast 2008 to 2013.

Note that the list is not exhaustive and provides an overview of initiatives relating to the activities of UTZ Certified and related sustainability activities of partners in Ivory Coast.

Main implementing organisation(s)	Project, programme or activities
	International organisations
World Cocoa Foundation (WCF)	1. Livelihood programme Cocoa Link 2. WCF Empowering Cocoa Households with Opportunities and Education Solutions (ECHOES) 3. WCF African Cocoa Initiative (WCF/ACI) is a public-private partnership, bringing together WCF, cocoa industry members, the Sustainable Trade Initiative (IDH) and US Agency for International Development through its Global Development Alliance Certification Capacity Enhancement (CCE) project African Cocoa Initiative (ACI) African Cocoa Initiative (ACI)
International Cocoa Organisation (ICCO)	1. Capacity Building Programme on Pesticides Residues and other Harmful Substances in Cocoa in Africa Cocoa productivity and quality improvement: a participatory approach 2. Analysis of the value chain in cocoa producing countries Cocoa germplasm utilisation and conservation: a global approach Improvement of cocoa marketing and trade in liberalizing cocoa producing countries Supply chain management for total quality cocoa: pilot phase Pilot Project on Price risk management for cocoa farmers 3. Preventing and managing the spread of cocoa pests and pathogens: lessons from the witches' broom disease 4. Capacity building programme on pesticide residues and other harmful substances in cocoa in Africa 5. Cocoa of Excellence: promoting diverse high quality cocoa origins 6. SPS capacity building in Africa to mitigate the harmful effects of pesticide residues in cocoa and to maintain market access
UNDP	1. Green Commodities Facility, Cote D´Ivoire Sustainable Cocoa Initiative NORAD, World Cocoa Foundation (WCF), International Cocoa Initiative (ICI), Echoes - Youth Education and Livelihoods Programme, UNDP and the Associations of Chocolate Manufacturers from Denmark, Finland, Norway and Sweden
USAID	Towards Child Labour Free Cocoa Growing Communities in Ivory Coast and. Ghana through an Integrated Area Based Approach
ILO	International Cocoa Initiative
GIZ	1. Programme de Développement Economique en Milieu Rural (PRODEMIR)
GTZ/GIZ, USAID, ANADER, STCP, Kraft, Armajaro	Market-oriented promotion of certified sustainable cocoa production Ivory Coast (2005-2009)
	Certification schemes
UTZ + Solidaridad	1. Certification With private sector partnerships and NGOs
RA + GIZ	
Fairtrade + Agro Eco Louis Bolk Institute & Rabobank, the Dutch structure Control Union for organic certification and FAIR TRADE	
Organic + Agro Eco Louis Bolk Institute	
Private sector	
Cargill, ADM, Barry Callebaut, Armajaro-CI, Outspan, Ecom, CEMOI & farmers	Corporate programmes with consultants, cabinets, ANADER
Olam International and Blommer Chocolate & farmers	Alliance between cocoa farmers in Ivory Coast, Olam International and Blommer Chocolate
Mondelez (Cadbury), Conseil du Café Cacao (CCC), CARE farmers	Cocoa Life programme to help farmers increase sustainable cocoa production and create thriving communities

Main implementing organisation(s)	Project, programme or activities
Nestlé & farmers	Cocoa Plan, Action plan responsible sourcing CNRA under the initiative of creating added value
Kraft Foods and Hans Neumann Stiftung & farmers	Sustainability alliance with Rainforest Alliance Market Oriented Promotion of Certified Sustainable Cocoa
Mars & farmers	Sustainable Cocoa Initiative (Cocoa Development Centers (CDC) and Cocoa Village Clinics (CVC): rehabilitation of old and aging farms with good planting material, soil fertility management, solid agricultural practices including pest and disease control IMPACT project with Government of CdI, ICI, AIECA, AFRICARE, SOCODEVi, STCP, Rainforest Alliance, IFESH, INADES, BFCD
ADM, Barry Callebaut, Cargill, Ferrero, The Hershey Company, Kraft Foods, Mars Incorporated, and Nestlé & farmers	Framework of Action: Harkin-Engel Protocol (Responsible cocoa) and industry partnership and Public Certification: development of a public certification process.
National Confectioners Association, CAOBISCO, ECA & farmers	Regional Trade Associations and their memberships
	Partnerships
Sustainable Trade Initiative (IDH) & private sector partners	Cocoa Improvement Programme 1 (CIP1) & CPQP
Signatories include governments and representatives of the cocoa industry and witnesses include social activists, NGOs and labour unions	International Cocoa Initiative (ICI) to eliminate the worst forms of child labour and forced labour and the Harkin Engel Protocol
Mars Incorporated, Hershey Company, Kraft Foods and Armajaro Trading	Agriculture Development Programme (CAADP)
Institut Européen de Coopération et Développement lECD/Cargill/MAH, Dutch Ministry of Agriculture, ANADER IECD, PEFACI; Ministry of Agriculture, Department of Animal Production, Ministry of Education, Plate-forme des Ecoles Familiales Agricoles de Côte d'Ivoire (PEFACI)	Projet Ecoles Familiales Agricoles (EFA)
	Research
International Institute for tropical Agriculture (IITA) + USAID, Primature, MINAGRI, CGFCC, FIRCA,GEPEX, ANADER, CNRA ONG, BFCG, INADES, SOCODEVI, Rainforest Alliance, BFCD; GTZ, Technoserve	STCP (Sustainable Tree Crop Programme)
CIRAD & CEMOI	Creation of the cocoa centre of fermentation and sun drying
ICRAF (World Agroforestry Center)	Vision for change Farmer training programme
Tulson Payson Center	Annual Survey of Child Labor in the Cocoa-Growing Areas of Ivory Coast and Ghana.
FAFO	Research Programme on Trafficking and Child Labour. Child labour and cocoa production in West Africa
	Côte d'Ivoire Sustainable Cocoa Initiative (CISCI)
	Government Ivory Coast
Ivory Coast Exportation Professional Association (APEXCI), Cocoa & Coffee Interprofessional Board (CICC), Raw Materials Interministerial Board (CIMP), CAISTAB	Implements National Development Plan and regulate all activities of coffee-cocoa sectors
Ministry of Agriculture	Fonds Interprofessionnel pour la Recherche et le Conseil Agricole (FIRCA)
Cocoa and coffee management Council/ Conseil du Café Cacao (CCC)	Ivory Coast quality cocoa control programme National Programme of Fight against disease of the Cocoa Swollen Shoot
Centre National de Recherche Agronomique (CNRA)	National agricultural centre conducting agronomical research
SOCODEVI, ANADER; NGOs; cooperatives	Mutual and cooperative partnership programme (PPCM)
National Agency for Rural Development (ANADER)	Extension services, promotion of farmer's skills and entrepreneurship by designing and implementing appropriate tools and conducting agricultural extension services. Fight against disease Swollen Shoot (Pilot Project) Project certified sustainable cocoa production
Information Programme on the Cocoa and Coffee Markets (PRIMAC).	Programme for the intensification of local processing 50% of the overall cocoa production in the year 2005, etc.
Ministry of Agriculture	Master Plan for Agricultural Development 1992-2015 (PDDA)

Main implementing organisation(s)	Project, programme or activities
Comité de gestion de la filière Café Cacao (CGFCC)	Cocoa-related institutions
Ministry of Agriculture	Member of COPAL (Alliance of Cocoa Producing Countries), COPAL activities
	NGOs
Oxfam	Behind the Brands - Cocoa Case Studies
World Vision	Anti-Child labour campaigns
Solidaridad	Cocoa Improvement Programme

Photo 28 *Cocoa pods*

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