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Master Thesis

Improving livelihoods with private sustainability standards: measuring the development impact of the UTZ Certified certification scheme among Ghanaian cocoa farmers



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Abstract

In Ghana, the second largest cocoa exporter in the world, one third of the population depends on the production of cocoa for their living. Cocoa farming is known for its poor working conditions and negative impacts on the environment. While the current generation of cocoa farmers is ageing, younger generations show little interest in becoming a cocoa farmer. With an expected rise in the demand for cocoa, this might lead to serious supply shortages in the future. Because of these developments, there is an increased pressure within the cocoa sector to improve the economic, social and environmental conditions under which Ghanaian cocoa is produced.

In response to the growing demand for sustainable chocolate, sustainable supply chain governance systems are emerging, either with firm-to-firm supply chain management or with the help of private sustainability standards. Four major sustainability standards are present in the cocoa sector: Fairtrade, Rainforest Alliance, UTZ Certified and Organic. Literature reviews on the effectiveness of these sustainability standards show that limited empirical evidence is available on the impact of these standards on producers. Most of the studies are quantitative in nature and focus mainly on the economic impacts and much less on the social, environmental and indirect impacts of private sustainability standards. In this thesis the focus is on UTZ Certified, the standard which is currently the largest certifier of sustainable cocoa. Combining quantitative with qualitative and participatory methods, the livelihood impacts of UTZ certified are studied.

To measure the impact of this sustainability standard on farmers' livelihoods, different domains of well-being were studied: economic capital, social capital, human capital, physical capital and natural capital. The strongest livelihood impacts of the UTZ Certified sustainability standard are found in the domain of economic capital: due to improved farming practices certified farmers have better yields, higher incomes and more savings. Somehow, these higher incomes are consequently not translated in clear benefits in the domain of human capital (health, working conditions) and physical capital (quality of housing and sanitation). In social capital, clear positive impacts are seen, whereas the impact of the UTZ Certification on natural capital shows mixed results.

To analyze which factors influence the effectiveness of the UTZ certification, data was collected in two different regions in Ghana (Eastern and Ashanti Region) with two different organizations carrying out the UTZ-training: the global soft commodity trader Armajaro and the Dutch NGO Solidaridad. Two factors were found to be key in explaining differences in livelihood impacts: the development context in which the UTZ-training took place (much or little support and training in the recent past) and the type of actor training the certification (a company or a non-profit organization).

Although the results of this study give little reason to question the potential of the UTZ certification scheme to address certain aspects of farmer livelihoods, it is much less clear whether the UTZ Certified standard does address those aspects of farmer's livelihoods which – according to the perception of farmers – require most attention. From the participatory village meetings, it becomes clear that farmers' development priorities lie in the domains of human, physical and natural capital. At the same time, the results of the structured interviews with farmers show that the strongest impacts of the UTZ certification scheme are found in the domains of economic and social capital, which were given much lower priority. Therefore, to make the UTZ Certified certification scheme more effective in its objective to contribute to sustainable livelihoods, care has to be taken to be more responsive to the needs of those farmers whose lives it intends to improve.

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1. Introduction

1.1 Sustainable development in the Ghanaian cocoa sector

In Ghana, the second largest cocoa exporter in the world, one third of the population depends on the production of cocoa for their living. Throughout the South of Ghana, farmers and their labourers work on small orchard-like farms to produce the cocoa beans which are then exported to Europe and the United States to be processed in chocolate products. Because of their small plot sizes, low productivity and lack of external support many cocoa farmers have to live in poverty. Cocoa farming is known for its poor working conditions: hard manual labour, unprotected use of chemicals, incidents of child labour and widespread gender inequalities. Moreover, the production of cocoa has a serious impact on the environment: it contributes to deforestation, decreasing water quality and reductions in biodiversity. Many farms are affected by the consequences of soil degradation and climate change poses a serious threat to the continuity of cocoa farming in Ghana. While the current generation of cocoa farmers is ageing, younger generations show little interest in becoming a cocoa farmer. With an expected rise in the demand for cocoa, this might lead to serious supply shortages in the future. Because of these developments, there is an increased pressure within the cocoa sector to improve the economic, social and environmental conditions under which Ghanaian cocoa is produced.

1.2 A role for private sustainability standards

Cocoa traders, manufacturers and retailers therefore increasingly apply new forms of cooperation and self-regulation to assure that the cocoa they source is produced with care for the economic, social and environmental conditions of cocoa farmers. In response to the growing demand for sustainable chocolate, sustainable supply chain governance systems are emerging, either with firm-to-firm supply chain management or with the help of private sustainability standards. Four major sustainability standards are present in the cocoa sector: Fairtrade, Rainforest Alliance, UTZ Certified and Organic. This thesis is focusing on UTZ Certified, the standard which is currently the largest certifier of sustainable cocoa. To assess the contribution of the UTZ Certified sustainability standard, the following research question is put to the fore:

To what extent has the UTZ Certified private sustainability standard contributed to sustainable livelihoods in Ghana's cocoa producing communities?

1.3 Measuring livelihood impacts of certification

Literature reviews on the effectiveness of sustainability standards show that limited empirical evidence is available on the impact of these standards on producers. Most of the studies are quantitative in nature and focus mainly on the economic impacts and much less on the social, environmental and indirect impacts of private sustainability standards. From the few studies available on certification in the cocoa sector, it becomes clear that certification helps to improve productivity, income and labour conditions at the farmer level. However, little is yet known about the impacts on other important aspects of farmers livelihoods: the quality of housing, health, sanitation, social networks and natural resources. Based on the Sustainable Livelihoods Approach, this research aims to contribute to the debate on the effectiveness of sustainability standards in the cocoa sector. Combining quantitative with qualitative and participatory methodologies, this master thesis hopes to contribute to a broad overview of the livelihood impacts sustainability standards might have.

2. Regional Framework

2.1 Cocoa in Ghana

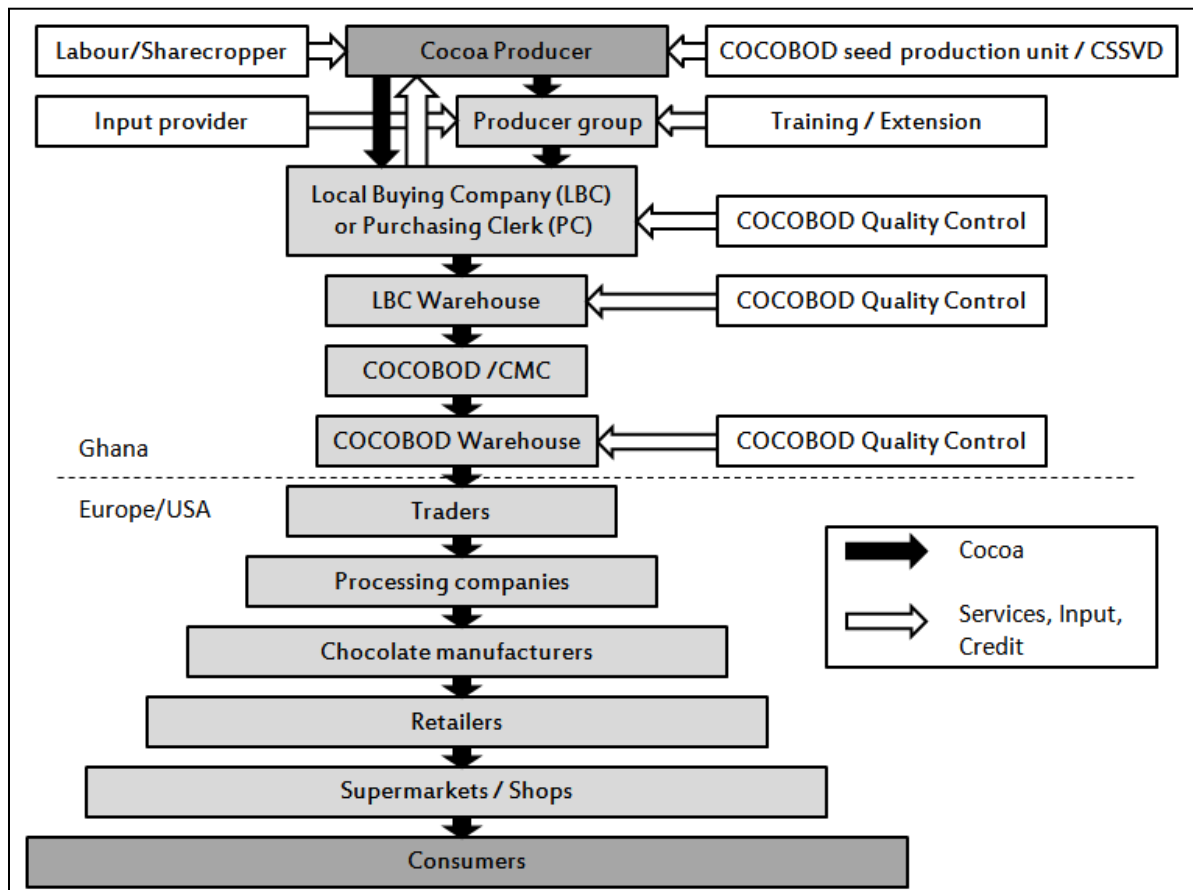
More than 90 % of cocoa consumed in Europe comes from West-Africa (Hütz-Adams & Fountain, 2012). Ghana, after Cote d'Ivoire the second largest exporter of cocoa in the world, produces 18 % percent of global cocoa (ICCO, 2011). In Ghana, around 6.3 million people depend on cocoa for their living, representing around 30 % of the population (LEI, 2012). Cocoa farming can be mainly found in the more tropical regions in the South of Ghana: Brong Ahafo, Ashanti, Eastern, Volta, Western and Greater Accra. Reported farm sizes typically average around five acres, with larger farms found in Ashanti and Brong Ahafo Region than in Central, Eastern and Western Region (MIT, 2011).

As opposed to many other cocoa producing countries in the region, Ghana has only partly liberalized its marketing and pricing system: the government body COCOBOD still has a monopoly on cocoa marketing and export through its subsidiary, the Cocoa Marketing Company (Laven, 2010). Moreover, COCOBOD is also active in research, extension and quality control activities throughout the sector. Finally, it also sets the producer price, providing farmers with a stable income, but leaving no room for negotiation of prices and giving little incentive to farmers to improve quality. The government agency COCOBOD thus continues to be a dominant power throughout the Ghanaian cocoa sector: it plays both the role as competitive actor (by trading cocoa) and a pre-competitive actor (by setting producer prices).

In the meantime non-state actors increasingly intervene in the sector. The Local Buying Companies (LBC's) responsible for the upstream evacuation of the cocoa (from farmer to COCOBOD warehouse) increasingly become active in the provision of inputs and extension services. Of the total of 27 LBC's, most are Ghanaian companies: two have parent companies in the UK and Signapore (Armajaro and Olam), one is owned by a farmer organization (Kuapa Kokoo Ltd). Whereas the majority of farmers are not formally organized, two farmer organizations are increasingly active in providing farmers with inputs and services: the Kuapa Kokoo Farmer Union (KKFU) with around 50.000 members, and Cocoa Abrabopa (CAA) with over 18,000 members (Laven, 2012). Moreover, the growing demand for sustainable cocoa has driven cocoa buyers, international NGO's and service providers to become involved in the certification of sustainably produced cocoa, thereby increasing the control these actors have over the sector.

Figure 2.1 on the next page gives an overview of the Ghanaian cocoa sector and its main actors. As is visible from this picture, the cocoa chain in Ghana has a typical hourglass shape. At the base, we find the millions of smallholder farmers and their dependents, cultivating small orchard-like cocoa farms. Their levels of productivity and farmer organization are low. In the middle of the chain, we find a small group of traders and manufacturers and the Ghanaian Cocoa Marketing Company (CMC), which has the monopoly over the external trade of cocoa from Ghana. Apart from the few processors active in Ghana (not depicted here) the great bulk of the post-harvest production is placed outside of Ghana: most cocoa is exported as raw beans for processing in Europe or North-America. A small amount of processing companies sells their semi-finished products to a variety of chocolate companies. The end of the value chain is very broad again: a multiplicity of retailers distributes the chocolate products among millions of consumers worldwide.

Figure 2.1: Overview of the Ghanaian cocoa value chain



2.2 Economic issues in the Ghanaian cocoa sector

Economically, Ghana is a success story within Africa. Since 1991, Ghana's poverty rate has dropped by almost half (Aidenvironment, 2012). The World Bank classified Ghana as a middle-income country in 2011. Ghana is on track to meet several Millennium Development Goals (MDG's) before the 2015 deadline. However, on the Human Development Index Ghana still ranks quite low: the country ranks 135 out of 187 countries (UNDP, 2011). Also, rural poverty is much higher than in the city: 40% of rural people are poor while only 10 percent of the urban population lives below the poverty line..

Although the partly privatized cocoa sector offers Ghanaian farmers some protection against the large price fluctuations in the world prices of cocoa, the income of many cocoa farmers is far below the level of absolute poverty (Hütz-Adams & Fountain, 2012). Low productivity, small plot sizes and limited solvency of cocoa farmers do often prevent them from investing. Only few farmers are able to apply for loans; interest rates go up to 40% annually for rural banks. Moreover, input supply chains are often underdeveloped. The government has an input subsidy system in place which aims to provide inputs at a below-market price, but effectiveness and coverage are inadequate to boost productivity sufficiently (Laven & Boomsma, 2012). The vast majority of farmers do not have sufficient access to inputs and training, and when they do, they often cannot afford them (World Bank, 2011).

With low yields, limited investment and lack of external support, farmers struggle to earn a living income and have to cope with poor living conditions for their families and workers. This mix of low production and lack of capital creates the danger of a poverty trap: without capital investments farmer's yields cannot increase, but their current capital does not give them any room for investment. (KPMG, 2012b). As cocoa is grown as a monoculture crop, diversification of crops can be a useful tool to improve income and living conditions of cocoa farmers (Hütz-Adams & Fountain, 2012).

2.3 Environmental issues in the Ghanaian cocoa sector

Cocoa farming is known for its adverse impacts on the environment: the deforestation of tropical forests and the impact of increasing use of agro-chemicals on soils and human health feature among the most researched outcomes (England, 1993; Rice & Greenberg, 2000). Cocoa farmers have developed a preference for mono-culture growing of cocoa without shade trees, with negative effects on soil quality and biodiversity

For decades, the expansion of cocoa production has led to the massive clearing of virgin forest to plant cocoa trees. As a consequence, biodiversity in Ghana suffered major blows and little primary forest is left in Ghana's cocoa producing regions. However, the remaining forested areas continue being threatened: in the past years Ghana's forest areas were in decline by 2 % a year, mostly due to cocoa (Hütz-Adams & Fountain, 2012). More than increasing productivity or on-farm investments, expansion is still the major strategy for Ghanaian farmers to increase their income from cocoa farming.

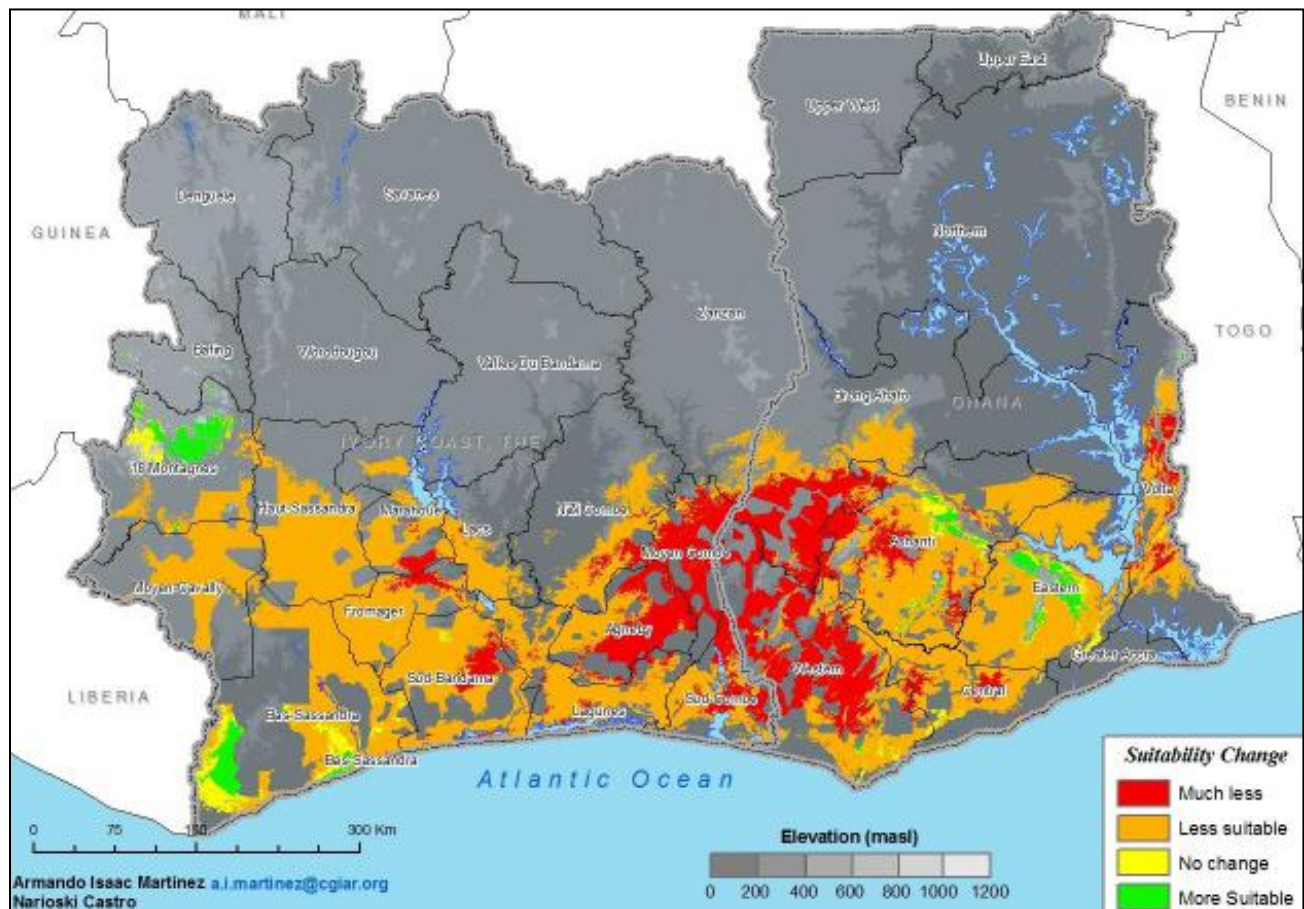
Current projects for increasing yield are dependent on a significant increase in the use of agro-chemicals: fertilizers, pesticides, insecticides and herbicides. A further increase in the use of these chemicals has the danger of negatively affecting farmers' health, the local ecosystems of which many of the cocoa farms are part and the quality of local water sources.

Another environmental risk that has the potential to negatively affect the livelihoods of cocoa farmers is climate change. A report by the International Centre for Tropical Agriculture (Climate Change / CIAT, 2011) shows that the cocoa-growing regions in Ghana and Ivory Coast will see a temperature increase of up to 2.0 °C by 2050, resulting in a major reduction in climate suitability for cocoa.

Figure 2.2 on the next page shows changes in the climate suitability for cocoa between the current situation and the year 2050. From this map it becomes visible that most cocoa growing regions in Ghana will become less suitable for cocoa, large areas in Western Ghana will become 'much less' suitable for growing cocoa and only a few small areas at higher altitude will see an increasing suitability for growing cocoa.

Another major environmental problem affecting cocoa production is soil degradation. Inappropriate agricultural practices, mono-culture growing of crops and deforestation have led to rapid erosion and fertility loss of Ghana's soils (MWH, 2006). The lack of shade on many cocoa farms reduces the lifetime of cocoa trees, increases the incidence of diseases and weeds and causes the loss of nutrients in the soil (Hoogendijk, 2012). Maintaining or planting sufficient shade trees on the cocoa farm can prevent the abovementioned processes, stimulate biodiversity conservation, carbon storage and improve air and water quality.

Figure 2.2: Changes in Climate Suitability for Cocoa in Cocoa-Growing Regions, between 2011 and 2050



2.4 Social issues in the Ghanaian cocoa sector

Smallholders in the Ghanaian cocoa sector face a wide range of issues in the social domain: unfavourable working conditions, discrimination of women and human rights violations concerning children.

Cocoa farming is hard work under often harsh circumstances. Cocoa farmers are exposed to hazardous labour, non-mechanised production systems and limited social or economic infrastructure in cocoa communities. They often make long hours doing hard manual labour, such as weeding, pruning, harvesting, fermenting and drying the cocoa beans. Many of them also use agro-chemicals without wearing sufficient protective gear, which can negatively affect their health (Hütz-Adams & Fountain, 2012).

Within Oxfam's recent campaign 'Behind the brands' much attention was drawn to the gender inequalities present in West-Africa's cocoa sector (Oxfam, 2013). For women, it is more difficult to take part in the work of cocoa farming as it is often considered to be a man's job. Also, it is more difficult for a woman to acquire landownership or to become part of a farmer organization. As women also have the responsibilities for the household, they often make many more hours than their male counterparts.

Due to insufficient income to pay workers, coupled with a shortage of workers in rural areas, farmers are often forced to rely on unpaid workers. Many of these are family members, and often work excessive hours, directly increasing the risk of (worst forms of) child labour and forced adult labour (Hütz-Adams & Fountain, 2012). Since the BBC aired the revealing documentary 'Slavery: A Global Investigation' in the year 2000, the chocolate industry has been subjected to prolonged media scrutiny over child labour, child trafficking and slavery during the past decade. In 2001, growing public pressure forced the leading chocolate companies to sign the Harkin-Engel Protocol, an international agreement aimed at ending the worst forms of child labour in the production of cocoa. In 2002, the International Cocoa Initiative was established, a foundation to oversee the efforts of reducing child labour.

Although many steps have been taken, recent research (Tulane University, 2011; Republic of Ghana, 2008) shows that child labour is still very common in cocoa-growing areas in Ghana: in these areas more than 50 % of children in agricultural households do work in agriculture. More than 10 % of these children work for pay. The average number of working hours performed by children working in cocoa is estimated to be 10 hours per week; these children are frequently exposed to 'hazardous activities', such as land clearing and carrying heavy loads. However, forced labour and other worst forms of child labour (WCFL) among children are very rare: only 0.5 % of children in agricultural households were forced to perform work by a non-relative; no cases of trafficking were found in the cocoa sector.

2.5 Challenges for the Ghanaian cocoa sector

The Ghanaian cocoa sector is currently facing a wide range of challenges: while world demand for high quality cocoa is on the rise, both cocoa farmers and their trees are ageing. In the meantime, productivity and investment levels on cocoa farms remain low, while younger generations show little interest in becoming a cocoa farmer. In addition to the importance of price, profit margins and product quality, process quality and traceability have become more important.

Because of soil degradation, the prevalence of pests and diseases and the relatively old age of most cocoa trees, productivity levels of small-scale cocoa producers are generally low. Also, investments in cocoa cultivation are rather limited, compared to the post-harvest chain. Over the past decades, Ghana has been able to keep up with demand mainly by expanding the total area under of cocoa cultivation. As traders and industry have perceived an increasing risk for supplier failure, attention has shifted to increasing productivity and rehabilitation as more sustainable ways of meeting global demand. Donor organizations have also joined this agenda of increasing productivity, as this process might lead to an increase in the purchasing power and livelihoods of cocoa farmers (Laven & Boomsma, 2012).

Two major constraints make this effort to improve farmers' productivity a difficult endeavour. First, many cocoa farmers do not view their cocoa farm as a business, nor do they view themselves as entrepreneurs. Instead, cocoa farming is perceived as a traditional subsistence lifestyle, which is mainly of cultural importance. For this reason, many recent interventions (such as the Farmer Business Schools) have focused on creating a sense of entrepreneurship among cocoa farmers. Another major constraint to the aim of increasing productivity is the underdeveloped supply chain: even when farmers are provided with

sufficient training on entrepreneurship and productivity, they are still faced with underdeveloped services, a lack of access to markets and issues of land tenure which might limit their possibilities to increase the productivity on their farm.

Another complicating factor is the old age of many farmers and the limited interest of young farmers to replace them. The average age of farmers in Ghana is around 50 years. As Ghana's life expectancy is around 60 years, the current generation will soon start passing away. Many of the younger generation find the hard work and limited rewards of cocoa farming discouraging and decide to work outside the cocoa sector instead. As a result, a serious shortage of cocoa farmers is expected for the coming years. At the same time, demand for cocoa is expected to rise by 1 million tonnes in the next decade (Hütz-Adams & Fountain, 2012). To fill this gap between increasing demand and reducing availability of labour, more is needed than focusing on entrepreneurship and increasing productivity only. Cocoa farming must simply become more attractive for coming generations, by increasing the incomes, working- and living conditions associated with cocoa farming. Also, an extensive rejuvenation of Ghana's cocoa tree population is needed to prepare the sector for the future. Recently, COCOBOD made a start in this direction by launching the National Cocoa Rehabilitation Programme, providing farmers with 20 million cocoa seedlings and training in Good Agronomic Practices.

Finally, the Ghanaian cocoa sector is challenged by a changing focus in the demands of global markets. Increasingly, traders and chocolate companies demand 'process quality' standards in addition to product quality and price requirements. Guarantees have to be given about issues such as child labour, wages and the environment. This growing importance of the processes used to produce a certain product has led to a rising demand for cocoa which is produced sustainably. This increasing interest in sustainable cocoa has pressured the sector to use private sustainability standards as a guarantee for sustainable cocoa production. In this thesis, the impact of these private standards on the desired improvements in economic, environmental and social conditions is analyzed. In the following chapter, a theoretical framework is outlined in which the scientific view on the emergence and effectiveness of private sustainability standards is outlined, as well as the theory which is used to analyze the impact of certification on farmers' livelihoods.

3. Theoretical Framework

3.1 The rise of private sustainability standards

When the theme of sustainability gained prominence on the political agenda in the late 1960's and 1970's, producers of commodities were addressed on the externalities connected to their products by national and local governments. The public debate, dominated by environmental NGO's, pushed politicians and governments to improve the effectiveness of these policies. According to Vermeulen & Seuring (2009) this classical image of polarized environmental politics was replaced by a more collaborative model of sustainability through the market in the late 1980's and early 1990's.

By this time, environmental issues became embedded in the much broader concept of sustainable development, thereby extending the responsibility of companies to include the care for communities and fair distribution of nature's resources. Governments no longer had the monopoly on pointing companies to their responsibilities: increasingly actors from civil society and consumers started to call for more sustainable production. In response, businesses slowly started to work together with these actors, increasingly internalizing the concepts of sustainable development. NGO's started to work with companies on the implementation of diverse forms of sustainable supply chain management and joint governance. Among these, we find single firm approaches, where individual companies make their complete chain more sustainable, but also joint product sector approaches, where third parties do the auditing for more companies within the same sector and recently also cross-sectoral approaches, where standards are applicable for several sectors. In doing so, businesses and NGO's have been filling a 'regulation vacuum': as a result of fast-growing international trade Western governments proved unable to prevent the increasing shift of environmental impacts of production towards developing countries. As they could not directly influence production conditions in developing countries, they had to rely on the limited power of supranational institutions (UN, OECD) to enforce implementation of international agreements by the national governments of developing countries. Instead, 'bioneers' and 'ecopreneurs' (Shaltegger, 2002) took the lead, starting to bypass mainstream value chains by creating separate value chains for more sustainable products. By now, sustainable supply chains are no longer a niche market and have become increasingly mainstream.

As many of these sustainable supply chain governance (SSCG) systems come down to a form of market self-regulation, they have been subject to a variety of debates: some scholars questioned the legitimacy of such forms of self-governance (Alvarez et al, 2010; Auld, 2010; Pagell and Wu, 2009; Reuter et al., 2010); others discussed the effectiveness of such systems (Arce, 2009; Barrientos, 2006; Damette and Delacote, 2011; Perfecto et al, 2005) and again others questioned the economic benefits for producers in developing countries (Gobbi, 2000; Valkila, 2009). One of the most dominant forms of sustainable supply chain governance are private sustainability standards, such as Fairtrade, Organic, Rainforest Alliance and UTZ Certified. Except for Organic, which is regulated under national and European laws, all these private sustainability standards have been developed by private stakeholders in Western countries: FairTrade and Rainforest Alliance are both initiated by civil society organizations, whereas UTZ certified is initiated by a retailer. As the market shares of these certified products are growing, a whole set of literature is emerging on the contribution of these private sustainability standards to the conditions of the certified producers in the South (Aidenvironment, 2012; ITC, 2011b; Nelson & Pound, 2009; Resolve, 2012; Ruben et al. , 2009).

3.2 The impact of private sustainability standards

Although the number of entities encouraging sustainable trade has multiplied and the amount of publications on the role of private sustainability standards has grown exponentially, little is yet known on crucial questions such as the actual impact of these standards on producers' income, livelihoods and the environment.

From the restricted body of research carried out on this matter, it becomes apparent that private sustainability standards have a very limited, though mostly positive effect on the income of producers. (Aidenvironment, 2012; ITC, 2011b; Nelson & Pound, 2009; Resolve, 2012; Ruben et al, 2009). This does not necessarily mean that the overall economic impact of these standards is insignificant: many other, non-income effects seem to outweigh the direct financial benefits farmers receive. Among these are increased yields, technical support and training, increased access to credit, more income stability, enhanced empowerment and improved land management. The environmental impact of private sustainability standards proves to be generally positive, although little quantitative evidence is available about the long-term impacts of certification on biodiversity and the environment (Resolve, 2012; WWF, 2010) The evidence on social impacts of private standards is much more mixed: while positive impacts on community empowerment and labor conditions are reported as well as improvements in social capital and education levels, there is limited evidence of direct poverty-related impacts such as improved food security and livelihoods (Aidenvironment, 2012; WWF, 2010).

On top of the socioeconomic and environmental effects described above, the *indirect* impacts of certification schemes are estimated to be substantial and probably greater than their *direct* impacts (Resolve, 2012; Ruben et al, 2009). For example, through the demonstration effect non-affiliated farmers do adopt new techniques from affiliated farmers, causing the volume of goods in compliance with sustainability standards to be substantially greater than the volume actually bearing a certification label. In other cases, sustainable practices established by private standards are institutionalized in public regulations. Finally, some of the direct effects, such as empowerment, improved labor conditions, improved education and increased agricultural productivity can indirectly help to reduce poverty among producers (Aidenvironment, 2012; Resolve, 2012).

There have been indications of limitations to the effectiveness of private standards. Many intended and unintended positive impacts of private standards can be found in different studies. Critics do however question if these effects are sufficient to substantially contribute to poverty reduction, improvement of livelihoods and sustainable development, arguing that standards cannot be seen as a panacea for third-world poverty (Arnould et al, 2009). Studies indicate that private standards might have to be supplemented by additional action from other development actors and initiatives to raise rural livelihoods to a more sustainable level (ITC, 2011; Nelson & Pound, 2009).

Several barriers limit the capability of private standards to contribute to sustainable development. The cost of certification is often too high for smallholders. Moreover, the dysfunctional interplay of public and private standards often causes an overload of overlapping standards, which small companies simply cannot manage. Also, the stringent administrative, socioeconomic and environmental requirements of most sustainability standards limit the possibility of many small- and medium enterprises to be engaged in sustainability standards (ITC, 2011; Resolve, 2012; WWF, 2010).

Some argue these high requirements show a mismatch with the unfavourable starting position of many farmers: low income levels and low potential for production improvement. Others argue standards are actually set at a level insufficient to address the problem, thus leading to an intended or unintended form of “greenwashing” (Resolve, 2012).

Another danger of certification lies in the pre-certification situation: as some farmers have fulfilled more of the requirements set by a certain sustainability standard than others, it is much easier to certify those farmers which are already ‘on track’ than those farmers who still have a long way to go until compliance. When certification schemes start to compete for the relatively organized and well-off farmers, the more marginal producers – who need the certification the most – might be ignored.

A different explanation for the limited impact of sustainability standards is the perceived gap between the requirements set by ethical trade standards and the needs of producers. Some argue that private standards have failed to accurately identify and address the well-being of those in developing countries; they would lack a nuanced understanding of household and community level consequences of production. According to this view, many of the primary concerns among growers are not included in ethical trade standards. To prevent certification schemes from ‘certifying poverty’, Southern meanings and practices should be included more in the conceptualization of sustainability standards (Arce, 2009; Bedford et al, 2002; Blowfield, 2003; Mare, 2012; Nelson & Pound, 2009).

3.3 Private sustainability standards in the cocoa sector

As for many sectors, the evidence on the actual impact which sustainability standards have on the livelihoods of producers in the cocoa sector is limited. A recent KPMG report found eight studies with empirical evidence from field research on the impact of certification in the cocoa sector (KPMG, 2012). These studies focus mainly on income, investment, productivity and labour issues, whereas other aspects of farmers’ livelihoods are merely touched upon.

One of the interesting outcomes of this range of studies is that trainings from certification do build farming and management skills and foster organizational development. Additionally, increased access to credit allows farmers to pre-finance their business activities (Nelson & Galvez, 2000; Potts/Giovanucci, 2012). However, farmers face additional investments to upgrade their farming practices and systems to the certifiable level. Moreover, greater administrative and organizational efforts and costs are involved in standard compliance (Gibbon et al., 2009; KPMG, 2012).

Some studies show significant increases in yields and productivity due to better agricultural practices (Gibbon et al., 2009; Potts & Giovanucci, 2012). On the other hand, the study of Bolwig et al. (2007) proves that labour costs do also increase as a result of implementing certification requirements. Quite some studies report that farmers receive higher prices for their products due to guaranteed minimum prices and price premiums (Bolwig et al. , 2007; Gibbon et al., 2009; Nelson & Galvez, 2000; Ronchi, 2002; Potts & Giovanucci, 2012).

Quite some studies prove that net incomes have risen as a result of certification (Bolwig et al., 2007; Gibbon et al., 2009; Potts & Giovannucci, 2012). Others see improvements in market access and stability through the establishment of long term contracts (Nelson & Galvez, 2000; Ronchi, 2002). Unfortunately, when supply for the certification market exceeds demand, farmers are forced to sell part of their certified products to the conventional market (Nelson & Galvez, 2000; Bolwig et al., 2007). Ronchi (2002) shows that communities connected to certified agriculture experience positive economic impacts as a result of cooperative investments. However, once certified, small-scale farmers continue struggling with low incomes and food insecurity (Nelson & Galvez, 2009).

Although little research is available on the environmental impacts of cocoa certification, the available studies indicate that environmental training of farmers improves management of natural resources and leads to the implementation of measures to restore local ecosystems and biodiversity (Krain et al., 2011; Potts & Giovannucci, 2013). No studies were found on the impact of cocoa certification on an ecosystem level.

Studies show that labour conditions of farmers and their workers improve in terms of housing, medical treatment, protective equipment and remuneration due to certification (Krain et al. 2011; Potts & Giovannucci, 2012). Beyer (2012) notes that occurrences of child labour are reduced as well. Also, improvements in food security, value of household assets and better education of the children are reported (Bolwig et al., 2007; Krain et al., 2011; Ronchi, 2002; Potts & Giovannucci, 2012). However, gender inequalities seem to persist: women keep facing higher workloads while having little control over the use of income (Bolwig et al., 2007; Krain et al., 2011; Oxfam, 2013; Ronchi, 2002)

From the existing body of research, it can be seen that sustainability standards in the cocoa sector do help to improve productivity, income and labour conditions at the farm level. It remains unclear, however, to what extent these standards are contributing to other aspects of farmer livelihoods: the quality of their houses, their health situation, the sanitation on the farm, the network of people they rely on and the natural resources on which they depend. On a macro-level, these studies give little direction on the extent to which cocoa certification might increase the attractiveness of the cocoa sector for younger generations and mitigate the risks of supplier failure.

3.4 Measuring Development: the Sustainable Livelihoods Approach

Within this thesis, certification is considered to be a development intervention with the aim of improving the livelihoods of cocoa farmers. For this purpose, an inquiry into some theories behind development is presented.

Development has long been measured with indicators focusing on income and consumption alone. Development was considered to be an economic process, where an increase in income and produced capital were assumed to equal a higher level of development. Starting from the 1960's, scholars started to think about broader definitions of development, recognizing that income-related indicators were insufficient for measuring changes in well-being. Work by Seers (1969, 1972), Kuznets (1971, 1979) and Bauer (1966) influenced thinking about development indicators to move away from its purely economic focus (Sumner & Tribe, 2008).

The work of the development economist Amartya Sen (1981, 1984, 1993, 1999) has strongly influenced the idea that development should not be conceived as wealth alone, but should be treated as something which also depends on people's capabilities and freedoms to develop themselves. In that view, people depend on more than only commodities for their well-being: for many having proper education, health, self-respect and the freedom to participate in society are just as important. The human development theorist Denis Goulet (1971), an important source of inspiration for Amartya Sen, mentions three basic components of development: life sustenance, self-esteem and freedom. As a result of these influential ideas, development theories shifted their focus from development as a purely economic process to a broader conception of 'human development'. Many other scholars built further on this Human Development Framework, among which Martha Nussbaum, Sabina Alkire and Ingrid Robeyns.

Because of this new conceptions of development, development programmes too became less concerned with economic growth alone: they started to aim for improvements in health, education and human rights as well. The UNDP developed the now widely used Human Development Index (HDI) for well-being, combining indicators of literacy and life expectancy with measures of income. Another set of indicators within the human development framework has been the introduction of the Millennium Development Goals (MDG's), which form an internationally agreed blueprint for the efforts to meet the needs of the world's poorest.

More recent work from McGregor(2006) and Chambers (2009) has criticized these top-down indicators as being still insufficient in measuring development, as poor people often have different ways of conceptualizing changes in their well-being. They argued that indicators for assessing development should rather be developed from the perception of those people that are measured. In order to capture local perceptions of development in measuring well-being, more subjective and context-specific indicators have recently been developed that focus on concepts as dignity and vulnerability (Sumner & Tribe 2008). Many of these concepts can be traced back to the sustainable livelihoods approach that gained prominence in the 1990's, which tried to achieve a more holistic understanding of livelihoods. In this approach, people in poverty are seen as active agents who make rational decisions and choices about their lives. According to Chambers and Conway (1991) a livelihood consists of capabilities, assets and activities required for a means of living. A livelihood is sustainable 'when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base'.

This sustainable livelihoods approach has been adopted by the UK Department for International Development (DFID) and was worked out into the Sustainable Livelihoods Framework as presented in figure 3.1 on the next page. This Sustainable Livelihood Framework (DFID, 2007) consists of five interrelated dimensions: livelihood assets, the vulnerability context, transforming structures and processes, livelihood strategies and livelihood outcomes.

The first dimension, the livelihoods assets, is depicted as the asset pentagon on the left and forms the core of the framework. In the livelihoods approach assets measure different aspects of well-being: There are five assets: physical

capital (roads, houses, infrastructure), financial or economic capital (income, savings), human capital (education, health), natural capital (water, forest, air) and social capital (social networks, family relations).

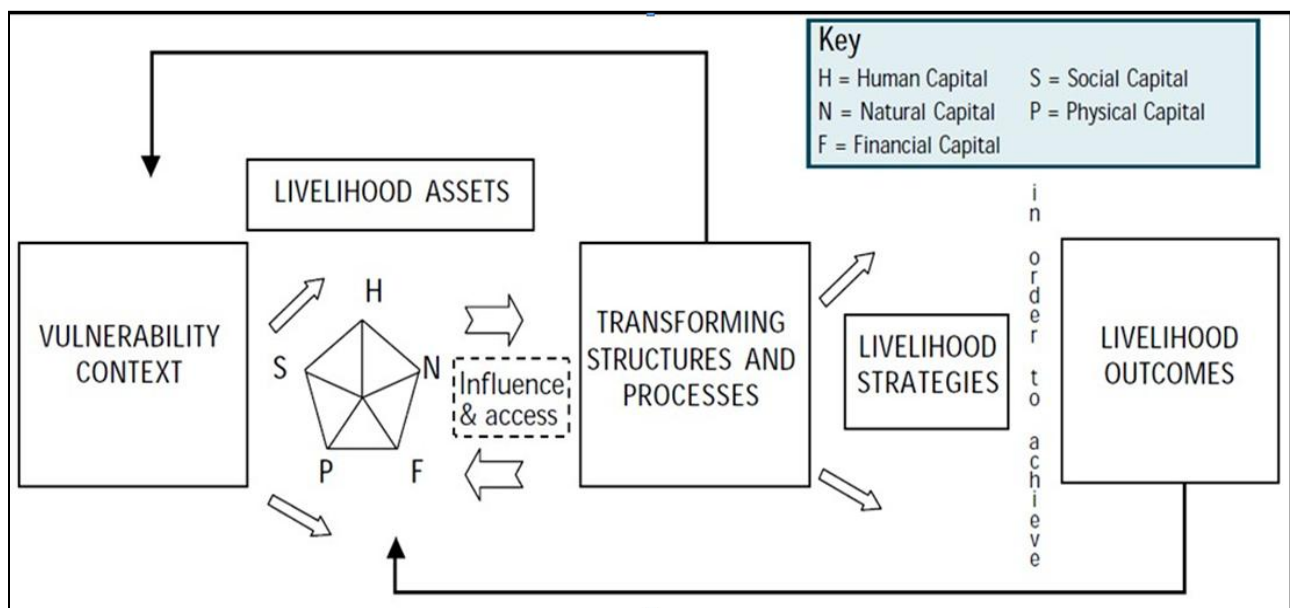
The level of well-being (measured by the livelihood assets) is influenced by a second dimension: the vulnerability context, depicted on the left. This dimension frames the external environment in which people exist. People's livelihoods and the wider availability of assets are affected by critical trends, shocks and seasonality, over which they have limited or no control. Depending on their assets, people can cope better or less to these shocks.

A third dimension is formed by the transforming structures and processes. These refer to institutions, organisations, policies, and legislation that shape livelihoods by determining access to assets. As depicted in figure 3.1, these structures and processes can also influence the vulnerability context, for example by cushioning external shocks.

The fourth dimension, farmer's livelihood strategies, refers to the many different ways of combining and using assets that are open to people in pursuit of beneficial livelihood outcomes that meet their own livelihood objectives. These livelihood strategies can be positively and negatively influenced by the transforming structures and pressures mentioned earlier.

The fifth dimension consists of the livelihood outcomes: these are the ultimate objectives for which the livelihood strategies are the means. Examples could be an increased well-being or a more sustainable use of the natural resource base.

Figure 3.1 The Sustainable Livelihoods Framework

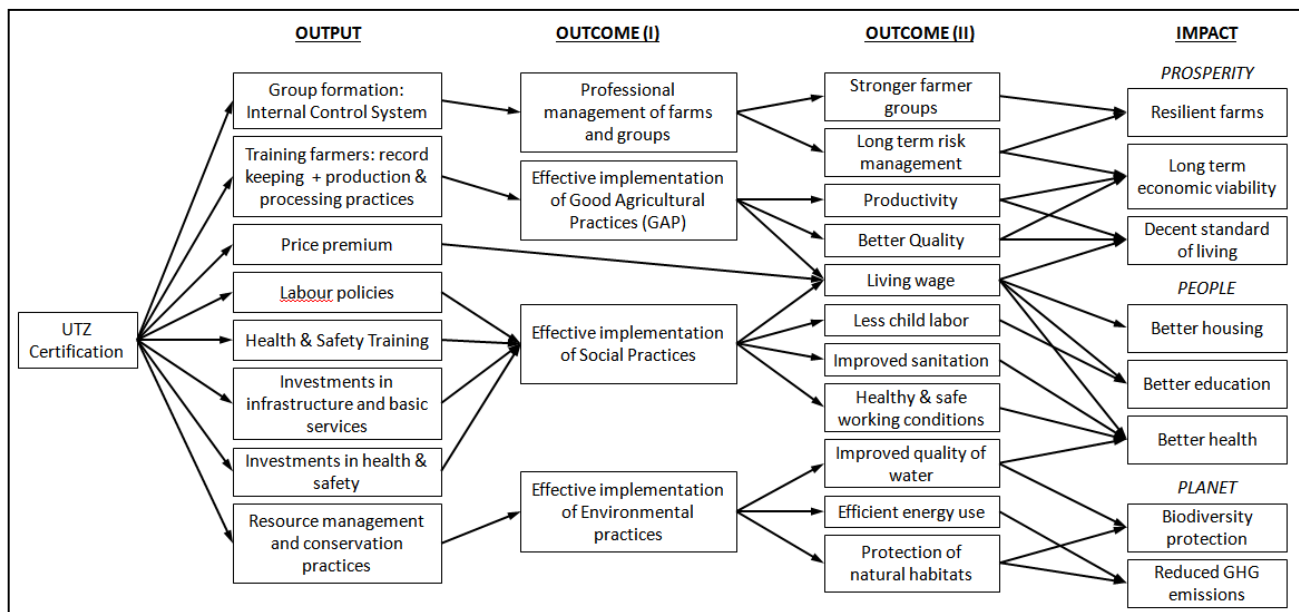


Source: DFID (1999) Sustainable Livelihoods Guidance Sheets. DFID: London.

3.5 The livelihood impacts of the UTZ Certified sustainability standard

Recently, UTZ Certified has developed a Theory of Change (ToC), which is developed to form the basis of more extensive monitoring and evaluation practices of the sustainability program in the future. A simplified version of this Theory of Change is presented in figure 3.2. This very pragmatic, but relatively mechanic logic model views the UTZ sustainability program as input and its constituent parts as output. Both the expected changes in farming practices as well as the improved economic, social and environmental conditions those changes create, are considered to be output. The desired level of sustainability, categorized by the three P's of the triple bottom line (people, planet and prosperity) is considered to be the impact level of the Theory of Change.

Figure 3.2 Simplified version UTZ Theory of Change

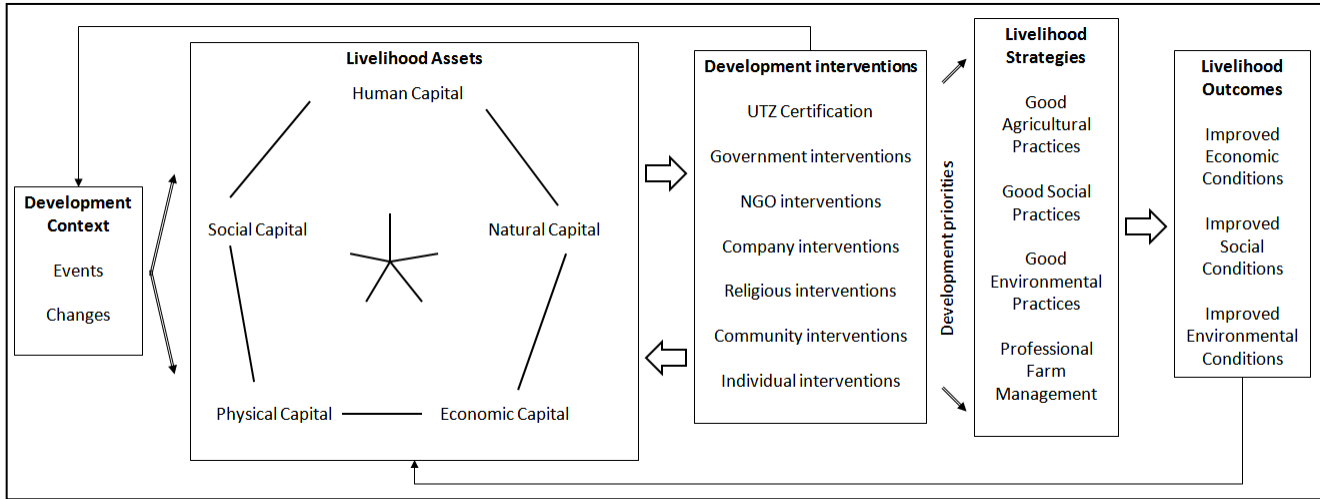


In order to analyze the way in which the UTZ Certified sustainability standard impacts farmer livelihoods in a more holistic manner, this research is using the logic model of the Sustainable Livelihood framework as the basis of analysis, while integrating many of the elements from the UTZ Theory of Change into this model. This has resulted in the conceptual model, shown in figure 3.3 on the next page. Instead of seeing farmers as passive recipients of the sustainability program, this model views farmers as active agents who pursue certain livelihood strategies, based on the assets they have and the policies, institutions, and practices they rely on. In this view, sustainability standards are not just trying to improve the living conditions of farmers: they aim to expand the capabilities of farmers, increase their assets and improve their livelihood strategies. Moreover, this conceptual model considers the UTZ certification programme to be merely one of the many 'transforming processes and structures' that have an impact on the livelihood strategies of farmers: apart from the organization training the farmers in the UTZ sustainability program, there are many other institutions who intervene in the livelihoods of farmers: government, NGO's, companies and churches. Certification is thus part of a much broader development context on which farmers rely when trying to improve their livelihoods.

When looking at the conceptual model in figure 3.3 in more detail, it is possible to recognize the main components of the Sustainable Livelihoods framework: the livelihood assets, transforming structures and processes (here: development interventions), livelihood strategies, livelihood impacts and vulnerability context (here: development context). Using many of the elements from the UTZ Theory of Change, a logic model is created which links the key concepts relevant for measuring the development impact of sustainability standards together.

As is visible from the conceptual model, sustainability certification is seen as merely one of the relevant transforming structures and processes, here described as development interventions. Other development interventions which are relevant for improving farmer’s livelihood strategies are government programmes, projects from NGO’s, extension services from companies and assistance from churches, community organizations and individuals. Which livelihood strategies are chosen does also depend on the livelihood assets a farmer has access to as well as the development priorities of that farmer. In line with the UTZ Theory of change, farmers can opt to improve their agricultural, social, environmental and management practices, which finally leads to livelihood outcomes, here presented as improved environmental, social and economic conditions. These livelihood outcomes are expected to have their impact on the assets farmers have access to: social, human, natural, physical and economic capital. This capital base is again influenced by the development context in which farmers operate, which in turn is influenced by the development interventions.

Figure 3.3 Conceptual Model



In this research, the following research question will be central:

To what extent has the UTZ Certified sustainability standard contributed to sustainable livelihoods in Ghana’s cocoa producing communities?

This main research question will be supported by five subquestions:

1. To what extent have certification schemes altered the farming practices of cocoa farmers?
2. What changes have cocoa farmers experienced in their livelihoods over the past 3 years?
3. To what extent can these changes be attributed to certification?
4. What are the development priorities of cocoa farmers in Ghana?
5. To what extent does certification contribute to these development priorities?

In the following chapter, an outline is given of the methodology used for answering these research questions.

4. Methodology

4.1 Methodological approach

For this research project, a mixed methods approach was chosen. For the quantitative part, structured interviews with both open and closed questions were used to interview *individual* cocoa farmers on their livelihoods. For the qualitative part, participatory village meetings were organized in which cocoa farmers were asked about livelihood developments and priorities on a *community* level. This mixed method approach allowed for a broad analysis, in which changes on the micro-level of the individual farmer could be placed in the context of changes and interventions on the meso- and macro-level. To triangulate the findings of both interviews and village meetings, semi-structured interviews were held with local experts (e.g. local chief, lead farmer, purchasing clerk, extension officer, president of farmer group). To create more context, semi-structured interviews were held with key stakeholders from the cocoa-sector (NGO's, traders and government agencies).

4.2 Research areas

As discussed in the theoretical framework, the development history of an area (in terms of NGO support, farmer training and farmer organization) is essential in explaining the strength of the livelihood impacts resulting from certification. It was therefore chosen to select two contrasting cocoa producing areas based on their pre-certification history: one with a history of NGO support, farmer training and organization at the start of the certification and one area with no previous farmer support. In table 4.1 an overview is given of the two research areas and their main characteristics.

Table 4.1 Research areas and their main characteristics

	Research Area 1	Research Area 2
Region	Eastern Region	Ashanti Region
District	Birim Central Municipal District	Ahafo Ano South District
Villages	Asene (UTZ certified) Asuboa South (non-certified)	Pokuase (UTZ certified) Nsutem (non-certified)
Start certification	March 2011	April 2011
Certifying organization	Armajaro (global soft commodity trader)	Solidaridad (international NGO)
NGO support	No NGO support for cocoa farming in the past	NGO support from Care International
Training	Farmers had not received any training before	Farmers received training on GAP
Farmer organization	No farmer organization before	There was already an active farmer group

Another assumption in this thesis is that the type of certifying organization has an influence on the type of livelihood impacts we would expect from the UTZ certification. To analyze this assumption, one area was selected where a company (Armajaro, a global soft commodity trader) and one area where a non-profit organization (the Dutch NGO Solidaridad) had trained farmers. For both research areas two villages were selected: one village with a certified community of cocoa farmers and one village where no certification had been taking place among the cocoa farmer community. In order to be able to determine the effect of the UTZ certification, two villages were selected from each research area that had enough spatial proximity to have similar background characteristics, but also enough distance (5-10 km) from each other to prevent the occurrence of any significant spread effects from the certified to the non-certified community. During the fieldwork for this master thesis (April - June 2013) both of the certified communities had been certified for the same period of 2 years.

4.3 Semi-structured interviews with major stakeholders

To get an overview of the major challenges and developments in the Ghanaian cocoa sector, semi-structured interviews were held with a number of 20 experts and managers from NGO's, government agencies, research institutes and companies working in or with the cocoa sector. Table 4.2 provides an overview of the organizations visited and the number of interviews held at each organization. A simplified version of the interview guide used can be found in Annex I.

Table 4.2 Semi-structured interviews with stakeholders

Non-governmental organizations	No.	Government organizations	No.	Companies	No.	Research institutes	No.
World Cocoa Foundation	1	Ghana Cocoa Board	2	Cargill	1	IITA	1
Solidaridad	2	Dutch Embassy	1	Barry Callebaut	1	Agro-Eco / Louis Bolk	2
Fairtrade Africa	1	CRIG	1	Armajaro	2	KNUST	1
SourceTrust	1			Mars	2		
				Cadbury	1		
Total	5	Total	4	Total	7	Total	4

4.4 Structured interviews with cocoa farmers

Structured interviews were used to ask cocoa farmers about changes in their livelihoods and farming practices. Interviews were held with the assistance of a highly educated interpreter from the area, who would translate from and to Twi. Each interview would take 50 to 90 minutes. A copy of the questionnaire that was used can be found in Annex II. For this research a total number of 122 cocoa farmers were interviewed, 55 of them from Birim Central Municipal District in Eastern Region and 67 from Ahafo Ano South District in Ashanti Region. The certified farmers were selected from the list of certified farmers provided by Armajaro and Solidaridad. With the absence of any farmer registration, the non-certified farmers were selected using snowball sampling. Table 4.3 provides an overview of the main characteristics of the respondents from each of the four communities studied in this research project.

Table 4.3 Main characteristics of respondents structured interviews

	Eastern Region (Birim Central Municipal District)		Ashanti Region (Ahafo Ano South District)	
Village	Asene	Asuboa South	Pokuase	Nsutem
Certification	UTZ certified	Non-certified	UTZ certified	Non certified
Population	n = 30	n = 25	n = 32	n = 35
Sex	Male: 18 Female: 12	Male: 17 Female: 8	Male: 21 Female: 11	Male: 22 Female: 13
Age	Mean: 60 years	Mean: 59 years	Mean: 56 years	Mean: 53 years
Education level	Mean: 8.0 years	Mean: 7.7 years	Mean: 8.4 years	Mean: 7.5 years
Size household	Mean: 11.2 persons	Mean: 7.4 persons	Mean: 8.7 persons	Mean: 6.9 persons
Farm size	Mean: 1.4 hectares	Mean: 1.1 hectares	Mean: 3.6 hectares	Mean: 3.7 hectares

From this table it is clear that most of the characteristics of the non-certified cocoa farmers are very much comparable to the characteristics of the certified communities, thereby increasing the reliability of using non-certified control groups.

4.5 Participatory village meetings with cocoa farmers

For the participatory village meetings, use was made of the recently developed Participatory Assessment of Development (PADev) methodology (Dietz et al., 2011). PADev is an approach to development assessment, which aims to create both context and depth by building up a big picture of development and change in an area over time. Using a holistic and inclusive approach, the PADev exercises give voice to the beneficiaries of development interventions and take into account wider developments in the region. For this research, a selection of PADev exercises is used to complement the quantitative data gathered in the structured interviews.

In each of the four selected communities, a participatory village meeting was held among the cocoa farmers that had taken part in the structured interview. Each village meeting engaged between 25 and 35 participants, divided among five groups: younger men (< 40 years), older men (> 40 years), younger women (<40 years) and older women (> 40 years) and one group of local officials (teacher, chief, lead farmer, NGO worker). Each of these groups was appointed a facilitator, often a teacher, community worker or graduate from the same area, who would introduce the different topics and summarize the discussion in English on large flip-chart papers. An overview of the number of participants at each village meeting can be found in figure 11.4.

Table 4.4 Number of participants at Participatory Assessment of Development (PADev) village meetings

	Eastern Region (Birim Central Municipal District)		Ashanti Region (Ahafo Ano South District)	
	Asene	Asuboa South	Pokuase	Nsutem
Officials	5	4	7	5
Older Men	7	6	7	7
Older Women	6	4	5	6
Young Men	5	7	7	7
Younger Women	4	4	7	6
Total	27	25	33	32

The village meeting consisted of four PADev exercises. First, participants were asked to list all major events that affected their community over the past 12 years. In a second exercise, participants were asked to recall all the development interventions (e.g. by companies, NGO's or the state) which had a bearing on their community over the past 12 years, in different sectors: infrastructure, agriculture, water & sanitation, health, community and education. In the third exercise participants were asked to assess the changes that had occurred in different domains of their livelihoods (social, physical, economic, human and social capital) over the past 12 years. In a final exercise, participants were asked to define the most important challenges their community was currently facing, to rank them in order of importance and think about possible changes that could help improve the situation in the future.

To be able to analyze the results of the PADev meetings, the summarized discussions from the flipcharts were entered in a digital database, in which the results were categorized to be able to analyze them in a quantitative manner.

4.6 Semi-structured interviews with local experts

To triangulate the information gathered in the structured interviews with farmers and the village meetings, semi-structured interviews were held with local experts (the chief, assembly man, local teacher, lead farmer, purchasing clerk or extension officer from each village). Within these interviews, data was collected on yields, farm sizes and population numbers and farming practices. Additionally, background information was gathered on livelihood changes, the major events that had affected the community, the UTZ certification process and other previous development interventions. Depending on the topics that needed verification, a topic list was constructed for each individual interview.

4.7 Operationalisation of variables

For the structured interviews, the major bulk of questions compared the pre-certification situation in 2010 with the current situation in 2013. In table 4.5 to 4.8 an overview is given of all variables from this type of questions, including the way in which they were operationalised and the question number used in the questionnaire found in Annex II.

Table 4.5 Operationalisation of farm characteristics

Variable	Operationalisation	Question
Age Farmer	age in years	1
Position in household	household head, spouse, other adult (grandparent / relative of spouse), child	2
Education	total number of completed years in education	3
Status in cocoa farming	landowner / family land / sharecropper	4
Active in cocoa farming	sold any cocoa over the past 12 months	6
Size household	number of household members in household (those eating from the same pot)	11
Share hh working in cocoa	number of household members working on the cocoa farm	13
Number of farms	number of cocoa farm plots	15
Size of farm	size of each of these farm plots	16

Table 4.6 Operationalization of changes in farm practices

Variable	Operationalization	Question
<u>GOOD AGRICULTURAL PRACTICES</u>		
pruning	change in frequency of pruning between 2010 and now (more/less/the same)	77, 78, 79
removing defective cocoa pods	change in frequency of removing pods between 2010 and now (more/less/the same)	80, 81, 82
weeding	change in frequency of weeding between 2010 and now (more/less/the same)	83, 84, 85
pest control	change in frequency of pesticide application between 2010 and now (more/less/the same)	89, 90, 91
disease control	change in frequency of insecticide application between 2010 and now (more/less/the same)	92, 93, 94
<u>GOOD SOCIAL PRACTICES</u>		
use of protective equipment	change in use of protective equipment between 2010 and now (more/less/the same)	95, 97
storage of chemicals	change in storage of chemicals between 2010 and now (more/less/the same)	98, 99
<u>GOOD ENVIRONMENTAL PRACTICES</u>		
application of chemicals	change in distance left to waterbody between 2010 and now (more/less/the same)	100, 101
treatment of chemical waste	change in treatment of leftover chemicals between 2010 and now (better/same/worse)	102, 103
<u>PROFESSIONAL MANAGEMENT</u>		
record keeping	change in amount of record keeping done between 2010 and now (more/less/the same)	106, 107
producer group	change in amount of meetings between 2010 and now (more/less/the same)	73, 74

Figure 4.7: Operationalization of changes in livelihood outcomes

Variables	Operationalization	Question
Stronger farmer groups	change in attendance farmer group meetings between 2010 and now (more/less/the same)	75, 76
Long term risk management	change in amount of savings between 2010 and now (more/less/the same)	46, 47
Higher productivity	change in yield (bags) per acre between 2010 and now (more/less/the same)	36, 37
Better quality	change in rejections of beans from trader between 2010 and now (more/less/the same)	104, 105
Better sanitation	change in type of toilet facilities between 2010 and now (better/worse/the same)	33, 34
Living wage	change in total income (cocoa + other) between 2010 and now (more/less/the same)	43
No child labour	change in no. of minors (<18) working on farm between 2010 and now (more/less/the same)	66 - 68
Healthy & safe working conditions	change in health problems due to cocoa farming between 2010 and now (more/less/same)	54, 55
Improved quality of water	change in amount of chemicals sprayed between 2010 and now (more/less/the same)	89 - 94
Efficient energy use	changes in quantity of firewood used between 2010 and now (more/less/the same)	20, 21
Efficient water use	changes in amount of water used between 2010 and now (more/less/the same)	18, 19
Protection of natural habitats	change in cover of shade trees between 2010 and now (more/less/the same)	24, 25, 26

Figure 4.8: Operationalization of changes in livelihood impacts

Variables	Operationalization	Question
PROSPERITY		
Resilient farms	change in attitude towards future of cocoa farm between 2010 and now (better/worse/the same)	109
Long term economic viability	change in investments in farm between 2010 and now (more/less/the same)	49, 50
Decent standard of living	change in ability to provide in the household needs between 2010 and now (more/less/the same)	48
PEOPLE		
Better housing	change in quality of housing between 2010 and now (more/less/the same)	30
Better education	change in share of children (5-21 yrs) into education between 2010 and now (more/less/the same)	57, 58
Better health	change in health situation of household members between 2010 and now (more/less/the same)	53
PLANET		
Reduced GHG emissions	change in quantity of land cleared for cocoa between 2010 and now (more/less/the same)	22, 23
Biodiversity protection	changes in no. of species observed between 2010 and now (more/less/the same)	27
Soil conservation	change in observed soil fertility between 2010 and now (better/worse/the same)	28

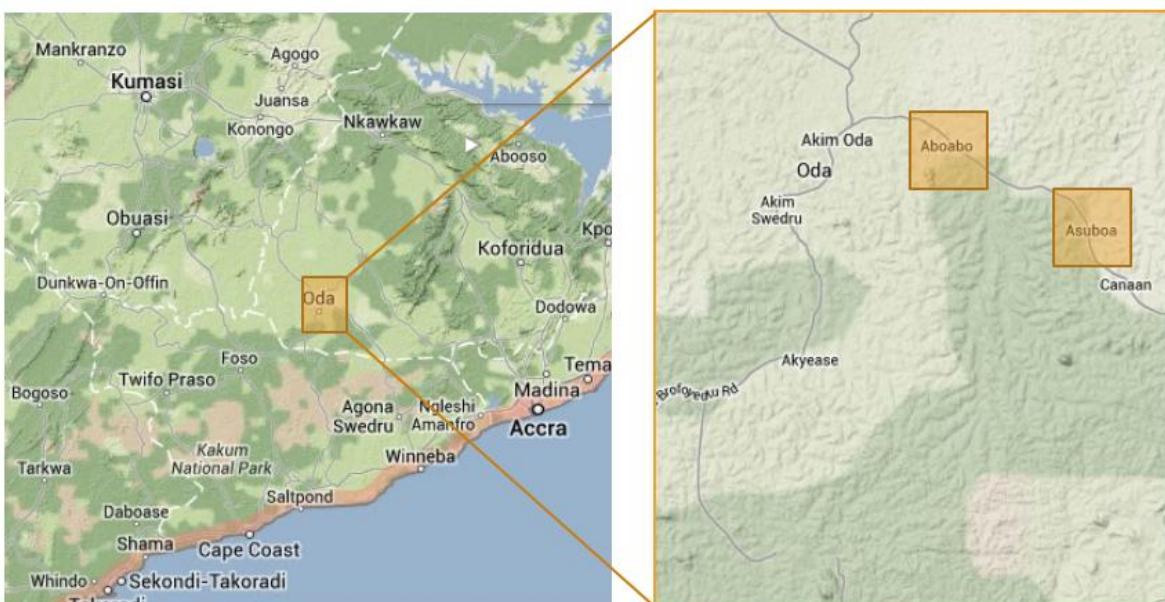
The variables used to measure the impact of the UTZ Certified sustainability standard were derived from the Theory of Change that UTZ Certified has developed to be able to measure the impact of their standard in the future. A simplified version of this Theory of Change can be found in figure 3.3 in the previous chapter. The way in which these variables are defined is largely based on the UTZ Code of Conduct (UTZ Certified, 2009) and the Sustainable Livelihoods Framework (DFID, 1999). Additionally, previous questionnaires on this topic (MIT, 2011; LEI, 2013) were used to further operationalize these variables. For the analysis of the results, the choice was made to use Spearman's Rho for the measurement of correlations between the UTZ certification and the changes in farming practices and livelihood indicators, as this measure tries to explain the relation between a dichotomous variable (being certified or not) with a series of ordinal variables (measuring change in farming practices and livelihood indicators three categories: 'less', 'the same' or 'more'). As the analysis uses a limited population (n=122) to compare certified with non-certified farmers in two regions, it was decided to show the significance levels for $p < 0.01$ and $p < 0.05$ as well as for $p < 0.1$.

5 Results

5.1 Trader-led certification in Birim Central Municipal District, Eastern Region

The first research area covered in this research is located near Akim Oda, the capital of Birim Central Municipal District, in the West corner of Ghana's Eastern Region. In this relatively remote cocoa producing area, the selected farmer communities were located in the villages Asene (adjacent to Aboabo) and Asuboa South, both built around the very start of the tarred road from Akim Oda to the coastal town of Winneba.

Figure 5.1: Location of communities in Birim Central Municipal District, Eastern Region



Compared to other cocoa-producing regions in Ghana, cocoa farmers in the Eastern Region are reported to have the smallest farm sizes and yields per farmer and the lowest rates of pesticide and fertilizer application (MIT, 2011).

Table 5.1 provides an overview of the main characteristics of the two villages studied in this research area. Both Asene and Asuboa South are relatively large and well-connected villages: they are both built along the main road, are connected to the electricity grid and have sufficient water facilities. Farmers can sell their produce to a variety of LBC's. The farmers in Asene were trained on the UTZ certification by Armajaro Trading, a global soft commodity trading house in cocoa, coffee and sugar, which operates in Ghana as a LBC, with its headquarters in Kumasi.

Table 5.1 Main characteristics of selected villages

	Asene (UTZ certified)	Asuboa South (non-certified)
Population number	+/- 7000	+/- 5.500
Number of LBC's active	7	5
Electricity connection since	1990	1993
Amount of boreholes	5 (3 in use)	4 (3 in use)

5.1.1 Development context

In both Asene and Asuboa South, a full-day participatory village meeting was held to get an overview of the major developments that had affected these communities in the recent past and to determine their development priorities for the future. During a full-day village meeting a total of four exercises were done with the participating cocoa farmers, the results of which are described in this paragraph. The exercises were carried out in small groups of 4-7 persons: one group of younger men, one of older men, a group of younger women, one of older women and one group of officials, which consisted of the local chief, one of the elders, a teacher, lead farmer, a purchasing clerk and other persons of authority within the village.

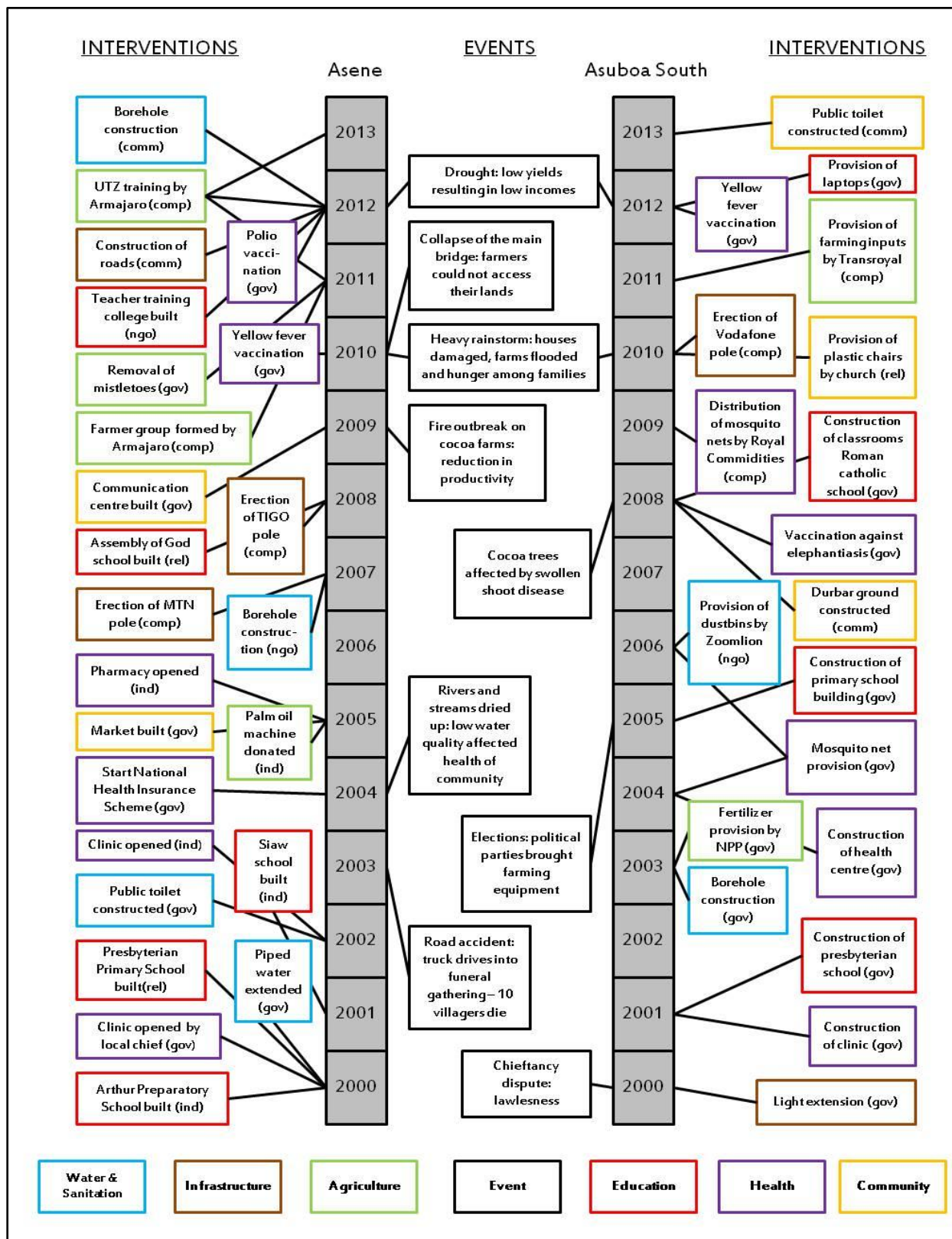
Major Events

In figure 5.3 on the next page, an overview is given of the major events and development interventions that farmers reported to have affected the villages Asene and Asuboa South over the past 12 years. Both villages have recently suffered from two natural disasters. In 2010 heavy rainstorms affected both villages, which damaged many of the farmer's houses. The group of older men in Asene also reported a significant amount of farms to be flooded, leading to 'serious famine'. In 2012 both villages were faced with a long drought, which according to the young men in Asene resulted in 'low yields in cocoa leading to lower incomes'. The older women in Asubua South reported not only a reduction in food crops but also a decreasing water quality as a consequence of the persistent drought.

In Asene, several events occurred that were not reported in Asuboa South. In 2003, the village was shocked by a serious accident that took place during one of its exuberant funeral celebrations. In the chaos of the event, an unobservant chauffeur drove his truck into the gathered mass of people, causing dozens of serious injuries and killing ten of Asene's citizens. For the year 2004, the village's group of officials reported another drought, in which the streams and rivers around the village had dried up, leading to 'unhygienic water which caused people to get sick and have famine'. In 2008, there was a fire outbreak on some of the cocoa farms, leading to reduced productivity. A sudden flood surprised the community in 2009, which consequently caused many farms to be inaccessible, reducing the amount of subsistence crops available and which, according to the group of younger women, 'caused deaths in the village'. In 2012, a new member of parliament was elected from the region, bringing 'hope to the community'.

The cocoa farmer community in Asuboa South reported many events that were not discussed in Asene. For the year 2000, the older women reported a chieftaincy dispute that deranged the community and 'brought about lawlessness'. In 2002, the existing electricity grid was expanded, which according to the same group of older women led to 'a reduction in fire outbreaks and higher living standards in the village'. In 2004, the village was affected by the parliamentary and presidential elections, where members of political parties came to win votes, the older men reporting that 'some of them brought farming equipment' to convince community members to vote for them. In 2006, a pest destroyed the cocoa trees, leaving the cocoa leaves 'brownish'. According to the group of older men, this led to very low productivity. In 2008, again, the cocoa trees were affected by the invasion of the Cocoa swollen-shoot virus (CSSV). According to the group of younger men, this diseases killed quite some cocoa trees completely, leading to 'lower productivity and poverty in the community'.

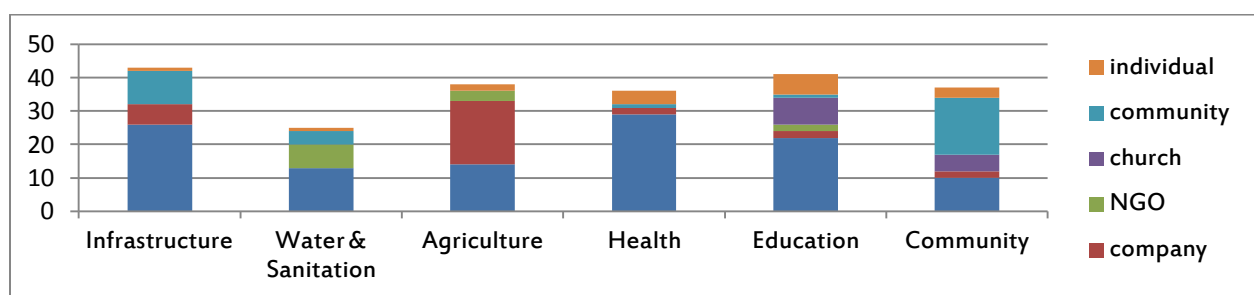
Figure 5.3: Major events and interventions in Asene and Asuboa South, Eastern Region (2000-2013)



Interventions

On the outer left and right side of figure 5.3 showed on the previous page, the major development interventions are shown that affected the villages Asene and Asuboa South over the past 12 years; colours identify the sector in which the development intervention took place. Only those interventions are shown, that were mentioned by at least two groups of the participatory village meeting held in each village. In figure 5.2 below a summary is given of the major actors involved in each sector, for all of the development interventions, including those only mentioned by one group. For the period 2000 – 2013, a total number of 228 development interventions were reported: 126 in Asene and 102 in Asuboa South.

Figure 5.2 Number of development interventions in Asene and Asuboa, by sector and actor



Interestingly, government organizations dominate most of the sectors, only in agriculture and community other actors are dominant (companies and community members respectively). There is limited involvement of NGO's in development interventions in these two villages: only in agriculture, education and water and sanitation a minor share of development interventions was carried out by an NGO. Noteworthy is also the important role of the church in the community and education sectors.

When looking into each sector in more detail, we see that most mentioned interventions in the infrastructure sector are the government-led light extensions, the construction of schools, health centres and police stations by the government. Much of the road construction activities have been taken up by community members. The construction of telecom infrastructure is done mainly by the mobile network companies. In the sector water & sanitation, the government has provided some boreholes and public toilets, but over time community members have added additional boreholes and NGO's have done projects on sanitation.

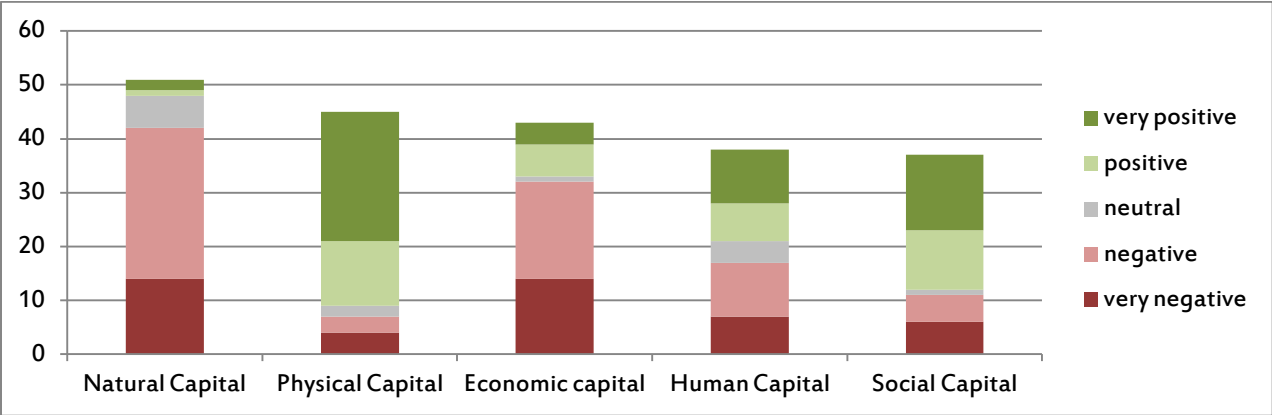
In the agricultural sector, the Ghana Cocoa Board has been active in providing farmers with fertilizers, maintenance of farms and mass spraying programmes. However, most of the interventions are done by the Local Buying Companies (LBC's) who buy the cocoa and provide farmers with farming inputs and (in the case of Armajaro) farmer training. In the health sector, government agencies such as the Ghana Health Service are again dominating the interventions. They provide vaccination programmes and mosquito nets. Individuals open smaller health centres and pharmacies.

In the education sector, many actors play a role. Government agencies construct schools and provide learning material, but also churches do often construct schools. Companies often assist in the education of cocoa farmers. Catering for the community, governments build markets and community members build their own durbar grounds.

Changes over time

When the cocoa farmers in each of the communities were asked to list the major changes in the community over the past 12 years, they came up with a total of 218 changes, 114 in Asene and 104 in Asuboa South. In figure 5.4 an overview is given of the way each of these changes were valued by the farmers. In the domain of natural capital and economic capital we see that the large majority of changes were rated 'negative' or 'very negative'. However, in the domain of social capital and physical capital the majority of changes is rated positively. In the domain of human capital the share of positive and negative valuations are very similar.

Figure 5.4 Number of major changes in Asene and Asuboa South (2000 – 2013) by domain and valuation



In table 5.2 an overview is given of the three most mentioned changes for each domain. For both Asene and Asuboa we see that the negative valuations in the domain of natural capital are for a large part related to problems of deforestation and decreases in water and soil quality. The positive rating of the changes in physical capital can be related to better communication networks and an improved housing quality. The dominantly negative picture in the economic domain is mainly caused by smaller incomes and a decrease in job availability. The mixed picture for human capital can be related to improvements in education on the one hand and worsening working conditions on the other. The bright picture for the domain of social capital can be explained by an increased level of farmer organization.

Table 5.2 Most mentioned changes in the communities of Asene and Asuboa South (2000 – 2013)

	Natural Capital	Physical Capital	Economic Capital	Human Capital	Social Capital
Asene	1. More deforestation	1. Better houses	1. Less jobs for the youth	1. Working conditions decreased	1. Stronger social networks
	2. Lower soil fertility	2. Improved roads	2. Savings are smaller	2. Education system improved	2. More farmer organization
	3. Bad water quality	3. Better communication	3. Incomes are declining	3. More difficult to get labour	3. Less NGO's active
Asuboa	1. More deforestation	1. Better communication	1. Lower incomes	1. Working conditions declined	1. Better leadership
	2. Lower water quality	2. New houses built	2. Difficult to get a loan	2. Better health situation	2. More organizations
	3. Soil erosion	3. More lighting in place	3. Less jobs available	3. Improved education standard	3. More family problems

Development priorities

After identifying the major changes over the past 12 years, the participants of the participatory village meetings in Asene and Asuboa South were asked to identify the most important challenges to be addressed in the coming future . Table 5.3 gives an overview of the top five of development priorities given by each group.

Table 5.3 Development priorities for Asene and Asuboa South, by group

		Asene					Asuboa South				
		OFF	OM	YM	OW	YW	OFF	OM	YM	OW	YW
1	Quality of education			1	2	3	5	1		2	1
2	Health facilities	1	4			3	4	4		3	2
3	Water quality				1		3	2	2	4	4
4	Lack of jobs		5	5			1			1	3
5	Labour availability		2	2		2					
6	Quality of roads						2	3		5	5
7	Access to credit	2	1								
8	Market access							5	1		
9	Soil quality	3			4						
10	Low income					1					
11	Sanitation facilities				5				3		
12	Lack of savings		3								
13	Bad leadership			3							
14	Low productivity	4									
15	Low housing quality			4							
16	Availability of water					4					
17	Absence of library								4		
18	Access to inputs								5		
19	Working conditions					5					
20	Deforestation	5									

(OFF= Officials, OM = Older Men, YM = Younger Men, OW = Older Women, YW = Younger Women)

Remarkably, the two highest rated challenges are from the domain of human capital: the quality of education in the village and the availability of health facilities. Many groups mention the high cost of the education, the lack of a secondary school nearby and the need of having a clinic or hospital close to their community. Third ranks a challenge in the domain of natural capital: the decreasing quality of the water. Farmers mention that the use of agro-chemicals and illegal mining activities negatively impact the water quality. One group remarks: “due to the bad water condition there is a lot of diseases that kill our people.” Interestingly, the first challenge from the economic domain ranks only fourth: the lack of jobs available in the village. When asked about what is needed, groups mention that there is a lack of well-paid jobs for the educated youth: they would like to see the establishment of ‘factories and industries’ in their area. Another challenge that is ranked high on the list of development priorities is the lack of good quality labour. Farmers explain that it is increasingly difficult to get hard-working hired labour for longer than a few hours.

5.1.2 Impact UTZ certification on farming practices

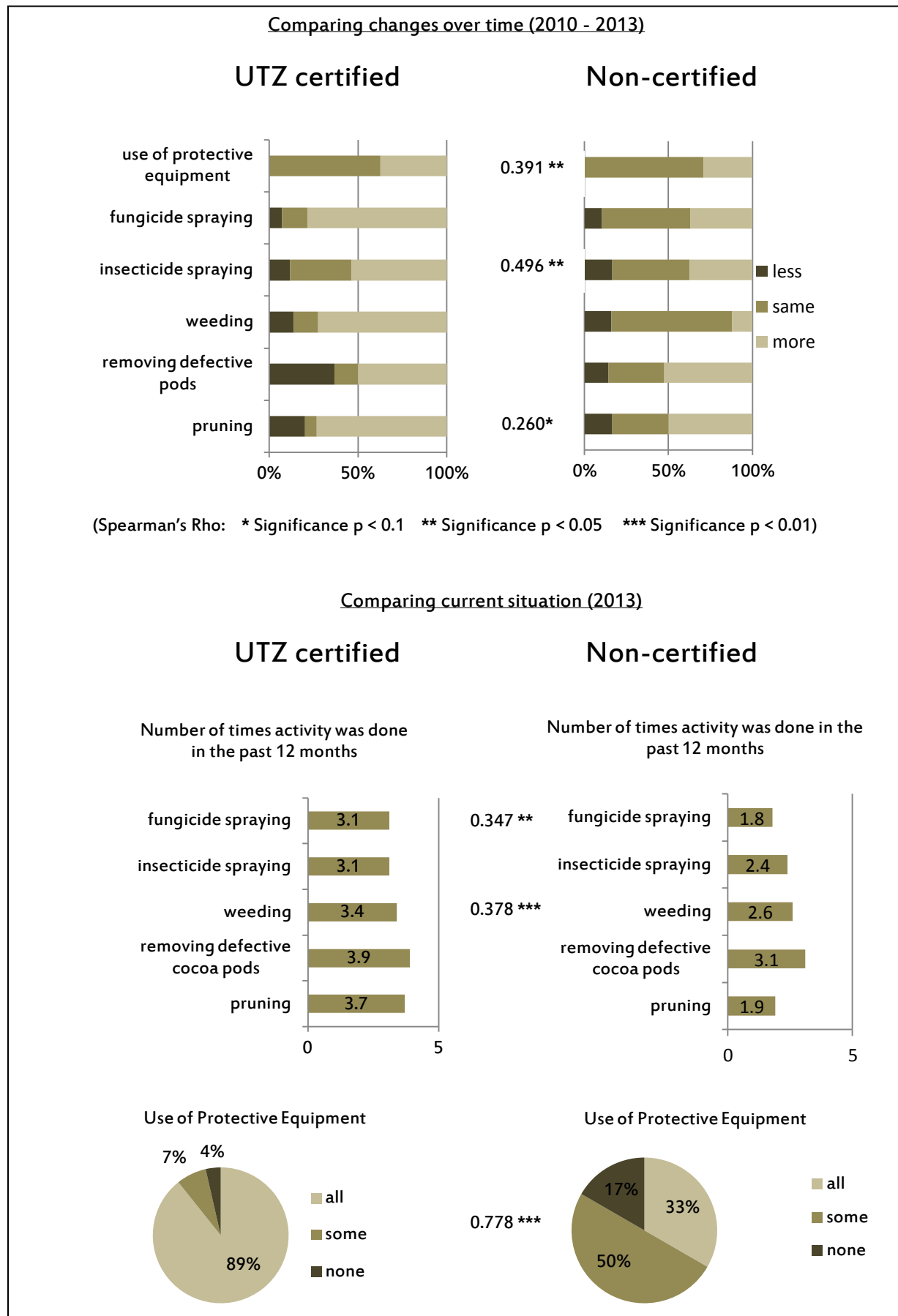
It was at the start of 2011 that the cocoa farmers in Asene were sensitized about the UTZ certification programme by extension officers from the global soft commodity trader Armajaro, which is buying cocoa directly from farmers in Ghana. At the 1st of March 2011, a group of interested farmers was organized for the first training of the programme. As Armajaro had not been buying from that area previously, all 62 farmers who joined the programme in that year slowly started selling their cocoa to the newly appointed purchasing clerk of Armajaro instead of the purchasing clerks of PBC, Olam or any of the five other Licensed Buying Companies (LBC's) in the village to which they had been selling previously. Within the two months after the start of the certification process, the extension officers of Armajaro would visit Asene weekly for a training on good farming, environmental or social practices. After that, the farmer group kept meeting weekly with their newly organised farmer group (although often in a much smaller setting) to discuss the progress made on the topics of the training, but also current developments on their cocoa farms and any group activities they might want to undertake.

Changes in farming practices

One of the most important aims of the UTZ certification programme is to change the farming practices of the farmers under certification as to raise their productivity. Figure 5.5 on the next page gives a comparison of the farming practices from the certified farmers in Asene as compared to their non-certified counterparts in Asuboa South, just 10 kilometers further along the main road. If we look at the changes that took place in their farming practices since the year before the start of the certification programme (2010) we see that a significantly larger share of certified farmers has increased the amount of pruning, weeding and spraying of fungicides on their farms as compared to the share of non-certified farmers who increased those farming practices. There is also a slightly bigger increase visible in the amount of insecticide spraying among the UTZ certified cocoa farmers as compared to their non-certified counterparts, although this correlation is not significant.

Interestingly, no significant difference is visible in the use of personal protective equipment (PPE) between certified and non-certified farmers (possibly because many of the certified farmers were already using protective equipment or because among the certified farmers much of the spraying is done by a spraying gang, a small group of farmers from the certified producer group who were provided by Armajaro with the necessary protective equipment to do the spraying of agro-chemicals for every member of the certification group). Also, no clear improvement is seen in the amount of times defective cocoa pods were removed from the trees; the share of farmers who is doing less removal of defective cocoa pods is even smaller among the certified farmers than among their non-certified control group. This could be explained by the fact that less defective cocoa pods were visible at the farms of the certified group in Asene, as they did significantly more spraying of fungicides. Also if we look at the amount of times certain farming practices were carried out over the past 12 months, we see large differences between certified and non-certified farmers. The amount of pruning and fungicide spraying among the certified farmers is almost double the amount of what we see among the non-certified farmers. In weeding, defective cocoa pod removal and insecticide spraying no significant differences are visible. Finally we see a significantly larger share of farmers using all the recommended protective equipment (89 %) as compared to the non-certified farmers, where only one third is using all the required protection.

Figure 5.5 Farming practices: comparing UTZ certified with non-certified farmers in Eastern Region



5.1.3 Livelihood Changes

As the focus of this thesis is the impact of certification on the well-being of cocoa farmers, we will now turn to a description of the measured livelihood impacts of the UTZ certification programme. Using the five domains or capitals of the Sustainable Livelihoods (SL) framework as a starting point, the main results from the structured interviews with cocoa farmers are presented.

Economic capital

Looking at the economic domain of farmers' well-being (presented in figure 5.6 on the next page), there seems to be a clear impact of the certification programme among the certified farmers. Significantly more farmers have increased their cocoa yields among the certified farmer group as among the non-certified cocoa farmers. Moreover, there is a positive correlation between the UTZ certification and increases in total income, the sum of income from cocoa and other income sources. Also, we see a significant larger share of certified farmers increasing their amount of savings over the past 3 years. Although apparently not significant, clear improvements can also be witnessed in the reported total income of cocoa farmers. Moreover, the share of farmers that increased their other (non-cocoa) income sources seems to be larger among the certified farmer group than in the non-certified group of farmers.

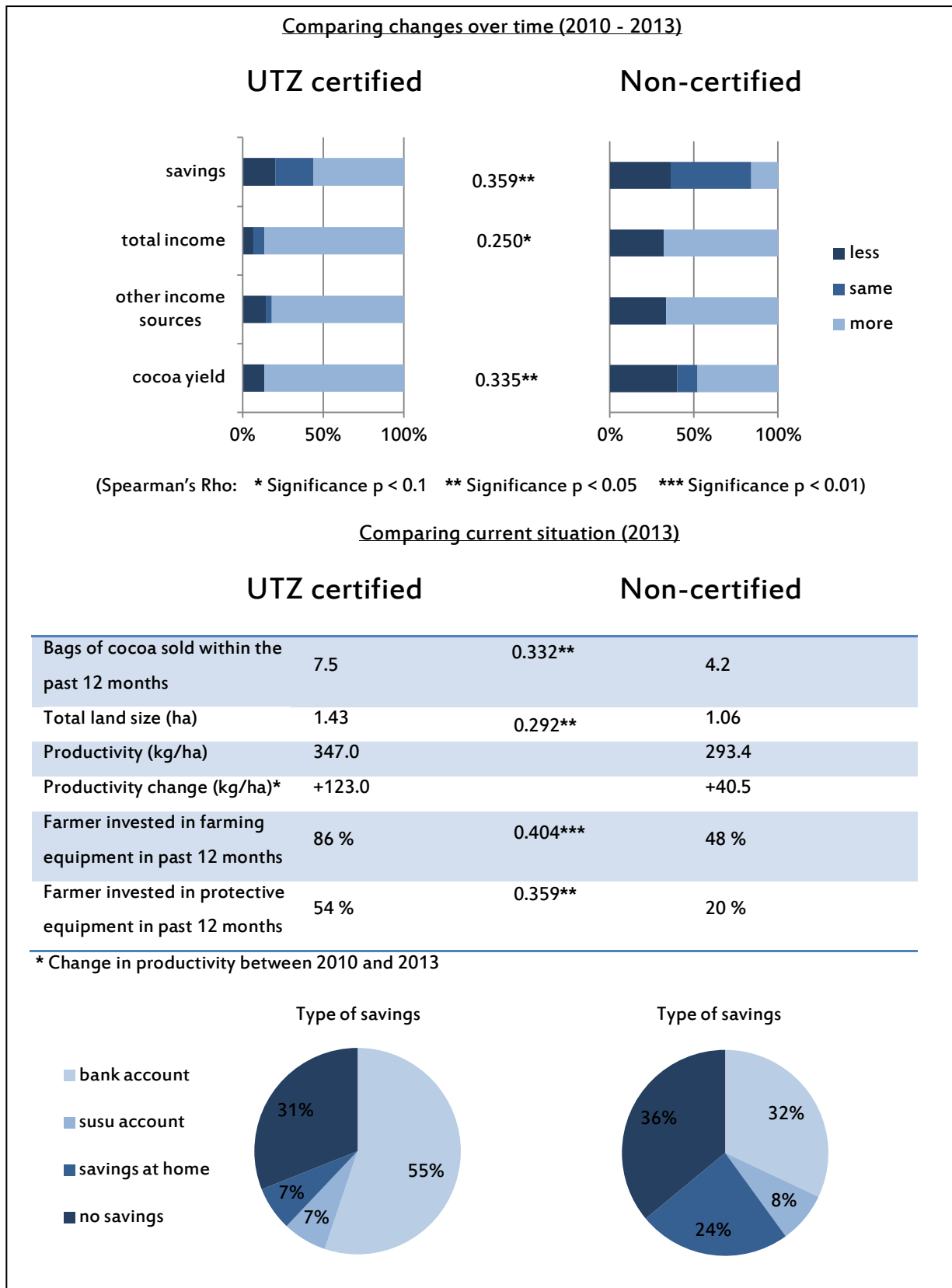
Interestingly, even though the results from the participatory village meetings show most changes which took place in the economic domain since 2000 were perceived negatively, the structured interviews show an improvement in the economic indicators since 2010 for both the non-certified group as well as the certified group of farmers.

Looking at the differences in the current situation of cocoa farmers in the two selected communities, we see significantly higher yields (for the previous 12 months) among the certified farmers as compared to the non-certified farmers. The average (farmer-reported) amount of bags sold by the certified cocoa farmers (7.5) is almost double the amount sold by the non-certified group of farmers (an average of 4.2 bags per farmer). However, there is also a significant difference in land size, making the productivity figures of the certified cocoa farmers only slightly higher than those of the non-certified ones.

If we compare the change in productivity between the pre-certification situation (2010) and now, there is a much larger difference to be witnessed. Over that 3 year period, the certified farmers in Asene increased their productivity with more than 120 kg/ha, while the non-certified farmers in Asuboa South only increased their productivity with just over 40 kg/ha, which is only one third of the increase seen among the certified farmers.

When looking at the ways in which the additional income from the cocoa farms are invested, it seems that quite some of it is re-invested in the cocoa business. Almost all certified farmers invested in farming equipment over the past 12 months compared to only half of the non-certified farmers. Significantly more of the certified farmers invested in personal protective equipment (PPE) over the past 12 months as compared to the non-certified farmers. Probably related to the higher incomes, more of the certified farmers have opened a bank account as compared to the non-certified farmers, of which still a large share has their savings at home. The share of farmers without any savings at all is roughly comparable for both groups of farmers: for both groups this share is about one third of respondents.

Figure 5.6 Economic Capital: comparing UTZ certified with non-certified farmers in Eastern Region



Human capital

Similar to what the results from the participatory village meetings showed, progress in the domain of human capital is limited and sometimes negative. This is no different for the group of farmers who were recently certified by UTZ. For some indicators, such as the use of minor household members and the number of health problems, non-certified farmers are even doing better than their certified counterparts.

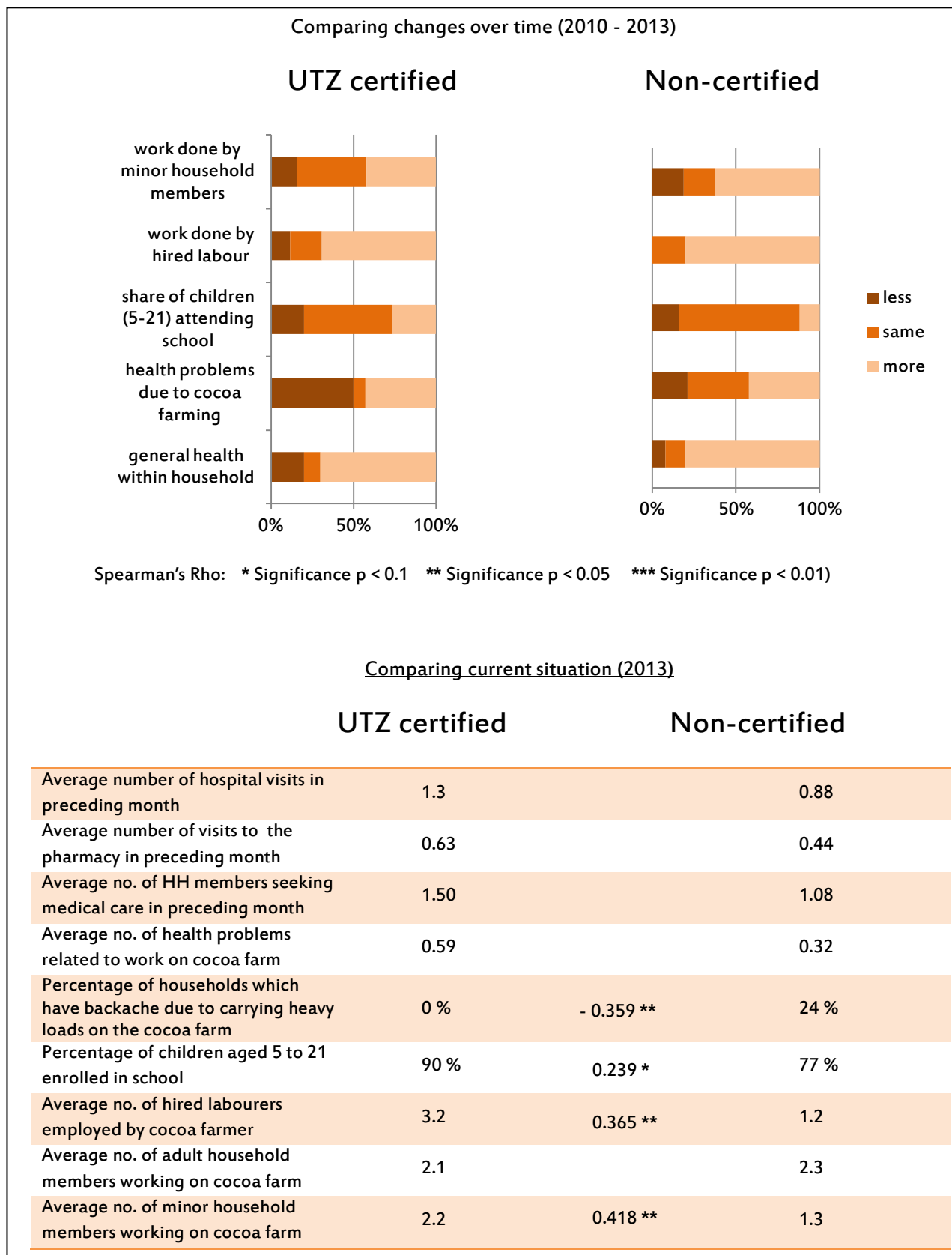
Looking at the general health situation of cocoa farmers, the UTZ certification programme does not seem to make any significant differences. However, the amount of visits to the hospital and pharmacy is slightly higher among the certified farmers as compared to their non-certified counterparts. This could of course also be attributed to the fact that the incomes of the certified farmers are slightly higher than the non-certified farmers, enabling them to afford the costs of using and travelling to the health facilities.

Looking at the number of health problems related to cocoa farming (injuries from a cutlass or machete; backache from carrying heavy loads; respiratory problems, eye or skin irritation from the use of agro-chemicals) it seems that the certified farmers are more affected than their non-certified counterparts (with an average of 0.59 health problems per family as compared to an average of 0.32 health problems among the non-certified group). This could be explained by the higher amount of agro-chemicals used by the certified farmers as compared to the non-certified ones. However, a negative correlation is found between the certification and the occurrence of backache problems due to carrying heavy loads: no certified farmer households were facing this problem as opposed to one quarter of the non-certified households.

A positive correlation was found between the UTZ certification and the school enrolment of the children of the interviewed cocoa farmers: 90 % of the children living with the cocoa farmer (of the ages 5 to 21) is enrolled in school as opposed to only 77 % of the same group of children among the non-certified farmers. Also, the results show that the share of households in which a larger share of the children went to school than 3 years ago is somewhat bigger among the certified farmers as compared to the non-certified group of farmers, although not significant.

Interestingly, a higher number of minor household members (younger than 18) is reported to be working on the cocoa farm among the certified farmers (an average of 2.2 minor household members) than among the non-certified farmers (with an average of 1.3 minors). Also, three times as many hired labourers are working at the certified farms as compared to the non-certified farms. Both these differences can possibly be explained by the fact that due to the training on good agricultural practices, the certified farmers are doing more work (pruning, weeding, application of chemicals) on their farms, for which they need more labour than previously. As many of the farmers are fairly old (over 50 years) and are already doing a lot of work themselves, they have to rely on day labour or the assistance of their younger household members. When asked about the amount of hours minor household members were working on the farm, most farmers answered their children were only helping them on Saturdays. The certified farmers in Asene reported their children were helping an average of 3.0 hours a week; the non-certified farmers reported an average of 4.2 hours a week. However, from the field observations carried out for this thesis it seems children are occasionally helping on weekdays as well (also in 'hazardous activities' like weeding with cutlasses and carrying heavy loads) increasing the real amount of hours they would be assisting their parents.

Figure 5.6 Human Capital: comparing UTZ certified with non-certified farmers in Eastern Region



Physical Capital

Compared to the other domains of well-being from the Sustainable Livelihoods approach, relatively little changes are visible in the domain of physical capital as a result of the UTZ certification programme. Both certified and non-certified farmers have seen improvements in their housing situation over the past 3 years. This is much in line with the results from the participatory village meetings, which showed that the large majority of the major changes farmers had identified in the domain of physical capital over the period 2000-2013 were perceived to be positive rather than negative changes.

The quality of the housing situation among the certified farmers seems roughly similar to the housing situation of the non-certified farmers: only a slightly larger share of non-certified farmers saw a decrease in the quality of the housing situation over the past 3 years. Also, the share of cocoa farmers making any improvements to their house is roughly similar for both groups of farmers: among both certified and non-certified farmers about 60 % of the households has made any improvements to their house over the past 12 months.

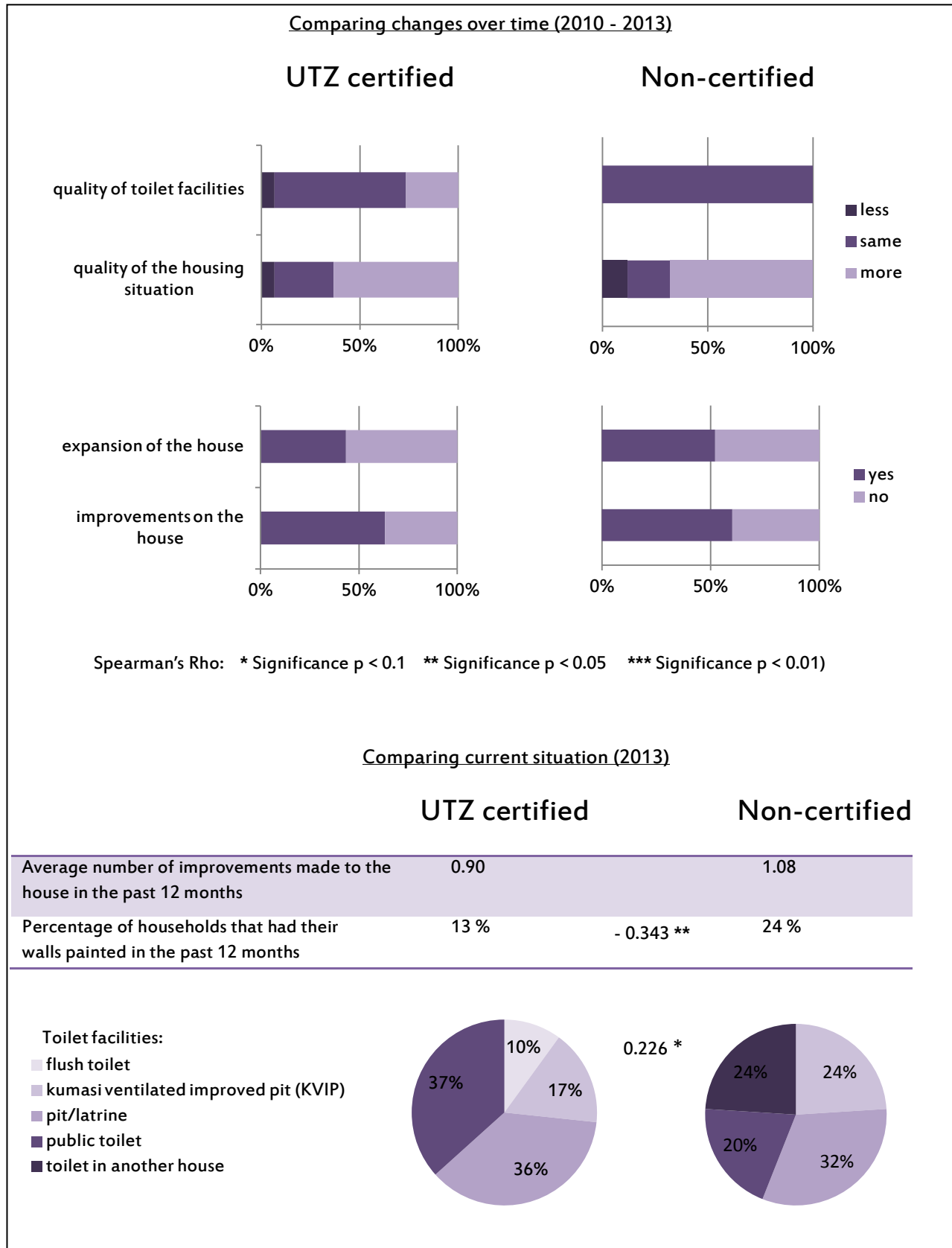
The average number of improvements made over the past year is also quite comparable: an average of 0.90 improvements was made to the houses of UTZ certified farmers in Asene as compared to an average of 1.08 improvements among the non-certified farmers in Asuboa South. Looking at the type of improvements made to the houses of farmers, we only see a significant difference in the percentage of households that had their walls painted over the past 12 months, with almost double the amount of non-certified farmers having their walls painted (24 %) as compared to the certified farmers, where only 13 % had their walls painted over the past year.

The share of household that have expanded their house is slightly higher among the non-certified farmers as compared to the certified farmers: just over 50 % of the non-certified farmers expanded their house as compared to just over 40 % of the certified farmers.

If we look at the sanitation aspect among both groups of farmers, we see that there has been a bit more movement on this aspect among the certified farmer as compared to the non-certified farmers: whereas no change was reported in the quality of the toilet facilities of the non-certified farmers, one third of the toilet facilities of the certified farmers did change in quality, most of them in a positive direction.

Looking at the distribution of the type of toilet facilities in each community, we see a significantly larger amount of farmers in the certified group having improved toilet facilities (a flush toilet, latrine or Kumasi ventilated improved pit (KVIP)) as compared to the non-certified farmers, where still close to half of the farmers rely on public toilet facilities or the toilet facilities from neighbouring farmers.

Figure 5.7 Physical Capital: comparing UTZ certified with non-certified farmers in Eastern Region



Natural Capital

As compared to the domain of physical capital, much more movement is seen in the domain of natural capital as a consequence of the UTZ certification programme. Soil fertility has improved significantly more on certified farms than on non-certified farms, while significantly less shade trees are planted by those farmers who were certified. However, for both certified and non-certified farmers the picture is somewhat gloomy: biodiversity and the number of shade trees are declining on most farms, around one-third of farms are expanding in size and two-thirds of farmers has cleared either secondary or primary forest over the past 12 months.

A major shift is seen in the perceived soil fertility on the cocoa farms. Whereas the majority of non-certified farmers is reporting a decrease in the soil fertility on their farms, the large majority of certified farmers is reporting an increase in the soil fertility on their farms. This results in a significant and very strong correlation (Spearman's Rho of 0.626) between the UTZ certification programme and changes in soil fertility.

It is difficult to explain this difference in reported soil fertility: it could be attributed to a change in farming practices, such as the increased use of fertilizers, but it could also be the result of changes in farmer perception, as farmers will probably relate higher yields to a change in soil conditions, even when that is not necessarily the case.

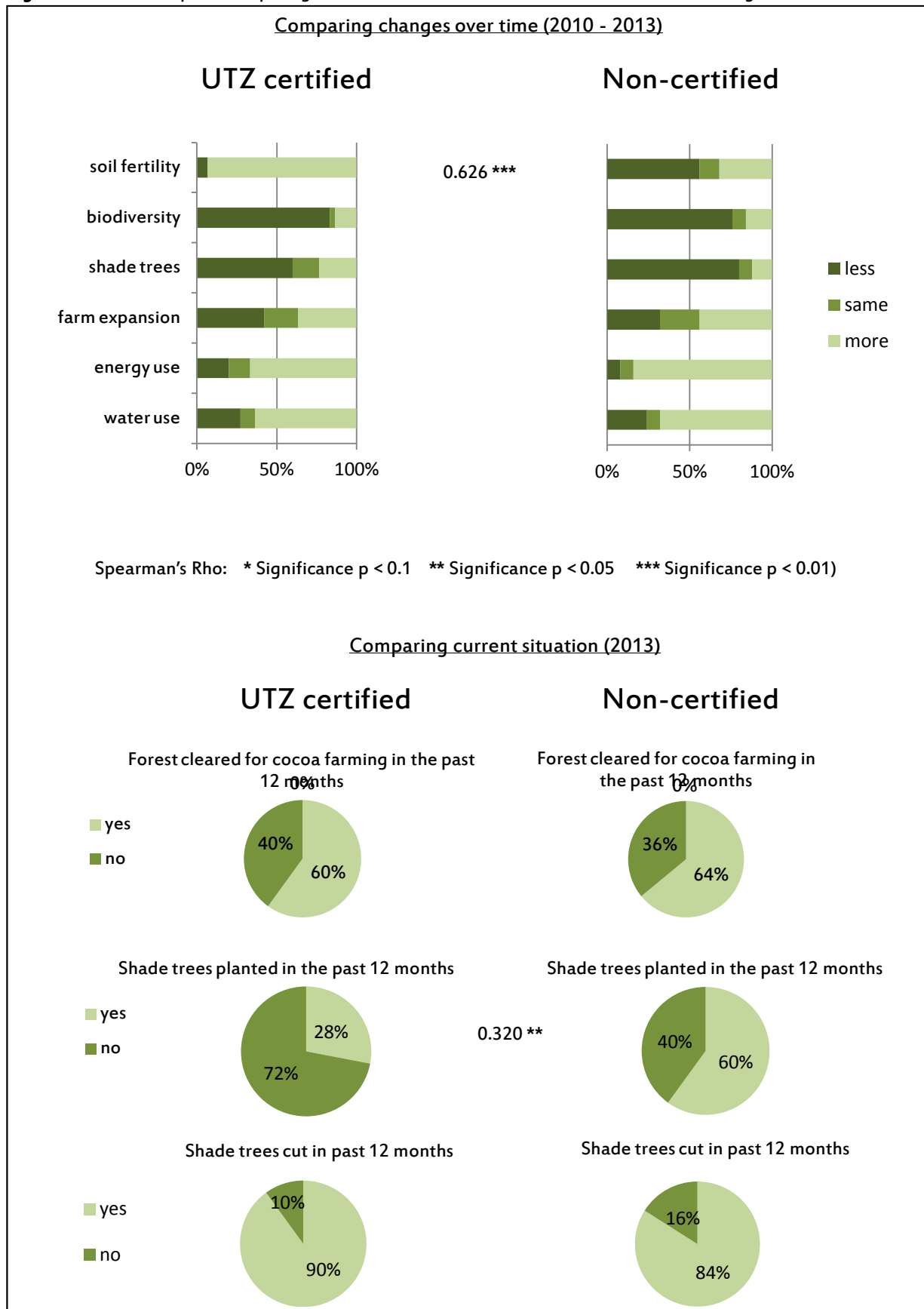
Interestingly, the majority of both certified and non-certified farmers report a decline in biodiversity (variety of plants and animals seen around their cocoa farm). Moreover, most farmers from both groups also report a decline in shade trees on their cocoa farms (providing shade to their cocoa trees), although the minority who reports an increase in the amount of shade trees is somewhat bigger among the certified farmers than among the non-certified farmers.

Whereas just over one quarter of non-certified farmers has planted any shade trees over the past 12 months, among the certified farmers a significantly larger share (60 %) did plant some shade trees over the past year. In contrast, the large majority of both certified and non-certified members report to have cut down some of their shade trees in the past 12 months, with the share being even somewhat bigger among the certified group (90 %) than the non-certified group of farmers (84%).

For both certified and non-certified groups the share of farmers that did more farm expansion than 3 years ago is roughly equal to the share of farmers that did less farm expansion in the past year than 3 years back. Interestingly, among both farmer groups about two-thirds of farmers report to have cleared any forested land (primary or secondary) for the expansion of their cocoa farm over the past 12 months.

Among both groups the majority has increased their water and energy use over the past three years, although the share that reported an increase in energy use is larger among the certified than the non-certified farmers. As most farmers rely on firewood as their main source of energy, an increase in energy use directly contributes to the deforestation process. With a few exceptions, all farmers responded they collected most of their firewood supplies from their cocoa farms.

Figure 5.8 Natural Capital: comparing UTZ certified with non-certified farmers in Eastern Region



Social Capital

After the economic domain, the largest positive impacts of the UTZ certification scheme are found in the domain of social capital. As all of the farmers in Asene became part of a producer group by joining the UTZ certification, they are much more connected than the non-certified farmers in Asuboa South. Although certified farmers seem to have increased their social capital more due to the UTZ certification, that does not mean that the non-certified are heading in the opposite direction: only a small share of non-certified farmers saw a decline in their social capital. This is in line with the results of the participatory village meetings, which show that farmers have perceived most changes in the domain of social capital in a positive rather than a negative manner.

Almost all farmers in Asene report that the size of their social network has increased over the past 3 years, whereas the majority of farmers in Asuboa South report a stagnation or decline in the size of their social network. This translates into a strong and significant correlation (a Spearman's Rho of 0.628) between the UTZ certification and the size of farmers' social network. An additional explanation for the differences in growth of social networks could be given by looking at the development context of both villages. In the certified community in Asene, a communication centre was built just before the start of the certification, which could have contributed to the growth of social networks among cocoa farmers.

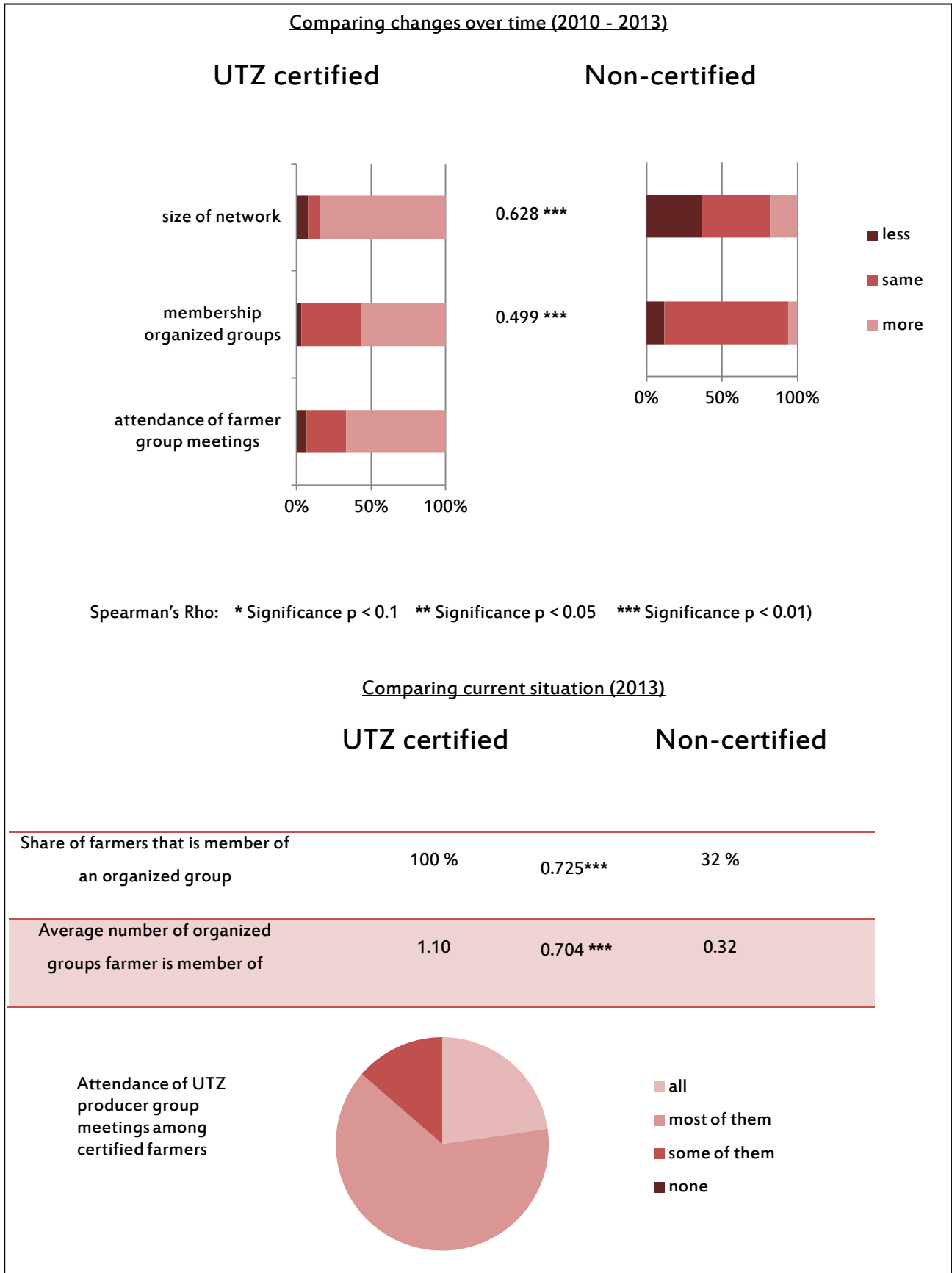
Among the certified group, most farmers say they are member of more organized groups than before. There is a strong correlation (Spearman's Rho of 0.499) between the UTZ certification programme and the number of organized groups farmers are member of.

There is also a significant correlation between the UTZ certification and the number of organized groups farmers are member of. Whereas among the non-certified farmers the average number of organized groups was a mere 0.32, the average number of organized groups farmers are member of is 1.10 in the certified group of farmers. These figures suggest that some of the farmers might have replaced the organized groups they were member of previously by the UTZ producer group at the start of the certification process.

Looking at the attendance of the UTZ producer meetings, less than a quarter of certified farmers reports to attend all of the producer group meetings. About two-thirds report to visit most of the producer group meetings; only a small minority answered to attend 'some' of the producer group meetings.

No farmers reported they did not attend any of the producer group meetings recently. On the contrary: about 70 % of the certified farmers report they have increased the attendance of the UTZ farmer group meetings over the past 3 years.

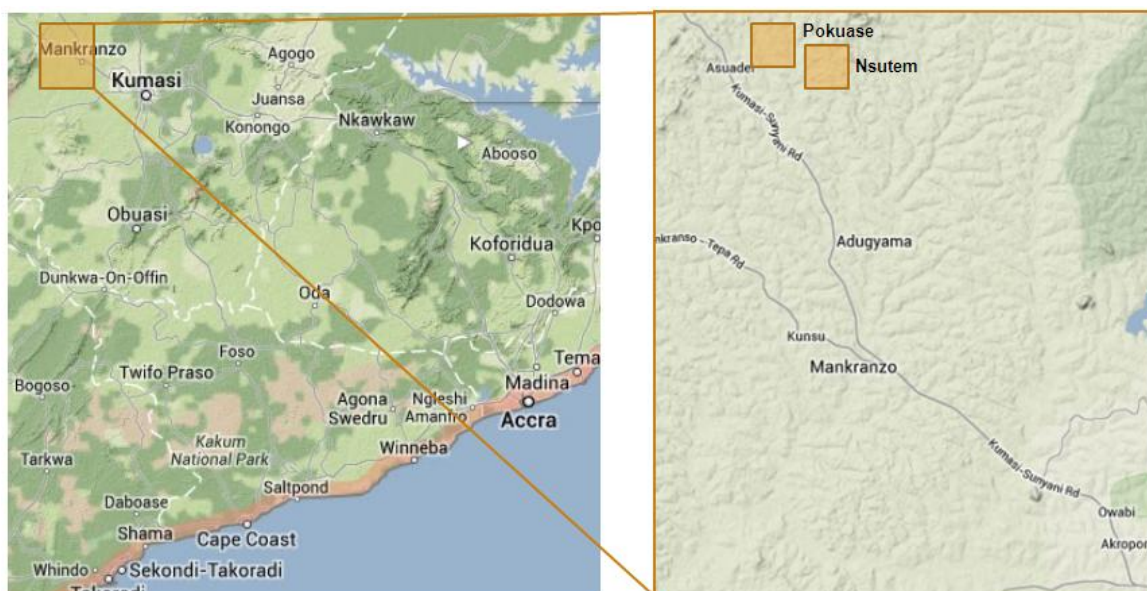
Figure 5.9 Social Capital: comparing UTZ certified with non-certified farmers in Eastern Region



5.2 NGO-led certification in Ahafo Ano South District, Ashanti Region

The second research area covered in this research is located near Mankranzo, the capital of Ahafo Ano South District, one hour drive North-West from Kumasi. In this remote cocoa producing area, the selected farmer communities were located in the villages Pokuase and Nsutem, which are only accessible by following a dirt road branching off from the main road to Tepa at 20 kilometers distance from Mankranzo.

Figure 5.10: Location of Pokuase and Nsutem in Ahafo Ano South District, Ashanti Region



Cocoa farmers in Ashanti Region are reported to have relatively large farm sizes, high yields and high rates of pesticide and fertilizer application compared to other cocoa-producing regions (MIT, 2011). The main Licensed Buying Companies (LBC's) in this region are the Produce Buying Company (PBC), Kuapa Kokoo and Adwumapa Buyers. Table 5.4 provides an overview of the main characteristics of the two villages studied in this research area. The farmers in Pokuase were trained in the UTZ Certified standard by Solidaridad, a Dutch NGO with the objective to contribute to a more sustainable economy. The certification process was carried out by AHANSUCOFA, a farmer cooperative founded by Solidaridad. Within the project, farmers were selling their cocoa to the LBC Federated Commodities, who is delivering the cocoa to the Cocoa Marketing Board (CMC) after which it is shipped to Europe for the Swiss commodity trader Noble Resources, part of the Noble Group, a multinational supply chain manager of agricultural and energy products.

Table 5.4 Main characteristics of selected villages

	Pokuase (UTZ certified)	Nsutem (non-certified)
Population number	930	+/- 800
Number of LBC's active	5	3
Electricity connection since	No connection	No connection
Amount of boreholes	3 (2 in use)	4 (2 in use)

5.2.1 Development context

In both Pokuase and Nsutem, a full-day participatory village meeting was held to get an overview of the major developments that had affected these communities in the recent past and to determine their development priorities for the future. During the village meeting a total of four exercises were done with the participating cocoa farmers, the results of which are described in this paragraph. The exercises were carried out in small groups of 4-7 persons: one group of younger men, one of older men, a group of younger women, one of older women and one group of officials, which consisted of the local chief, one of the elders, a teacher, lead farmer, a purchasing clerk and other persons of authority within the village.

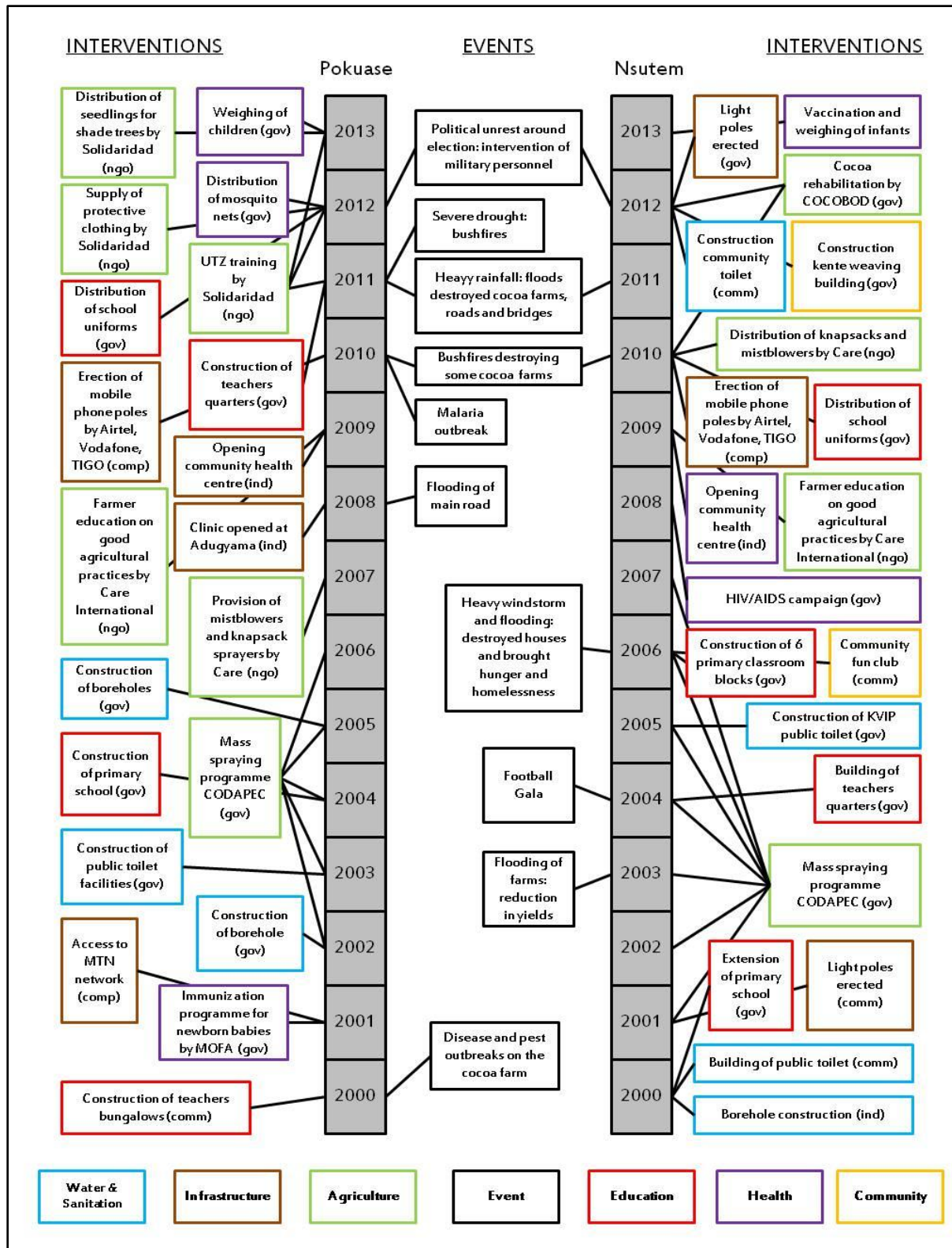
Major Events

In figure 5.12 on the next page an overview is given of the major events and development interventions that affected both villages. In recent years, three events affected both Pokuase and Nsutem heavily. In 2010, a series of bushfires destroyed some of the cocoa farms in 2010, leading to a reduction in productivity. A year later, in 2011, a heavy rainstorm affected both villages, destroying many of the mud houses. As the amount of rain caused the rivers surrounding the villages to overflow, roads, bridges and cocoa farms were damaged. According to the group of officials in Nsutem, this 'resulted in poverty and difficulty of transporting goods' and made it 'very difficult going to the farm which resulted in produce rioting'. In 2012, at one of the political rallies of the parliamentary and presidential elections, a violent conflict arose between supporters from the two opposing political parties, NDC and NPP, which according to the older men in Nsutem, had to be resolved by the intervention of military personnel in the communities.

A list of events did not take place in both villages, but only in Pokuase. The group of younger men reported several outbreaks of pests and diseases around the year 2000. Both groups of younger men and younger women report the construction of a borehole in 2002. In 2008, the village had to cope with the consequences of their road being flooded, making transportation to the main road between the cities of Kumasi and Tepa increasingly difficult. In 2010 there was a malaria outbreak in the community, according to the group of younger men having a 'very negative' impact on the health of Pokuase's citizens.

In Nsutem, many groups mentioned the Football Gala in 2004 as a major event in the community, which according to the older men 'brought unity among community members'. In 2003 the village was affected by a serious flood, which the group of older women reported to have 'rendered people homeless' and caused farms to be 'flooded and thus resulted in yield reduction'. In 2006, the village experienced a devastating windstorm which left many of the mud houses with broken walls and destroyed the wonky crimp roofings that covered them. According to the group of officials, many workshops and the school were severely damaged as well. They reported the event 'resulted in hunger and poverty' in the village and caused 'some people getting homeless'.

Figur 5.12: Major events and interventions in Pokuase and Nsutem, Ashanti Region (2000-2013)

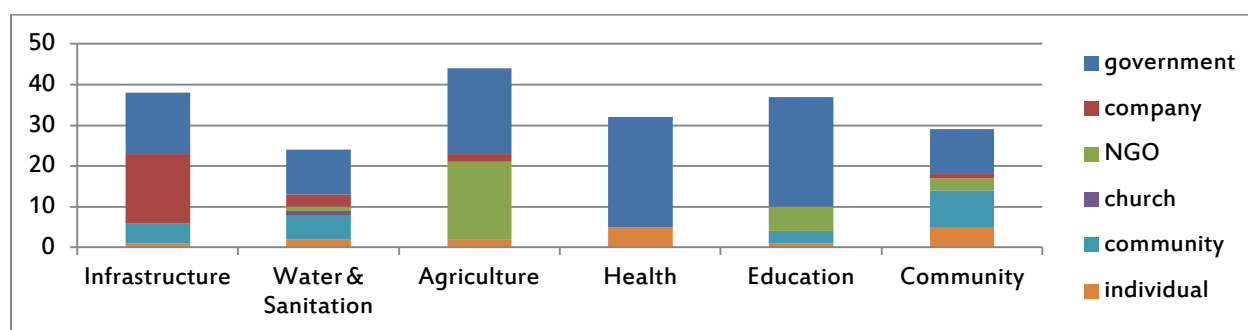


(ind = individual; gov = government; comp = company; comm = community; rel = religious organization)

Interventions

On the outer left and right side of figure 5.12, the major development interventions are shown that affected the villages Pokuase and Nsutem over the past 12 years; colours identify the sector in which the development intervention took place. Only those interventions are shown, that were mentioned by at least two groups of the participatory village meeting held in each village. In figure 5.11 below a summary is given of the major actors involved in each sector, for all of the development interventions, including those only mentioned by one group. For the period 2000 – 2013, a total number of 221 development interventions were reported: 99 in Pokuase and 112 in Nsutem.

Figure 5.11 Actors involved in development interventions in Asene and Asuboa, by sector



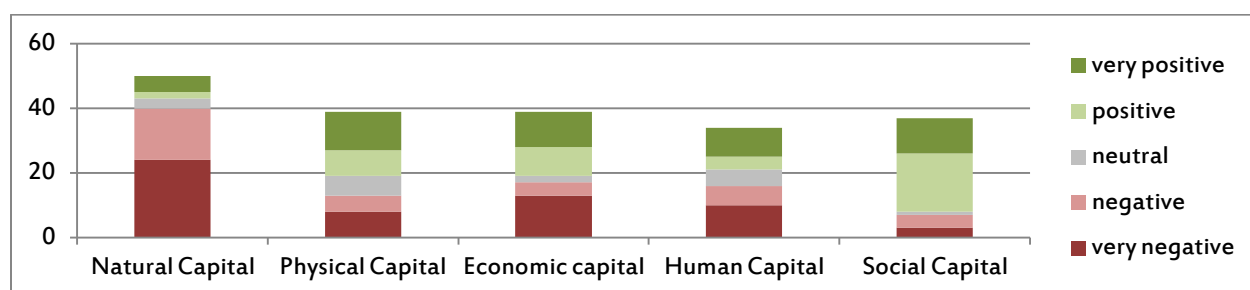
In most of the sectors the lion's share of development interventions was again carried out by government organizations, with the exception of infrastructure, where companies were responsible for most of the interventions. Contrary to the villages of Asene and Asuboa South in Eastern Region, NGO's play a significant role in Pokuase and Nsutem, especially in the agricultural and education sector. Interestingly, churches are hardly involved in this area. Noteworthy is also the contribution of individual actors (often entrepreneurs or donors from the area itself) in the health and community sector.

When looking at each of the sectors separately, the variety of actors can be studied in more detail. In the sector of infrastructure, government agencies have been active in road construction, the erection of light poles and putting up a kente weaving centre in Nsutem. However, most of the mentioned interventions are related to the expansion of the mobile network structure, carried out by the major telecommunication companies in the country. In the field of water and sanitation, the government has been active in supplying part of the demand for toilets and boreholes, but individuals and community groups have been active in construction the additional need of boreholes and toilets. In the agricultural sector, the Ghana Cocoa Board has assisted through mass spraying programmes and the cocoa rehabilitation programme, but the main chunk of work in this field has been done by NGO's such as Solidaridad and Care International. In the health sector, government agencies have been distributing mosquito nets and providing vaccination programmes. Individuals have been taking up the task of building a community health centre. In the education sector, government agencies have build classrooms and provided school uniforms, but community members constructed teacher's accommodation and NGO's provided learning materials. On a community level, the government has built a community market and community members have created a 'community fun club'.

Changes over time

When the cocoa farmers in Pokuase and Nsutem were asked to list the major changes in their community over the past 12 years, they came up with a total of 204 changes, 100 in Pokuase and 104 in Nsutem. In figure 5.13 an overview is given of the way each of these changes were valued by the farmers. Two domains stand out for their strong valuation in the village meetings: close to 80 % changes in the domain of natural capital were rated 'negative or 'very negative', while in the domain of social capital the large majority of changes was rated as 'positive' or 'very positive.' In the domain of physical capital only a slight majority of changes is rated positively, with a significant share valued 'neutral'. In the domain of economic capital the shares of positively valued changes is almost equal to the share of negative valued changes. In the domain of human capital we see the share of negatively valued changes being slightly larger than the share of positively valued changes.

Figure 5.13 Valuation of major changes in the communities of Pokuase and Nsutem (2000 – 2013)



In table 5.5 an overview is given of the three most mentioned changes for each domain. For both Pokuase and Nsutem we see that the negative valuations in the domain of natural capital are for a large part related to problems of deforestation, decreases in biodiversity and soil quality. The positive rating of the changes in social capital can be attributed for a large part to stronger social networks (increased farmer cooperation) and more farmer organization (frequent meetings of the producer group). The slightly negative picture in the domain of human capital is a combination of better education, lower quality and availability of labour and worsening working conditions. The mixed picture for economic capital can be explained by a combination of higher incomes and more difficult access to credit. In the domain of physical capital the quality of roads and houses have developed differently for Pokuase and Nsutem, but in both villages farmers report improvements in communication facilities.

Table 5.5 Most mentioned changes in the communities of Pokuase and Nsutem (2000 – 2013)

	Natural Capital	Physical Capital	Economic capital	Human Capital	Social Capital
Pokuase	1. Lower soil fertility	1. Better communication	1. Incomes are higher	1. Lower labour quality	1. More NGO's active
	2. Deforestation	2. Improved houses	2. Less savings	2. Better education	2. Stronger social network
	3. Less biodiversity	3. Road quality less	3. More difficult to get credit	3. Tougher working conditions	3. More farmer organization
Nsutem	1. Deforestation	1. Better communication	1. More jobs	1. Labour less available	1. More farmer organization
	2. Biodiversity loss	2. Better roads	2. Better income	2. Worse working conditions	2. Better social network
	3. Soil degradation	3. Houses degrading	3. Less access to credit	3. Better education	3. Lack of leadership

Development priorities

After identifying the major changes over the past 12 years, the participants of the participatory village meetings in Pokuase and Asuboa South were asked to identify the major challenges for the future. Table 5.6 gives an overview of the five development priorities given by each group at both village meetings.

Table 5.6 Development priorities for Pokuase and Nsutem, by group

		Pokuase					Nsutem				
		OFF	OM	YM	OW	YW	OFF	OM	YM	OW	YW
1. Lack of Electricity	Physical Capital	1	1	1	1	1	1	3	1	2	2
2. Health facilities	Human Capital	2	3	3	3	3		1	3		1
3. Quality of roads	Physical Capital	3	4	2	2	4			4	4	3
4. Quality of education	Human Capital	4			4		2	5		1	
5. Access to inputs	Economic Capital		2				5				4
6. Access to clean water	Natural Capital			5				2			
7. Market access	Economic Capital					5				3	5
8. Sanitation facilities	Human Capital						3	4			
9. Access to credit	Economic Capital					2					
10. Low productivity	Natural Capital								2		
11. Soil fertility	Natural Capital			4							
12. Food prices	Human Capital				5					5	
13. Rehabilitation of houses	Physical Capital						4				
14. Low incomes	Economic Capital		5								
15. Poor working conditions	Human Capital								5		
16. Lack of shed for weaving	Physical Capital	5									

(OFF= Officials, OM = Older Men, YM = Younger Men, OW = Older Women, YW = Younger Women)

In both participatory village meetings, the lack of electricity ranked highest as development priority. As both villages are within 10-15 kilometers from the electricity grid along the main road, the desire to be connected to the grid is very understandable one. In the village of Nsutem two attempts were done to connect the village, but whereas some of the light poles were erected, no attempt was done to do the wiring.

Second on the list of development priorities is the lack of health facilities in the vicinity of the two villages. In the discussions, farmers pointed to the need of a clinic close by, as there have been several cases of seriously ill villagers who did not make it in time to the hospital when the road towards the nearest hospital was flooded.

Also the third and fourth priorities on the list are in the domains of human and physical capital. Third ranks the priority to upgrade the roads, as the only roads connecting these two villages are full of potholes and become very difficult to travel after serious rainfall. Fourth ranks the need to improve the quality of education: teachers are poorly motivated and often come late to class. Interestingly, the economic domain ranks relatively low on the list of development priorities. Only at the fifth place we find the lack of access to inputs as a major economic concern of farmers.

5.2.2 Impact UTZ certification on farming practices

Much like in Asene, the cocoa farmers in Pokuase were sensitized about the UTZ certification programme at the start of 2011. Instead of a commodity trader, it was staff from the Dutch NGO Solidaridad who informed them about the possibility of increasing their productivity by participating in the certification process. At the 4th of April 2011, the first group of interested farmers was gathered for the first training. Over a period of five months, the farmers in the newly formed 'Pokuase Cocoa Farmers Association' were attending the UTZ trainings by extension officers from Solidaridad, which were held twice a month. After that, they continued to meet once or twice each month to discuss the progress made on the topics of the training, but also current developments on their cocoa farms and any group activities they might want to undertake. Slowly the farmers started to sell their cocoa to Federated Commodities, the LBC which buys the certified cocoa for the Swiss commodity trader Noble Resources.

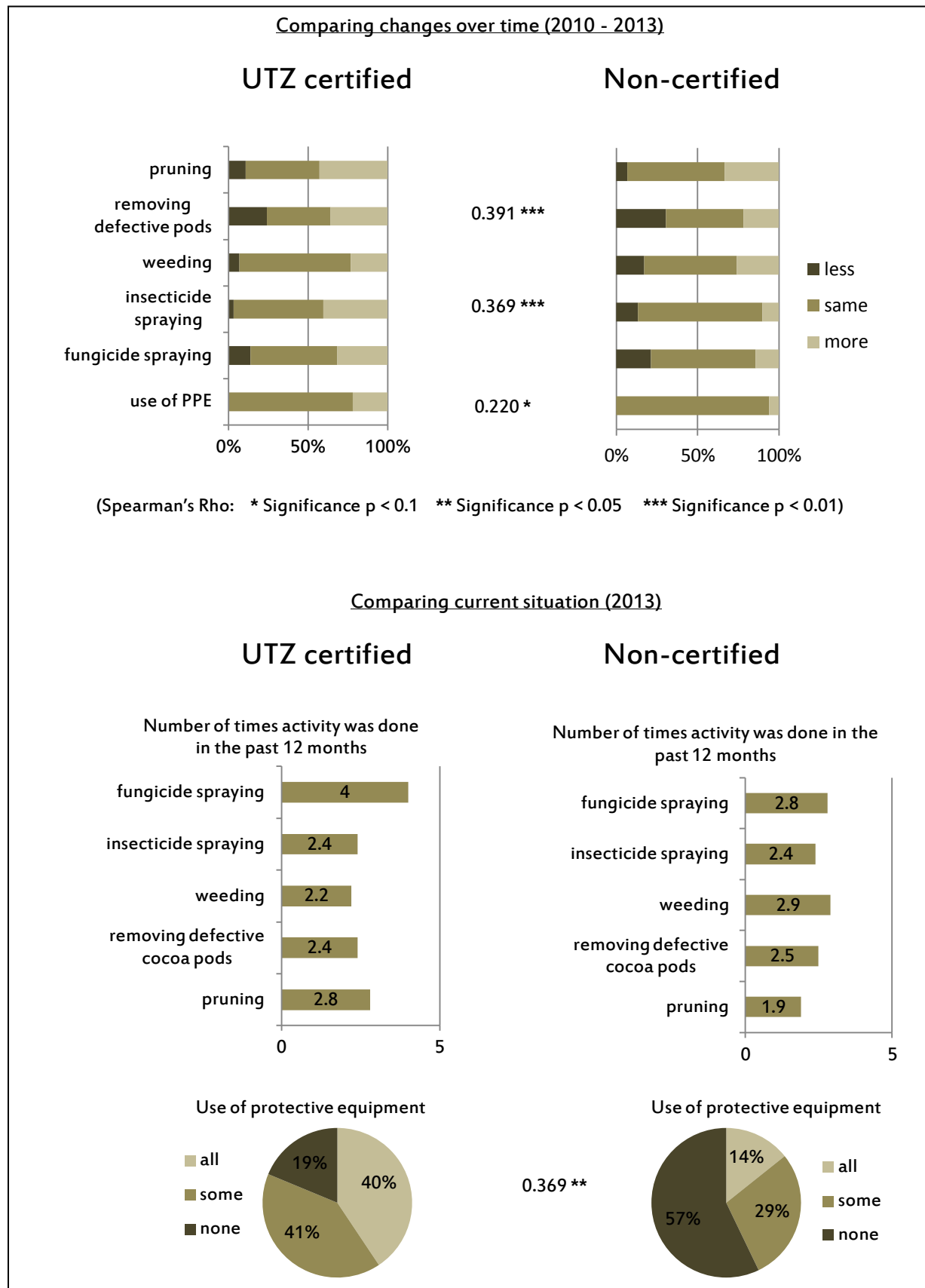
Farming practices

To assess the impact of the UTZ certification scheme on the farmers in Pokuase, we first look at the changes which are visible in their farming practices. Figure 5.14 on the next page gives a comparison between the farming practices from the certified farmers in Pokuase and those of their non-certified counterparts in Nsutem, about 5 km further down the dirt road. If we look at the changes that took place in their farming practices since the year before the start of the certification programme (2010) we see that a significantly larger share of certified farmers has increased the amount of insecticide spraying and defective cocoa pod removal on their farms as compared to the share of non-certified farmers who increased those farming practices. Moreover, the use of Personal Protective Equipment (PPE) is significantly higher among the certified farmers as compared to the non-certified farmers. Also in the amount of pruning and the frequency of fungicide spraying light increases are visible among the UTZ certified cocoa farmers as compared to their non-certified counterparts, although for these farming practices the correlation with the presence of the certification scheme is not significant. No significant difference can be seen between the amount of weeding done by certified farmers as compared to the non-certified farmers.

Looking at the amount of times certain farming practices were carried out over the past 12 months, we see much less pronounced differences between certified and non-certified farmers. The amount of pruning and fungicide spraying among the certified farmers is higher than what we see among the non-certified farmers, but we do not see the certified farmers doing double or triple the amount of work done in non-certified communities, as was the case for Pokuase. For insecticide spraying, the frequencies are the same for both groups and for the activities of weeding and the removal of cocoa pods, the frequency is even higher among the non-certified farmers than among the certified ones.

If we look at the use of the recommended protective equipment, the share of farmers using all protective equipment is three times bigger among the certified communities than in the non-certified communities. Whereas the percentage of farmers that is using no protective equipment is close to 60% among the farmers which are not certified, this share is only about 20 % among the certified farmers. A positive correlation exists between the UTZ certification programme and the type of protective equipment used.

Figuur 5.14 Farming practices: comparing UTZ certified with non-certified farmers in Ashanti Region



2.2.3 Livelihood Changes

After discussing the impact of the UTZ certification scheme on farming practices, we turn to the core of the research again: the impact of the certification scheme on the livelihoods of the farmers.

Economic capital

When exploring the economic domain of farmers' well-being (presented in figure 5.15 on the next page) it becomes clear that the economic impact of the UTZ certification is somewhat smaller in Pokuase than in the first research area. When looking at the way in which the economic variables have developed in the period 2000 – 2013, the only significant difference that can be found between the certified and the non-certified group is in cocoa yield. For a majority in both groups, their total income increased, but the size of their savings reduced and the amount of other income sources (besides cocoa) declined.

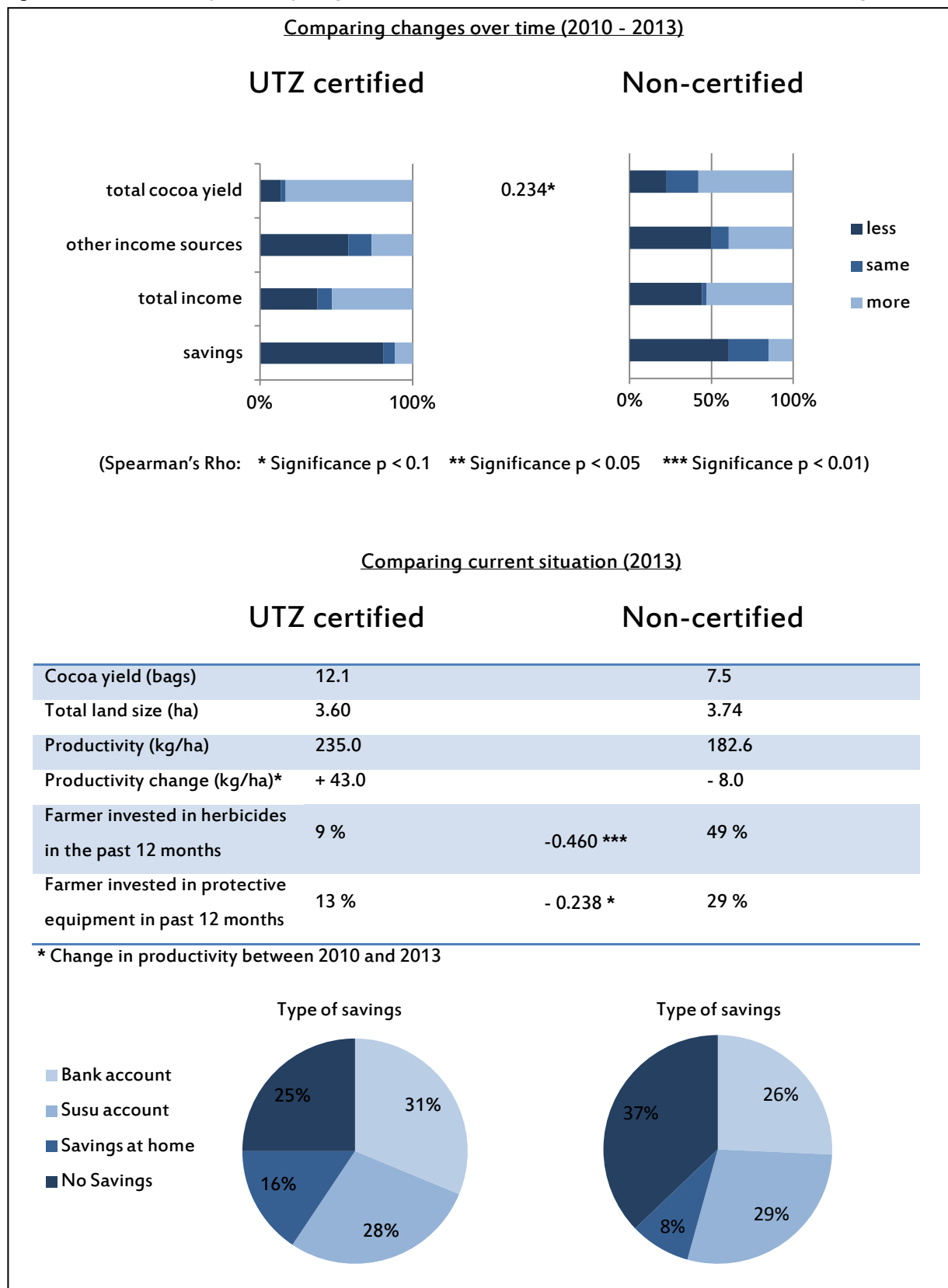
The relatively slower economic progress in this region can be related to the development context of the villages under study. At the start of the certification, both villages were faced with two serious natural disasters: a series of bushfires destroying part of the cocoa farms in 2010 and heavy rainfall and consequent flooding of cocoa farms in 2011. One of the reasons that the differences between the certified community in Pokuase and the non-certified community in Nsutem is smaller than in the previous case of the Eastern region, is the fact that the certified community in Pokuase faced an additional series of bushfires in 2011, disadvantaging their farmers compared to the non-certified community in Nsutem.

Interestingly, when the focus is on the situation of 2013 only, more differences can be discovered between the certified and the non-certified group of farmers. The cocoa yield per farmer is 4.6 bags higher among the certified farmers than among the non-certified farmers. Also the productivity per hectare is higher among the certified farmers: the difference with the non-certified farmers is more than 50 kg per hectare. Over the past 3 years productivity has increased with over 40 kg/ha for the certified farmers but decreased with close to 10 kg/ha among the non-certified farmers.

It seems that some of the non-certified farms are investing more in their farm, however. The share of non-certified farmers investing in herbicides is almost five times as big as the share of certified farmers investing in herbicides. Also, the share of farmers investing in protective equipment is more than double the share of certified farmers investing in the protective wear.

Limited differences are also seen in the type of savings farmers have. The share of people with a bank account is slightly higher among the certified farmers; the share with no savings whatsoever is slightly larger among the non-certified farmers

Figure 5.15 Economic Capital: comparing UTZ certified farmers with non-certified farmers in Ashanti Region



Human Capital

Much of the situation in the domain of human capital is similar to what could be concluded from the participatory village meetings: working conditions are difficult, with more than half of farmers facing health problems due to work on the cocoa farm, but education levels are high, with the great majority of children attending school.

Contrary to the dominantly negative health impacts of certification witnessed at Asene and Asuboa South, in Pokuase the health situation of the farmers is quite similar to that of the non-certified Nsutem. When asked about the general health situation in the household, more farmers say it has improved in the group of certified farmers than in the group of non-certified ones.

The number of hospital visits is lower among the certified farmers than among their non-certified counterparts. But the percentage of households with injuries from machete or cutlass and the share of households with work-related health problems are significantly lower among the certified group of farmers as compared to the non-certified group. The number of times household members sought medical care and the number of visits to a pharmacy are roughly equal between the certified and the control group. The amount of visits paid to a hospital in the past month is significantly lower for the certified farmers than for the non-certified farmers.

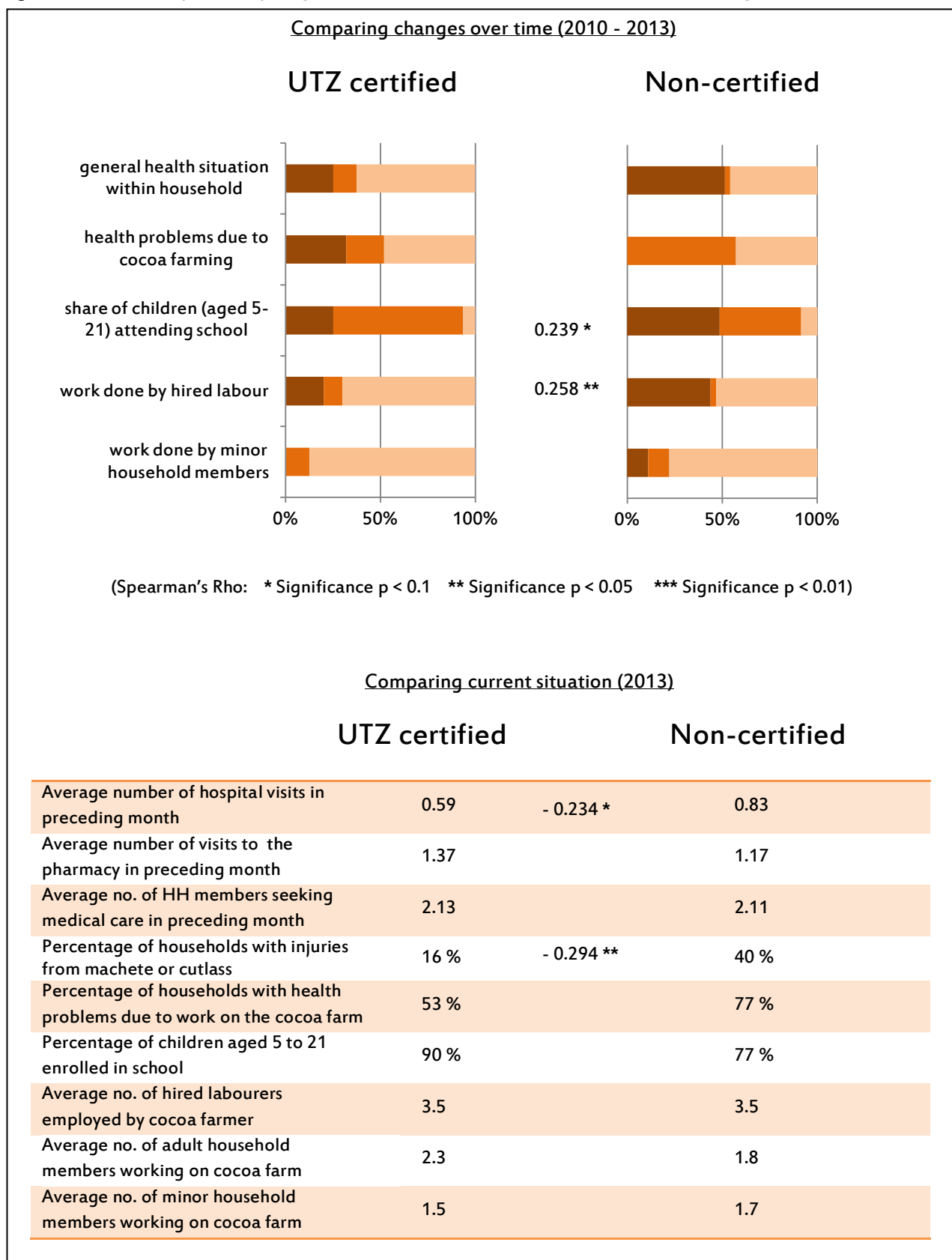
Similar to the first research area, the percentage of farmers' children enrolled in school is significantly higher (90%) among the certified farmer group than among the non-certified community (77%). The share of farmers that indicated that less of their children are enrolled in school as compared to 3 years ago is double as high among the non-certified farmers as compared to their certified counterparts.

Also in line with the first research area, the group of farmers indicating it has been using more hired labour and minor household members to work on the farm is bigger among the certified community than among the non-certified group. Between the UTZ certification and the changes in amount of hired labour used on the farm even a significant correlation can be found.

However, when the numbers on labour for the year 2013 are studied, no difference can be found in the amount of hired labour used: both the certified and the non-certified farmers have an average of 3.5 hired labourers working on their cocoa farm.

Among the certified community, more adult household members are working on the farm (2.3 on average) as within the non-certified community (1.8 on average). Although the amount of minor household members working on farm has increased more in the certified community over the past years, the current average of minor household members working on the cocoa farms is lower among the certified farmers (1.5) than among the non-certified farmers (1.7).

Figure 5.16 Human Capital: comparing UTZ certified with non-certified farmers in Ashanti Region



Physical Capital

The domain of physical capital shows a mixed picture for the villages Pokuase and Nsutem. In both villages, farmers feel the quality of housing is either degrading (for the non-certified farmers) or stagnating (for the certified farmers). On the other hand, over one third of farmers have made some improvements to their houses, more improvements to the houses were done by non-certified farmers as compared to their certified counterparts. This mixed picture of positive and negative changes much resembles the results from the participatory meetings, which showed that roughly half of the changes cocoa farmers had identified for the period 2000-2013 were perceived positively while the other half of reported changes were perceived either neutral or negatively.

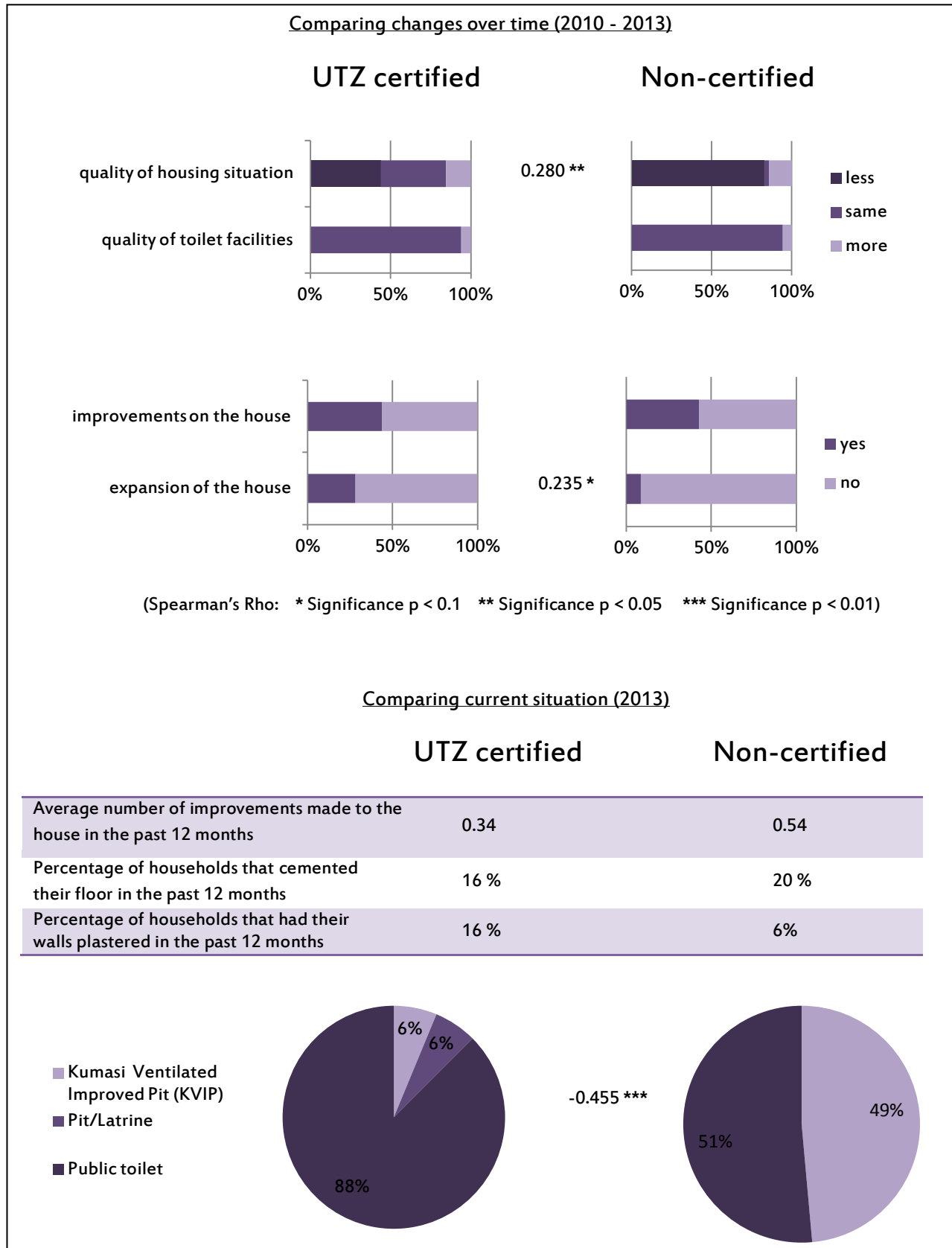
Compared to the little differences in the domain of physical capital in the first research area, in the second research much more changes can be attributed to certification. For example, the quality of the housing situation is positively correlated with the UTZ certification: the share of farmers that report the quality of their housing situation has decreased is much higher among the non-certified farmers than among the certified farmers. However, the share of farmers that answer the quality of their housing situation has improved is roughly similar among the two groups

The share of cocoa farmers making any improvements to their house is roughly similar for both groups of farmers: among both certified and non-certified farmers about 60 % of the households has made any improvements to their house over the past 12 months. However, the share of farmers that expanded their houses is significantly larger among the certified farmers than among the non-certified farmers.

Remarkably, the average number of improvements made over the past year is somewhat higher among the non-certified farmers, although not significant: 0.54 improvements on average against 0.34 improvements among the certified farmers. For example, the percentage of non-certified farmers that had their floor cemented is somewhat larger (20%) than that same percentage for the certified farmers (16%). However, the percentage of households that plastered their walls in the past 12 months is much higher among the certified farmers (16 %) than among the non-certified farmers (6%).

Over the past 3 years, little change was recorded in the quality of toilet facilities in both villages. There is however a significant difference in quality, which was probably already the case at the start of the certification process in 2011. About 90 % of the certified community Pokuase depends on the use of a public toilet, while in the non-certified community Nsutem this share is only just over 50 %. The remaining 50 % enjoys the comfort of a more hygienic Kumasi Ventilated Improved Pit (KVIP), which is ventilated with the help of a PVC pipe.

Figure 5.17 Physical Capital: comparing UTZ certified with non-certified farmers in Ashanti Region



Natural Capital

In line with the results from the participatory exercises, most of the recent changes in the domain of natural capital are negative changes: half of farmers has expanded their farm over the past 3 years and on the majority of farms biodiversity, the number of shade trees and soil fertility have declined over that period. Over 70 % of farmers have cut shade trees on their farm in the past 12 months, while over 80 % has cleared forest to make room for cocoa farming.

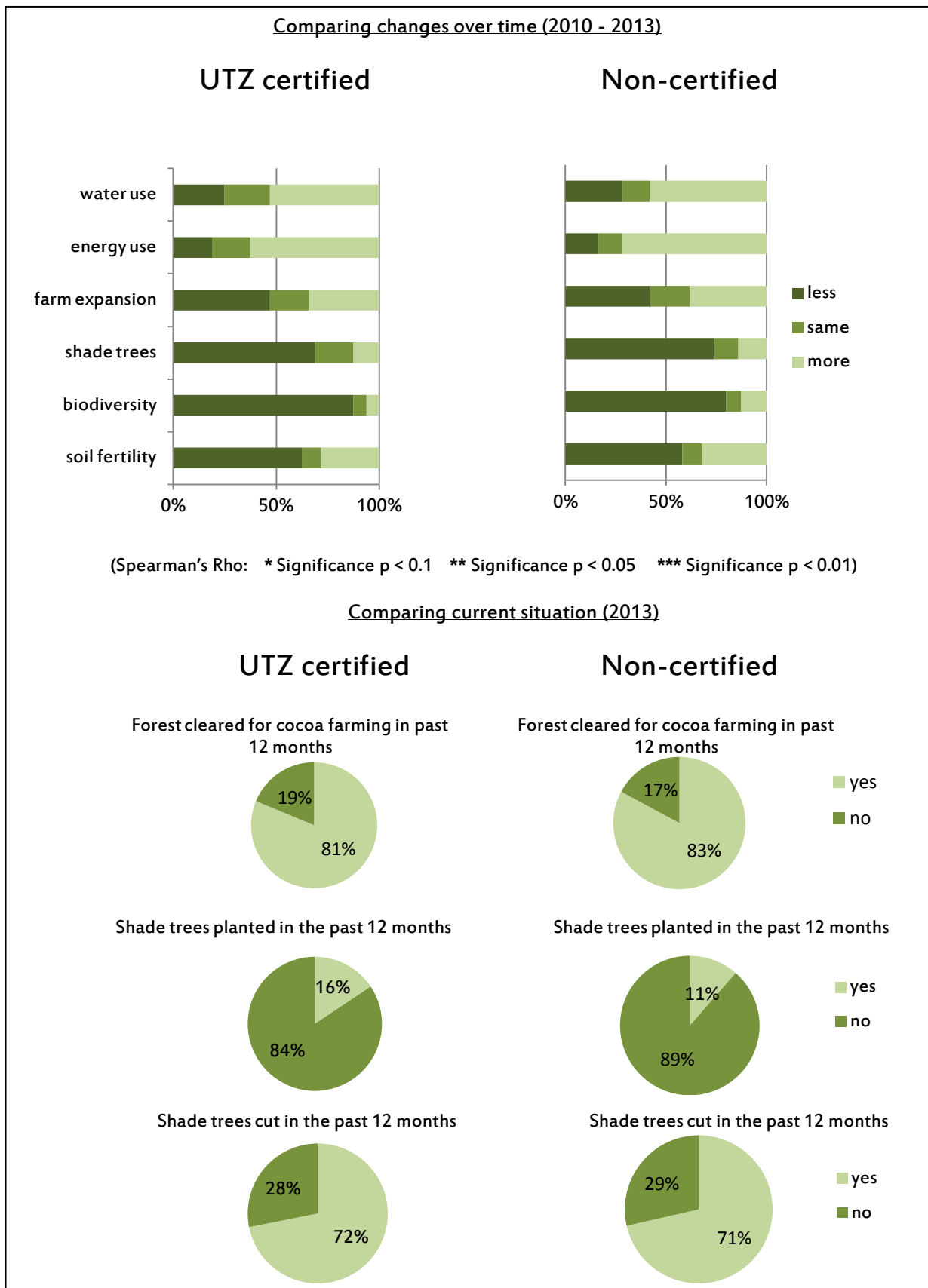
Interestingly, in the domain of natural capital no correlations can be found between certification and any of the indicators from the natural domain. In both Pokuase and Nsutem, more than half of the respondents have increased their water and energy use in the past 3 years. For the indicator of farm expansion, the share of respondents that increased their amount of farm expansion is roughly equal to the share of respondents that decreased it.

For both the certified and non-certified farmers, the majority reported a decrease in the amount of shade trees, in biodiversity and soil fertility. The decrease in soil fertility can

Both in Pokuase and Nsutem more than 80 % of respondents reported to have cleared any primary or secondary forest. Less than 20 % (16 % in Pokuase and 11 % in Nsutem) have planted any shade trees over the past year. Over 70 % of farmers in both areas said to have cut down shade trees in the past 12 months.

In the research area in Ashanti Region, both certified and non-certified communities are thus witnessing a degrading natural environment. Farmers use more and more natural resources, continue to expand their cocoa farms, cut down forested areas and observe a decline in biodiversity and quality of their soils.

Figure 5.18 Natural Capital: comparing UTZ certified with non-certified farmers in Ashanti Region



Social Capital

For the second research area, the reported differences in the domain of social capital are somewhat less impressive than what we witnessed in the first research area, mainly due to the fact that during the start of the certification process, both communities of cocoa farmers already had an active farmer group, organised by the NGO Care International.

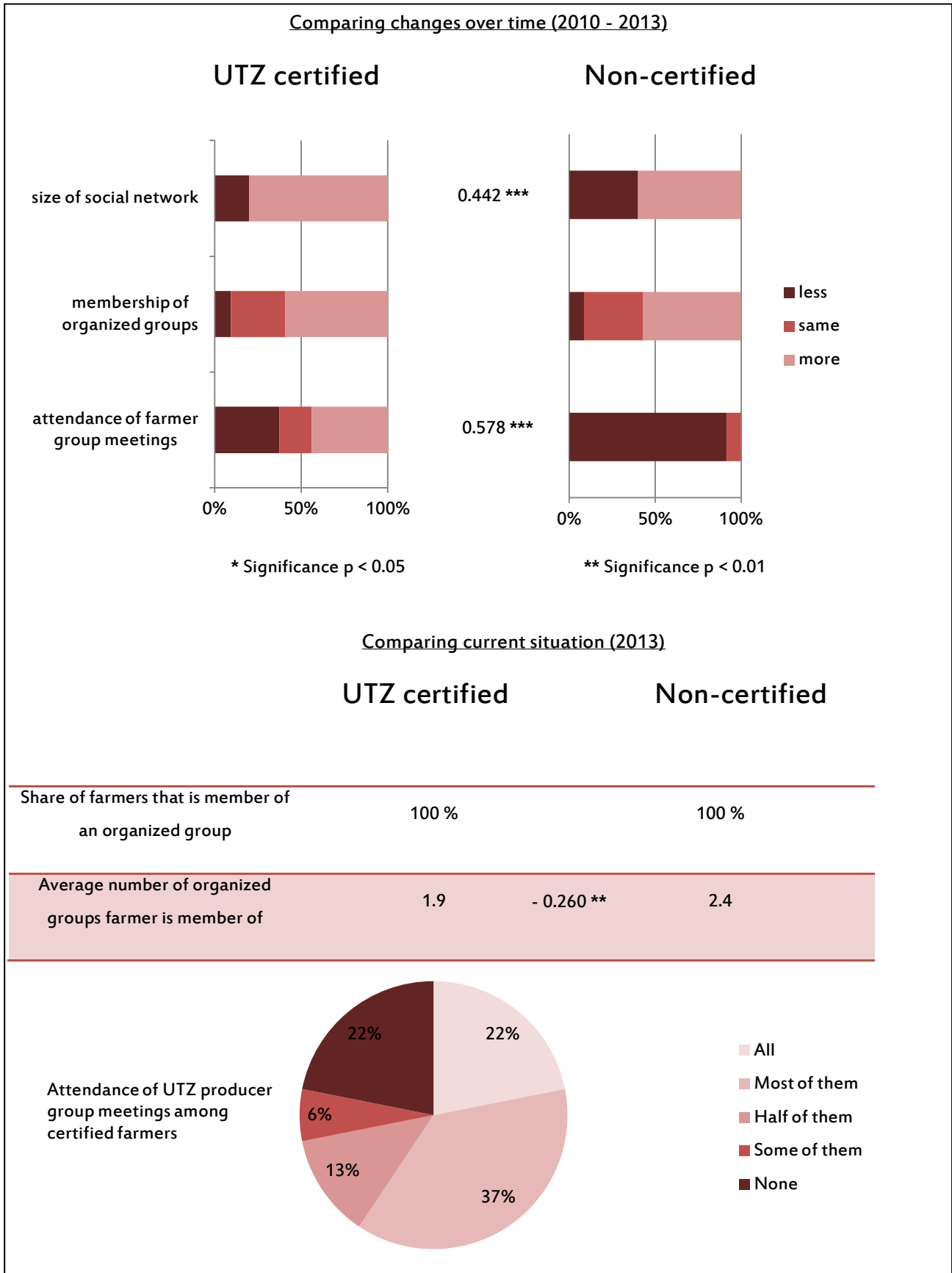
Nevertheless, both the certified and the non-certified farmer group report to have increased the size of their social network. This is remarkable, considering the political unrest that had divided the community in 2012, when opposing party members came into a conflict with each other. Looking at the percentage of farmers that increased their social network, this share is significantly higher among the certified farmers than among the non-certified farmers. The majority of both farmer communities also increased their membership of organized groups over the past 12 months.

Interestingly, there is a strongly significant correlation between the UTZ certification and the changes in farmer group attendance. Whereas the large majority of non-certified farmers report to visit less of the meetings of their producer group (from Care International) the certified farmers say to have increased their attendance of the producer group, probably due to the fact that the UTZ certification scheme has revived the group that was earlier formed by Care International.

Every respondent of both communities was thus member of at least one organized group, the number of groups being significantly higher among the non-certified farmers (with 2.4 organized groups on average, compared to 'only' 1.9 organized groups on average among the certified farmers). This difference could be explained by the fact that the activities of the UTZ certification group are particularly demanding, leaving limited space for the membership of other organized groups.

Interestingly, the attendance of the UTZ producer group meeting is somewhat differently structured than in the first research area. Again, close to a quarter of respondents mention to visit all of the producer group meetings. However, the share of respondents mentioning to visit 'most' of the meetings is much smaller than in the first research area: around one-third of the total. Close to 20 % of respondents mention to visit 'half' or 'some' of the UTZ producer group meetings. Worrying is the fact that 22% of the certified community members indicate not to have visited any UTZ producer group meetings in the recent past.

Figure 5.19 Social Capital: comparing UTZ certified with non-certified farmers in Ashanti Region



5.3 Comparing case studies: possible explanations

In this paragraph, the results from the case study in Eastern Region (among farmers trained by commodity trader Armajaro) are compared with the results from the case study in Ashanti Region (among farmers trained by the NGO Solidaridad). In line with the previous paragraphs, this paragraph is structured into three sections: first differences in development context are described; then the changes in farming practices due to certification are compared; concluding with an analysis of the dissimilarities in the impact certification has on the livelihoods of cocoa farmers. For both farming practices and livelihood changes, an attempt is done to describe possible explanations for the differences found between the two case studies.

Development context

The two case studies were selected to represent two 'critical cases' that would be able to show the importance of the development context in which the certification process is taking place. To represent the one 'extreme' scenario, the case study in Eastern Region was chosen for its low level of farmer organization, lack of NGO support and farmer training previous to the start of the certification process. The case study in Ashanti Region was chosen for its contrasting characteristics, as an example of the other side of the spectrum: previous to the certification process the farmers *had been* organized in a group and *did* receive both farmer training and support from NGO's. Care was taken to find similar characteristics for both the certified and the non-certified community within each case study.

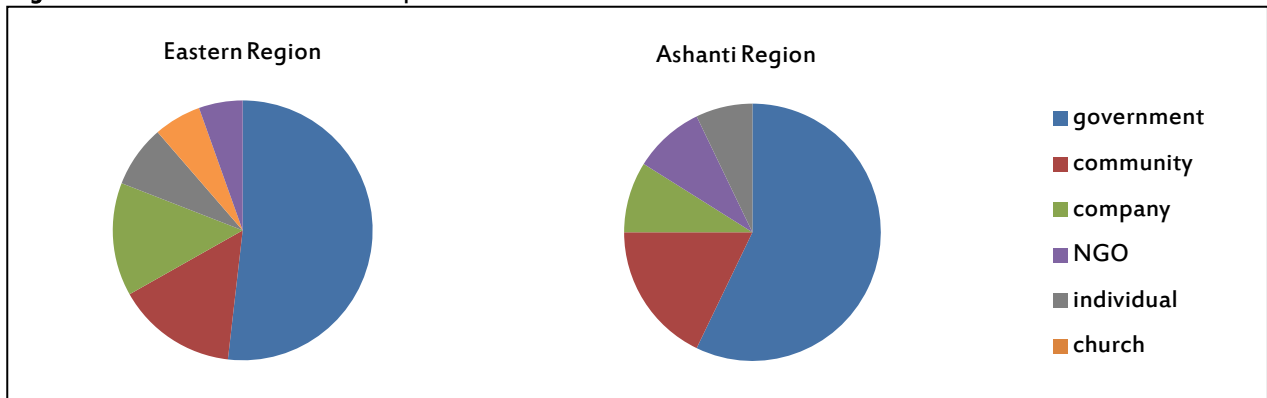
Table 5.7 Contrasting characteristics between case studies in Eastern and Ashanti Region

	Birim Central Municipal District, Eastern Region		Ahafo Ano South District, Ashanti Region	
NGO support	No NGO support for cocoa farming in the past		NGO support from Care International	
Training	Farmers had not received any training before		Farmers received training on GAP	
Farmer organization	No farmer organization before		There was already an active farmer group	
Accessibility	Communities adjacent to main (tarred) road		Communities are 5-10 km from tarred road	
Remoteness	Communities are 5-10 km from district capital		Communities are 20 -25 km from district capital	
Village	Asene	Asuboa South	Pokuase	Nsutem
Certification	UTZ certified	Non-certified	UTZ certified	Non-certified
Population numbers	± 7.000	± 5.500	930	± 800
Number of LBC's	7	5	4	3

From table 5.7 it becomes clear that apart from the contrasting characteristics the case studies were selected for, several other attributes of the two research areas might be important to consider when trying to explain differences in farming practices and livelihood outcomes. First of all, the accessibility and remoteness of both areas might prove important: the research area in Eastern Region was much more central and accessible than the area in Ashanti Region. Secondly, the size of the selected communities might prove pivotal: the communities in Eastern Region had much larger populations than the communities in Ashanti Region. Finally, the number of Licensed Buying Companies (LBC's) a farmer could sell to was somewhat larger in Eastern Region than in Ashanti Region. All of these factors will be taken in account when trying to explain differences in the impact of the UTZ certification.

Another major factor to take into account, are the many other development interventions that have been contributing to farmers' well-being in the recent past. In the case study in Eastern Region a total of 228 development interventions were reported to have taken place since the year 2000. For the same period, a total of 221 development interventions was reported in the selected communities in Ashanti Region. For both regions, most interventions took place in the infrastructure, agriculture and education sectors. As becomes visible from figure 5.20 below, the government, the community and companies were the main development actors involved in these development interventions. Whereas in Ashanti Region NGO's played an important additional role, in Eastern Region the church and particular individuals were responsible for a large part of the remaining development interventions.

Figure 5.20 Actors involved in development interventions in both research areas



The results of the participatory village meetings also showed that the major events that recently took place in each of the regions were determining factors in explaining changes in well-being between the two case studies. Asene and Asuboa South in Eastern Region were much affected by a heavy rainstorm in 2010 and a drought in 2012. Pokuase and Nsutem in Ashanti Region faced severe problems due to bushfires in 2010, devastating floods in 2011 and political unrest around the elections in 2012.

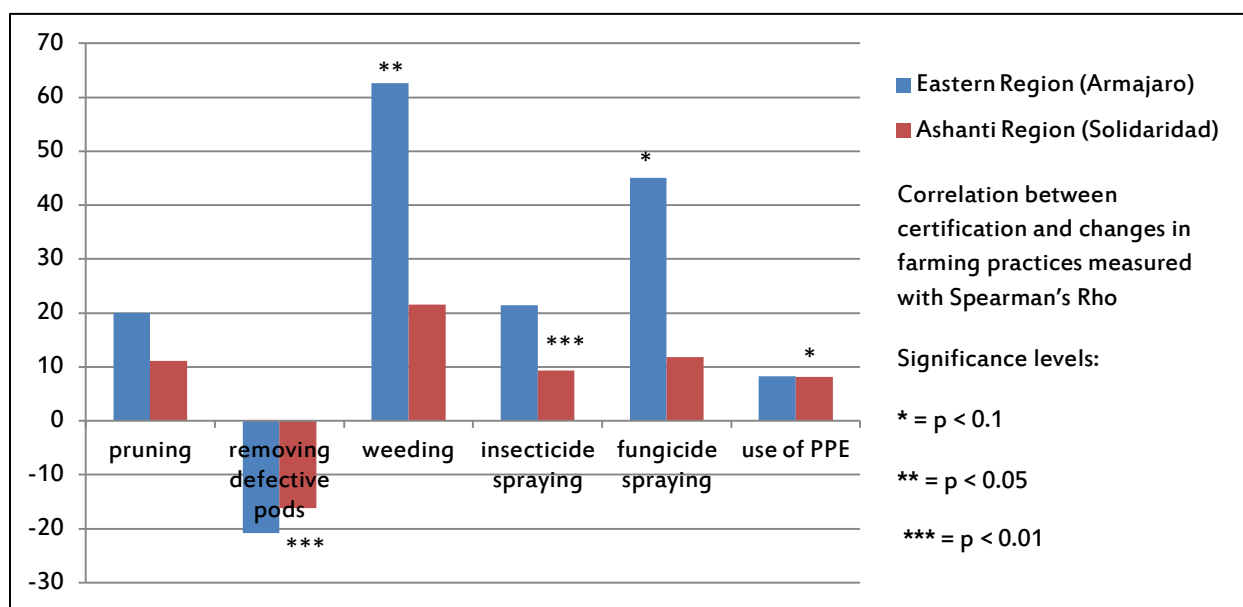
Looking at the major changes that took place in each of the research areas, there are many similarities. In both areas most of the negatively valued changes took place in the domains of natural capital (e.g. deforestation, soil degradation and loss of biodiversity) and economic capital (e.g. falling incomes, increasing youth unemployment and lack of access to credit). Most of the positively valued changes took place in the domains of physical capital (e.g. better communication networks and improved houses) and social capital (e.g. stronger social networks and more farmer organization). The domain of human capital shows a mixed record for both research areas: better education and health facilities are reported against decreasing labour quality and worsening working conditions.

Although both research areas have seen comparable developments in the well-being of cocoa farmers, these farmers do identify different development priorities. For the communities in Eastern Region the quality of education, the access to health facilities and the water quality are ranked as the most important challenges to be addressed. For the communities in Ashanti region the lack of an electricity connection, the access to health facilities and the poor quality of roads are listed as three major development priorities. Interestingly, for both regions the top-3 priorities are not in the domain of economic capital, as might be expected, but in the domains of physical, human and natural capital.

Farming practices

In figure 5.21 an attempt is done to summarize the results from those questions on farming practices, which compared the pre-certification situation of 2010 with the situation in the year 2013. Each bar represents the relative difference between certified and non-certified cocoa farmers in the impact the UTZ certification has on their farming practices. To create this indicator, first the difference between the percentage of respondents that answered in the category 'less' was measured, with positive values when this category was smaller for certified farmers and negative when this category was bigger among certified farmers. Second, the difference in the percentage of respondents answering 'more' was measured, with positive values when this category was larger among certified farmers and negative counts when the category was smaller for certified farmers. Adding up these differences created a comparable indicator that shows for each region whether certification brought an overall positive or negative change.

Figure 5.21: Contribution of UTZ certification to changes in farming practices, by region



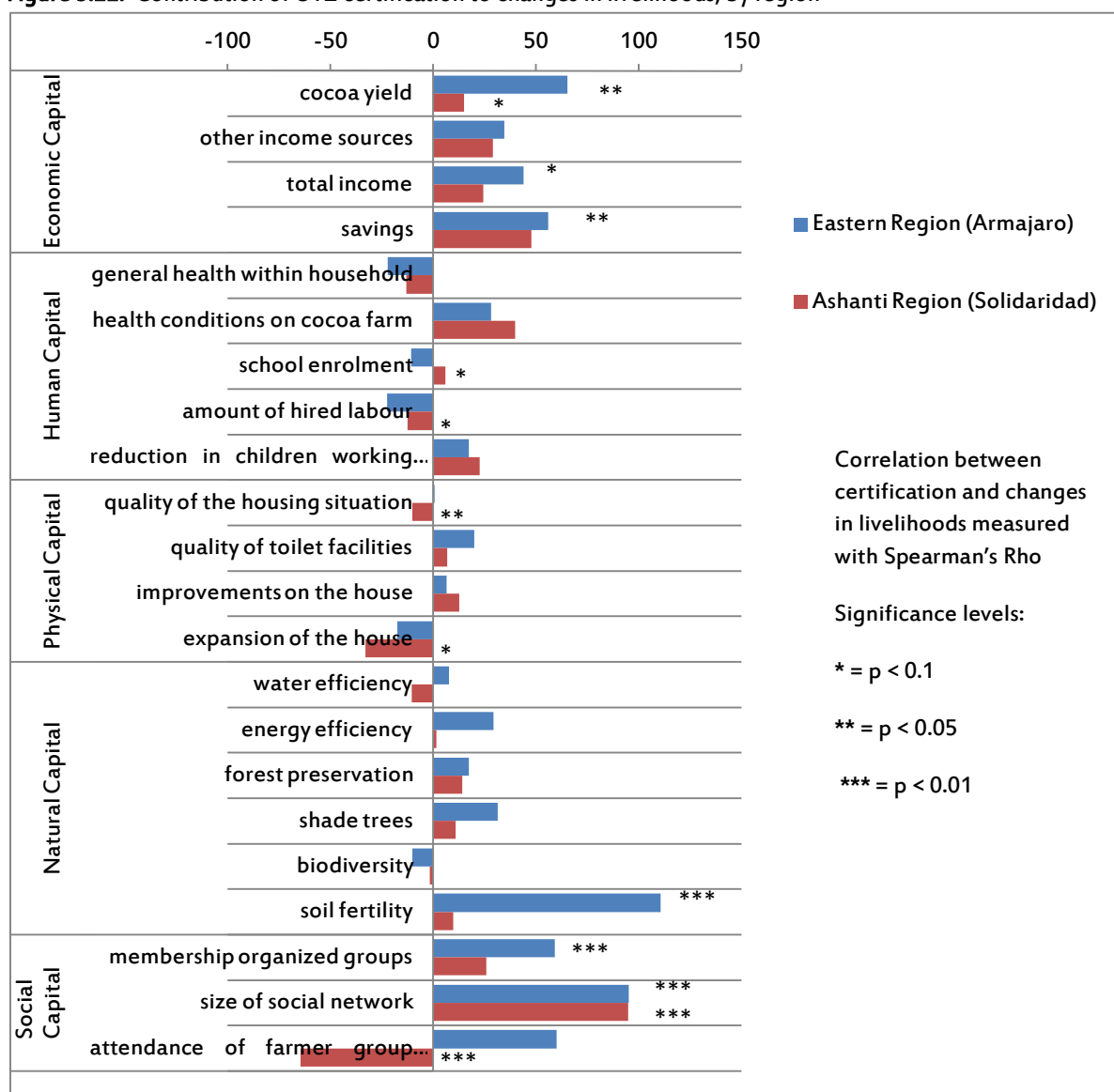
(Significance of correlation certification – farming practices: Spearman's Rho: * = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$)

From this figure, it is clearly visible that in both regions the majority of farming practices are improving as a result from the UTZ certification. For most indicators, this improvement is larger in the case study in Eastern Region, where Armajaro had trained the cocoa farmers than in Ashanti Region, where the cocoa farmers were trained by Solidaridad. This could be explained by the fact that farmers in Eastern Region had no farmer training on good agricultural practices before being certified and those in Ashanti Region did, making it easier for those in Eastern region to improve. Another explanation might be the fact that farmers in Ashanti Region reported to have difficulties in accessing inputs (e.g. chemicals and equipment) which might be the reason why their chemical appliance and farming practices are less intensive. For both regions, less defective cocoa pods are removed by the certified cocoa farmers as compared to their non-certified counterparts. This can be explained by the fact that in both case studies certified farmers apply more fungicides than non-certified farmers, resulting in a lower occurrence of defective cocoa pods.

Livelihood changes

In figure 5.22 depicted below, the contribution of UTZ certification to changes in livelihoods is shown for both research areas. Again, the positive and negative changes are calculated by adding the percentual change in the share of respondents that answered 'more' to the percentual change in the answer category 'less'. Interestingly, the biggest positive outcomes of the UTZ certification are seen in the domains of economic capital and social capital. These livelihood impacts are generally stronger in the Eastern Region than in the Ashanti Region. This could be related to the history of limited NGO support, farmer training and farmer organization in Ashanti Region, but might as well be attributed to the fact that the commodity trader Armajaro, who trained the farmers in Eastern Region, is more inclined to focus their training on productivity and farmer organization than the NGO Solidaridad.

Figure 5.22: Contribution of UTZ certification to changes in livelihoods, by region



When looking at the significance of the individual correlations between UTZ certification and changes in livelihood outcomes over time, it is interesting to notice that most of the significant correlations are also found in the domain of economic capital (4 significant correlation) and social capital (also 4). Much less significant correlations can be found in the domains of human capital and physical capital (both 2 significant correlations). In the domain of natural capital only one significant correlation was measured between UTZ certification and changes in livelihood outcomes.

For the domain of human capital, we see a mixed picture: on some indicators the certified farmers are performing better, on some indicators the non-certified farmers have made more progress, visible through the negative changes in our indicator. It can also be seen that the farmers in Ashanti Region see slightly more positive changes due to certification than those in Eastern Region: health conditions are improving more and the amount of children working on-farm is reduced more as well. Moreover, school enrolment within the households of Ashanti Region is higher in the households with certified farmers, whereas in Eastern Region it is higher among the households of the non-certified farmers. For the indicators on general health and hired labour, the situation in both case studies was better among the non-certified farmers than among the certified farmers, although the differences were largest in Eastern Region. This increased performance in Ashanti Region might be explained by the development-oriented approach of Solidaridad, whose farmers see more benefits in health and education than those trained by the productivity-oriented Armajaro.

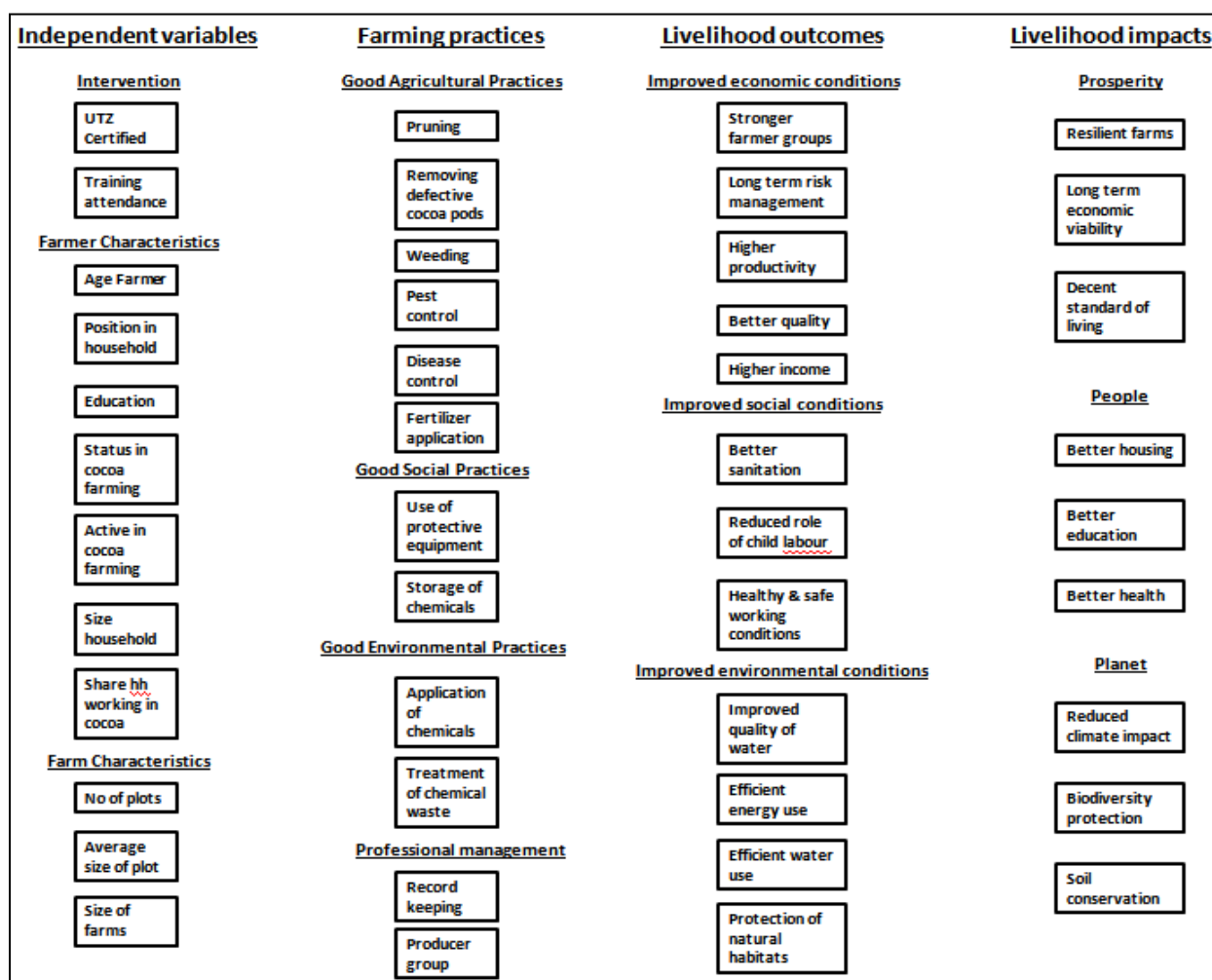
Just as in the domain of human capital, the domain of physical capital shows little of the clear benefits of certification visible in the economic and social domain. Only minor benefits are seen in the amount of improvements done on the house and the quality of toilet facilities. No clear benefit from certification is seen in the perceived quality of the housing situation; the amount of expansions done among the non-certified farmers is even higher than among the certified farmers. Within the domain of physical capital, the farmers in Eastern Region are performing slightly better. This could be related to the fact that incomes have improved more in that case study and therefore farmers are more likely to invest in their physical environment.

Also for the domain of natural capital the benefits of certification are somewhat bigger for the farmers in Eastern Region than for the farmers in Ashanti Region. Among the Armajaro-trained farmers there is a clear (perceived) increase in soil fertility and somewhat smaller improvements in forest preservation, the amount of shade trees and water and energy efficiency. However, the biodiversity is lower among the certified cocoa farmers in Eastern Region. For the Solidaridad-trained farmers the benefits in the natural domain are much less clear. While water efficiency and biodiversity have improved less among the certified farmers, the improvements in energy efficiency, forest preservation, shade trees and soil fertility are also much smaller than among the farmers in Eastern region. Part of these differences between regions could be explained by the fact that in Eastern region both communities have access to electricity, which reduces the pressure on cocoa farmers to use natural resources such as firewood. Another explanation might be the absence of NGO support and farmer training before the start of the certification process in Eastern region, which results in larger differences between the situation before and after certification.

6 Analysis

After the extensive description of the variety of livelihood outcomes and impacts found in each domain of the Sustainable Livelihoods approach, this chapter analyzes these results using the variables outlined in the methodology chapter. As is visible from the overview in figure 6.1 this model is using the bulk of the variables described in the previous chapter. All those variables are taken into account, which compare the pre-certification situation (2010) with the situation after 2 years of certification (in 2013). Additionally, several farmer and farm characteristics are added as control variables for the impact of the intervention on farming practices and livelihoods.

Figure 6.1: Overview of variables in the impact model for UTZ certification in Ghana's cocoa sector.



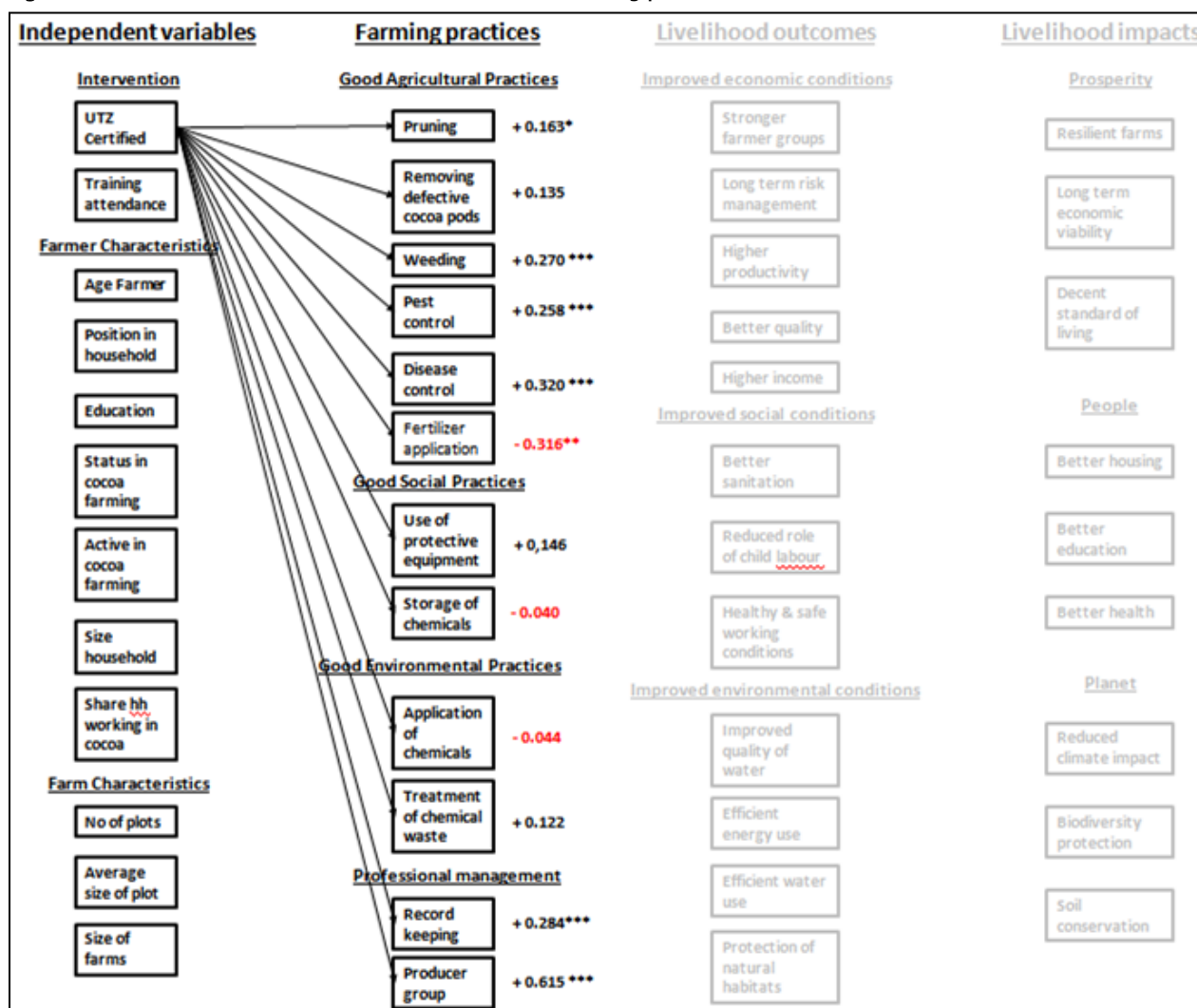
Within this model, it is assumed that the UTZ certification will bring improvements in farming practices: in Good Agricultural Practices (GAP) but also in Good Social and Environmental Practices. These improved farming practices are in turn expected to lead to certain livelihood outcomes: improved economic, social and environmental conditions. Finally, these improved livelihood outcomes are expected to translate into livelihood impacts in the three pillars of sustainability: people, prosperity and planet. Each of these steps will be analyzed in the following paragraphs.

6.1 Capacity building: improving farming practices

Impact of UTZ certification on farming practices

For the analysis in this chapter the total amount of respondents participating in the structured interviews (n=122) is used. By using data from both case studies more significant correlations show up than for each individual case study. For example, figure 6.2 shows that whether a farmer is certified is positively correlated with almost all Good Agricultural Practices: the correlation is most significant ($p < 0.01$) for the variables weeding, pest control and disease control. Interestingly, the correlation with fertilizer application is negative: apparently certified farmers apply less fertilizers than their non-certified counterparts.

Figure 6.2: Correlations between UTZ certification and farming practices



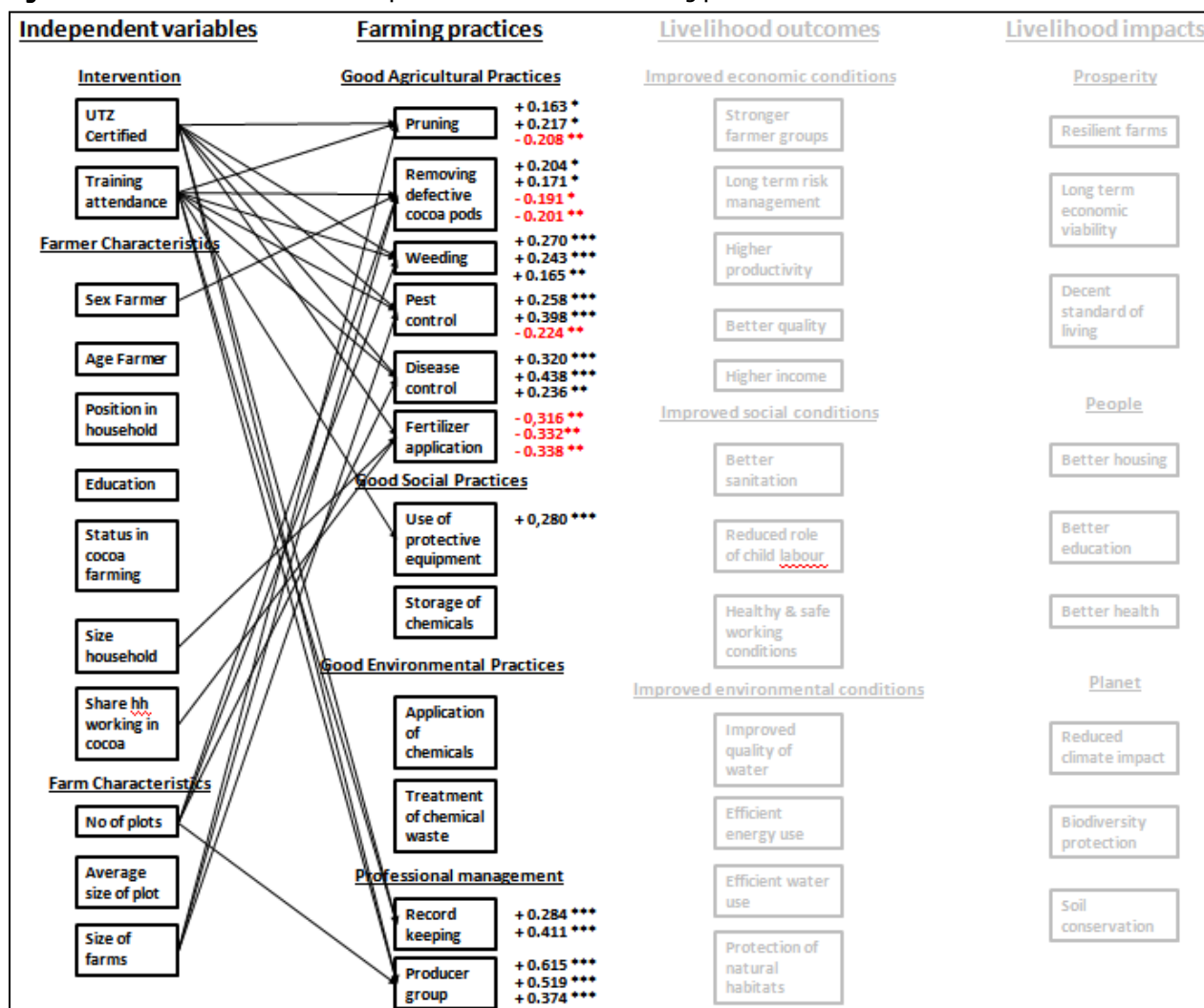
(Correlations using Spearman's Rho, * = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$)

No significant correlations are found between the UTZ certification and the Good Social and Good Environmental Practices. Interestingly, highly significant correlations are found between farmers being certified and their tendency to be involved in professional management activities.

Impact of other independent variables on farming practices

In figure 6.3, an overview is given of the significant correlations between the independent variables and the farming practices. For each farming practice, the correlations are ranked in the same order as their correlated independent variables. As analyzed before, the only significant correlations with the UTZ certification are found in the categories Good Agricultural Practices and Professional management. A similar tendency is visible in the correlation between the attendance of UTZ trainings and the farming practices, although one correlation is also found in the field of Good Social Practices: training attendance is positively correlated with the increased use of protective equipment.

Figure 6.3: Correlations between independent variables and farming practices



(Correlations using Spearman's Rho, * = p < 0.1, ** = p < 0.05, *** = p < 0.01)

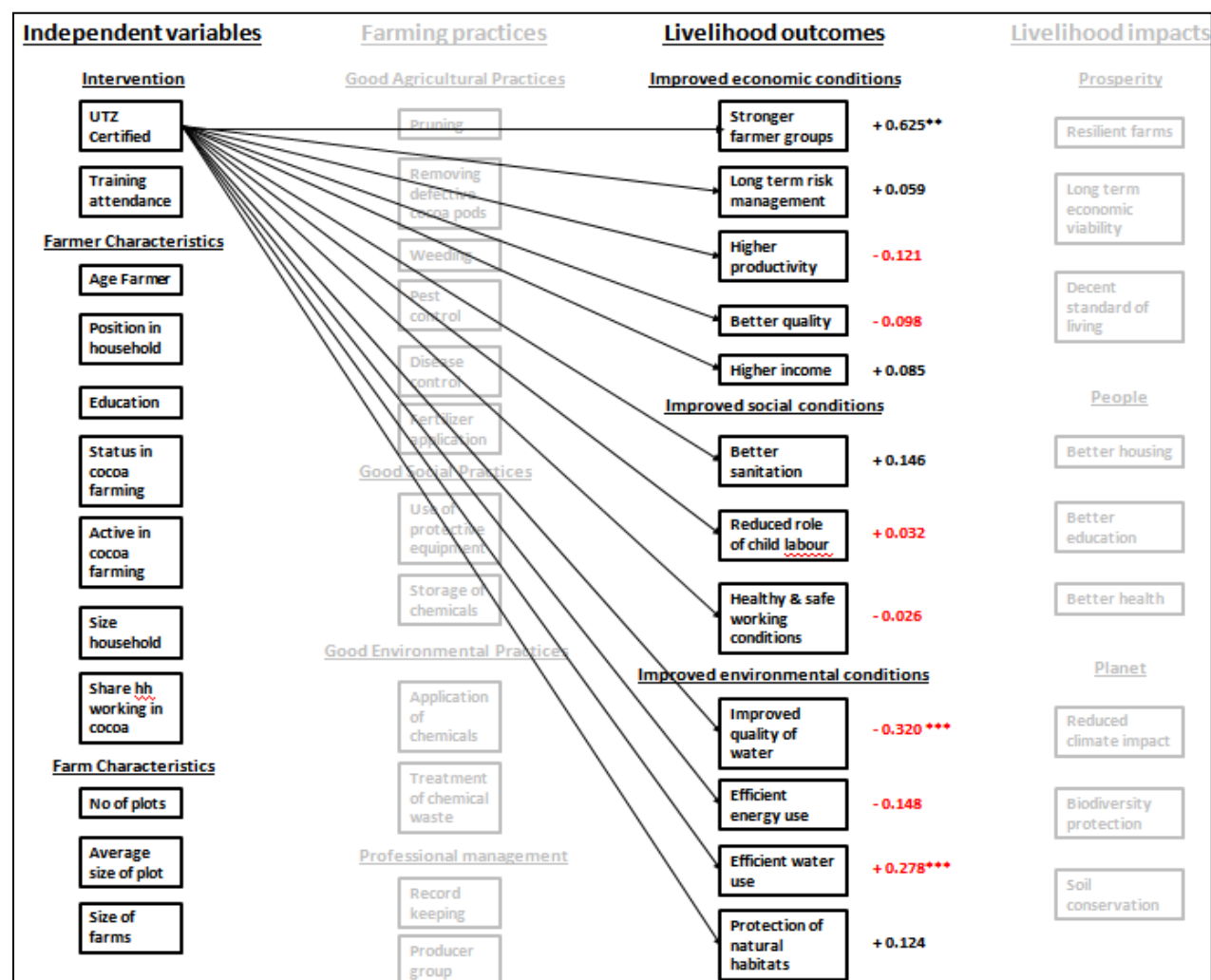
When looking at the control variables, the selected farmer characteristics seem to have some, but limited impact on the farming practices. Male farmers have increased the removal of cocoa pods more over the past 3 years than female farmers. Both the size of the household and the share of household members working in the cocoa farm are negatively correlated with changes in fertilizer application, suggesting that smaller families with a lower share of household members working on-farm are applying more fertilizers than larger families with a lot of people working in cocoa. Both the number of farm plots and the size of farms are negatively correlated with the amount of change in Good Agricultural Practices (GAP). Smaller farms with fewer plots have thus improved more in the field of pruning, removing cocoa pods and pest control than the larger farms with many plots did in the same period.

6.2 Better farming conditions: livelihood outcomes

Impact of UTZ certification on livelihood outcomes

When analyzing the impact of the UTZ certification scheme on livelihood outcomes much less correlations are found than in the previous paragraph, where the impact of the UTZ certification on farming practices was analyzed. This suggests that a change in farming practices does not automatically translate in changes in economic, social and environmental conditions. Within the field of economic conditions, the only significant correlation is found between the UTZ certification and the indicator 'stronger farmer groups', measured by the farmer-reported changes in the share of producer group meetings farmers are attending. Interestingly, no significant correlation is found between the UTZ certification and higher productivity levels or higher incomes. Also, no significant correlations are found between farmers being certified and improved social conditions, such as better sanitation, reduced child labour and improved working conditions. Two significant correlations are found in the field of environmental conditions. The water quality is negatively correlated with the compliance to the UTZ certification scheme whereas the water efficiency is positively correlated to farmers being UTZ certified.

Figure 6.4: Correlations between UTZ certification and livelihood outcomes



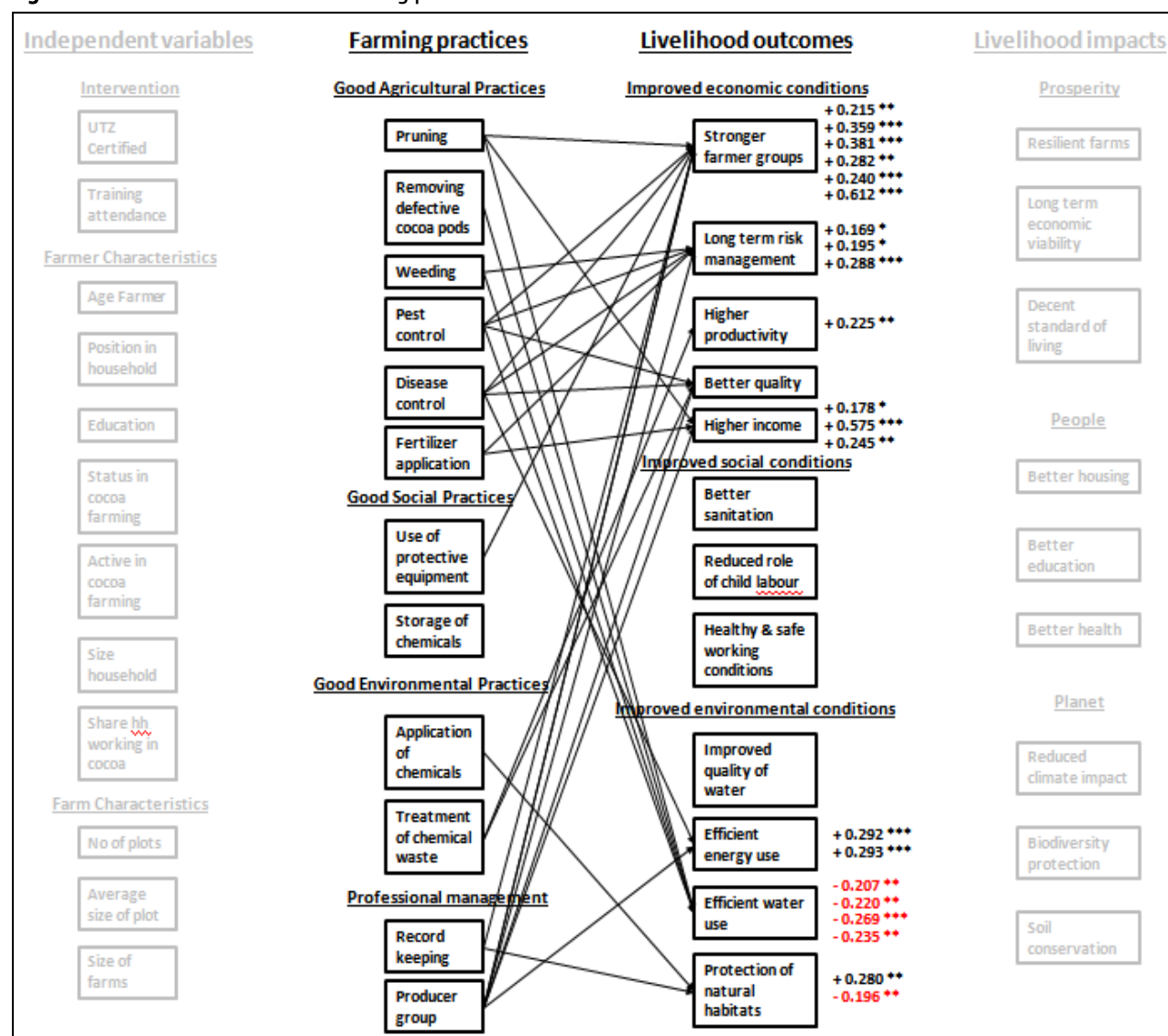
(Correlations using Spearman's Rho, * = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$)

Impact of improved farming practices on livelihood outcomes

Although limited significant correlations were found between the UTZ certification scheme and livelihood outcomes, figure 6.5 shows that the measured improvements in farming practices do in many cases correlate with changes in livelihood outcomes.

Three groups of correlations stand out within this picture. The first group consists of strong correlations between Good Agricultural Practices and improved economic conditions, pointing to the economic benefits of improving farming practices. More weeding, pruning and appliance of chemicals results in higher incomes and more long term risk management (measured by changes in savings). A second group of correlations links improved management practices with improved economic conditions: more record keeping and more producer group meetings lead to higher productivity, incomes and savings. A third group of negative correlations links improved farming practices with decreased efficiency in water use, which could be related to the water needed for some of the farming practices (pest and disease control) but also to the higher incomes among farmers that have improved their farming practices.

Figure 6.5: Correlations between farming practices and livelihood outcomes



(Correlations using Spearman's Rho, * = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$)

6.3 Increasing farmers well-being: livelihood impacts

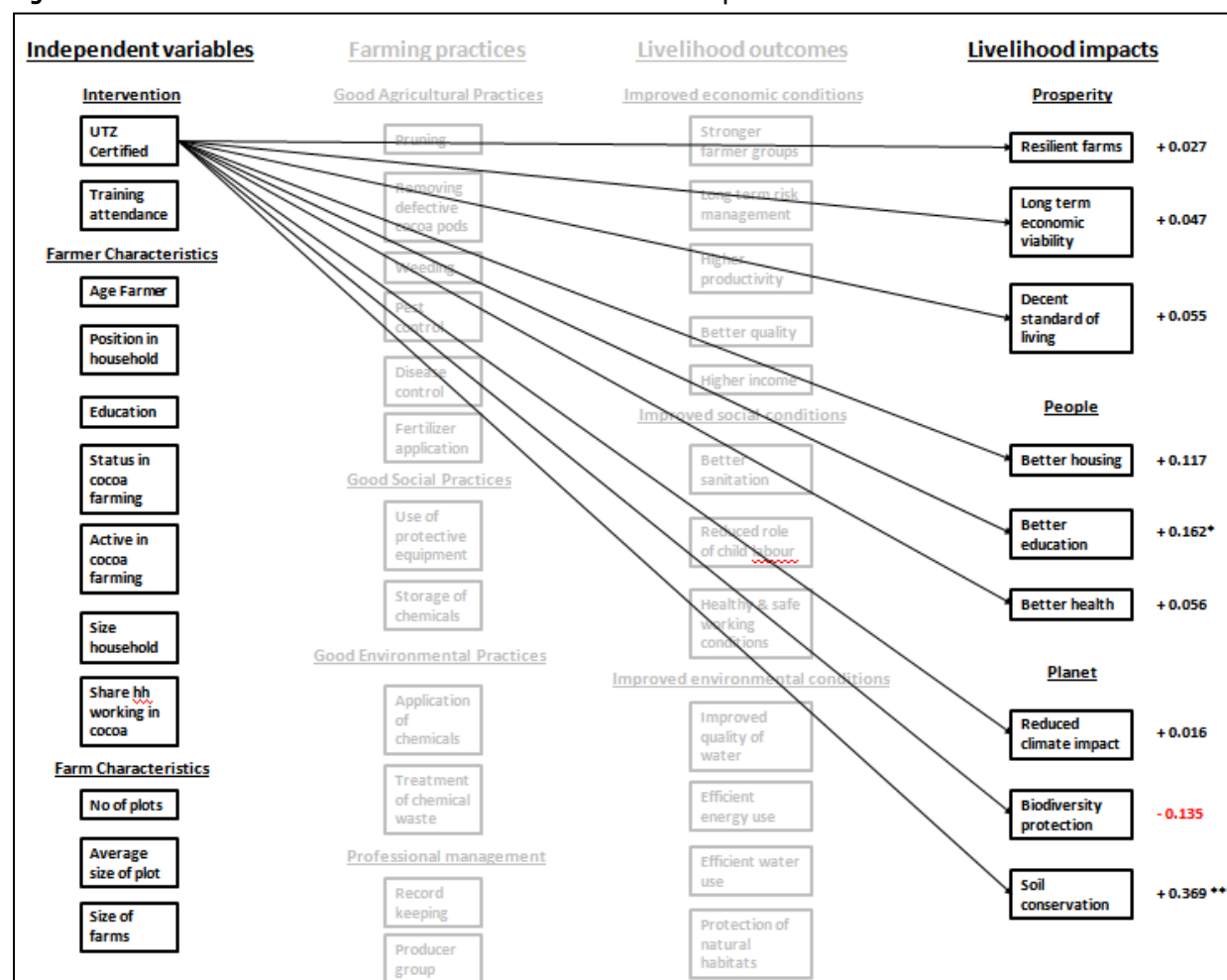
Impact of UTZ certification on livelihood impacts

When looking into the correlations between the UTZ Certified sustainability standard and its desired livelihood impacts, few conclusions can be drawn. Whereas many significant correlations were found between the standard and farming practices and relatively few significant correlations were found between the standard and livelihood impacts, almost no significant correlations are found between the UTZ certification and the expected livelihood impacts.

Interestingly, no significant correlation is found between compliance to the certification scheme and the main indicators in the sustainability pillar of 'prosperity'. Neither the perceived standard of living, nor the resilience of farms (measured by changes in the amount of investment on the farm) or the long term economic viability of the farm (measured by the perceived change in attitude towards the future of the cocoa farm) have improved significantly more among the certified farmers than among their non-certified counterparts.

In the sustainability pillar of 'people' the only significant correlation ($p < 0.1$) is found between whether farmers are certified and the share of their children that is enrolled in school. Within the sustainability pillar 'planet' the only significant correlation is between the compliance with the UTZ standard and increases in soil fertility. This correlation might well be influenced by the tendency of farmers who have higher productivity to assume their soil is more fertile.

Figure 6.6 Correlations between UTZ certification and livelihood impacts



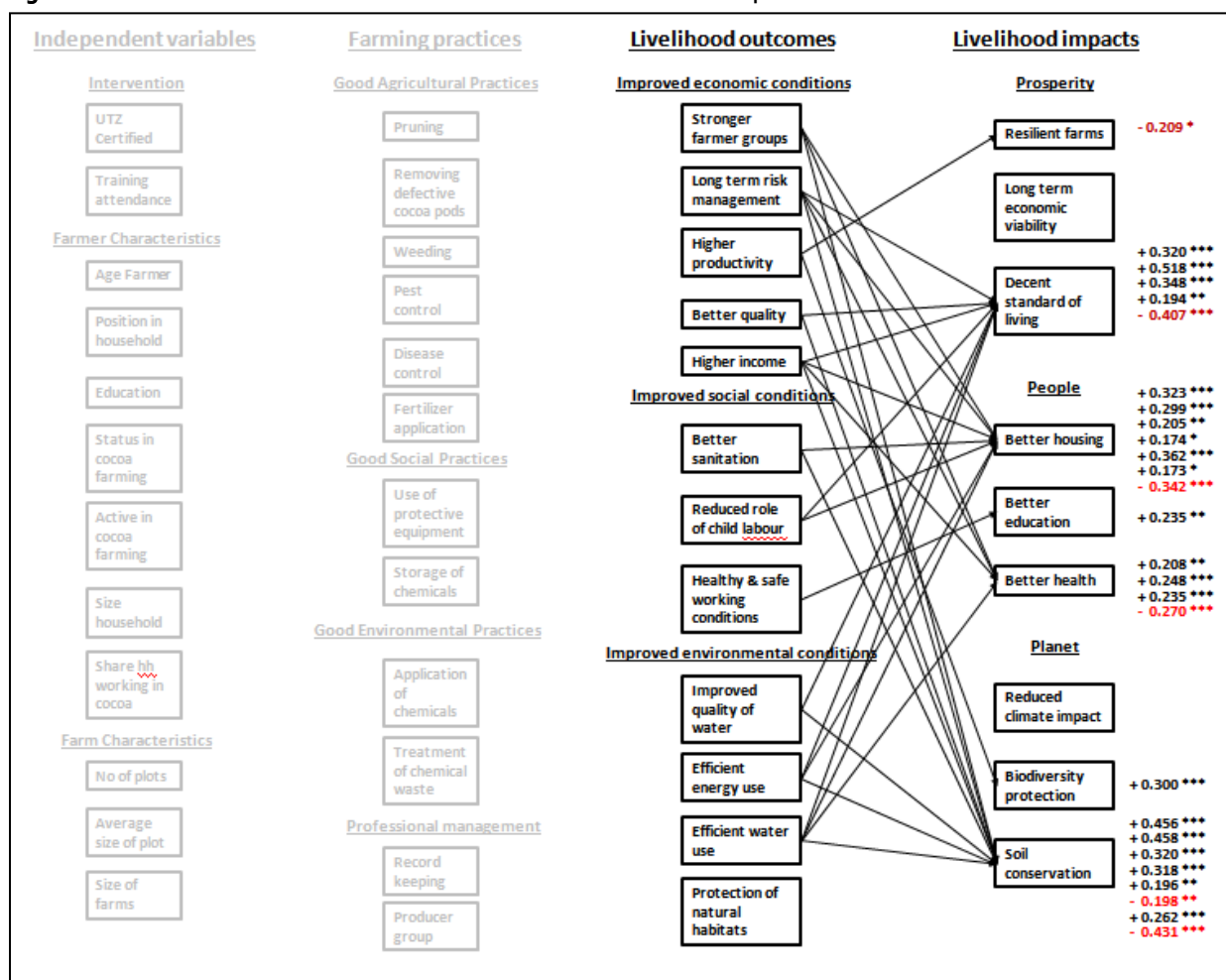
(Correlations using Spearman's Rho, * = $p < 0.1$, ** = $p < 0.05$, *** = $p < 0.01$)

Relation between livelihood outcomes on livelihood impacts

When analyzing the correlations between livelihood outcomes on the one hand and livelihood impacts on the other, a strong network of relations becomes visible. Three groups of correlations between outcomes and impacts stand out. The first group of correlations links improved economic and environmental conditions with improvements in the standard of living (measured by changes in the perceived capability of farmers to meet the needs of their households). A second large group of correlations connects a variety of livelihood outcomes to improvements in the housing situation (measured by the perceived changes in the quality of the housing situation). Finally, a set of improved economic and environmental conditions correlates with the indicator 'soil conservation', measured by the perceived improvements in the quality of the soil on the cocoa farm.

Interestingly, some of the indicators of the expected livelihood impacts are not at all correlated with any of the livelihood outcomes. The long term economic viability (measured by changes in the attitude towards the future) shows no significant correlations with any of the economic indicators under livelihood outcomes. Also, the indicator reduced climate impact (measured by changes in the amount of primary and secondary forest cleared for cocoa cultivation) is not correlated with any of the livelihood outcomes.

Figure 6.7 Correlations between livelihood outcomes and livelihood impacts



(Correlations using Spearman's Rho, * = p < 0.1, ** = p < 0.05, *** = p < 0.01)

7 Conclusion

This study has explored the contribution of the UTZ Certified sustainability standard to the livelihoods of cocoa producing communities in Ghana. Two 'critical' case studies were chosen, one in Eastern Region and one in Ashanti Region, to investigate changes in farming practices and livelihoods among both certified and non-certified farmers.

In both case studies, the UTZ certification scheme had a clear impact on farming practices: certified farmers showed higher frequencies in activities such as weeding, pruning and chemical application than non-certified farmers. In both case studies, the strongest livelihood impacts of the UTZ certification were visible in the economic domain: better yields, higher incomes and more savings. However, these higher incomes do not seem to translate into clear benefits in the domain of human capital (health, working conditions) and physical capital (quality of housing and sanitation). Although some positive impacts are visible in the domain of natural capital (e.g. more soil fertility and forest preservation) there are several indicators for which the impact of the UTZ certification is negligible or even negative, such as water efficiency and biodiversity. In both case studies, a clear positive impact is seen in the domain of social capital: farmers are member of more organized groups and therefore increase their social network.

Although both case studies showed remarkable similarities, there were some significant differences in the impact of the UTZ certification on the livelihoods in both research areas. Among the Armajaro-trained farmers in Eastern Region most of the livelihood impacts were much stronger than among the cocoa farmers trained by Solidaridad in Ashanti Region. Although in both regions the impacts in the domain of economic and social capital stood out, the results for the other domains were much different. While the impact in the domain of human capital was most positive among the farmers trained by Solidaridad, the impact in the domain of physical and natural capital was more positive among the Armajaro farmers.

In trying to explain the variety in livelihood impacts resulting from the UTZ certification scheme, two explanatory factors were analyzed in detail. First, the development context in which the certification process takes place was considered to be pivotal for its potential to improve the livelihoods of cocoa farmers. In both research areas over two hundred development interventions were recorded since the year 2000, pointing to the many other actors (government institutions, companies, NGO's, churches, communities and individuals) that play a role in the improvement of livelihoods in cocoa farmer communities. The fact that the farmers in Ashanti Region had received much NGO support and farmer training in the past whereas the farmers in Eastern Region had not, might explain the limited contribution of the UTZ certification to the livelihoods in Ashanti Region as compared to the much stronger impacts visible in Eastern Region.

A second factor that might be key in explaining differences in livelihood impacts of certification is the type of organization that is involved in training of farmers. In one of the case studies within this research, farmers were trained by the global soft commodity trader Armajaro, in the other case study farmers were trained by the Dutch NGO Solidaridad. Assuming that the background of the implementing organization (commercial or charitable) has an influence on the focus of the training they give, some of the differences in livelihood outcomes might be explained.

For example, the farmers trained by Solidaridad showed more positive impacts in the domain of human capital while the Armajaro-trained farmers performed better in the domain of physical and natural capital.

When analyzing the results of both case studies together, two patterns become visible. First, the differences between certified and non-certified farmers are strongest in the field of farming practices, much weaker in the area of livelihood outcomes and almost absent in the area of livelihood impacts. It can thus be concluded that the improved farming practices among the certified farmers have not (yet) translated into improvements in their livelihoods.

A second pattern shows that the basic logic of the UTZ Certified Theory of Change is confirmed: improvements in farming practices are strongly correlated with livelihood outcomes, especially in economic conditions. These livelihood outcomes are again strongly related to a wide range of livelihood impacts. This proves that although the livelihood impacts among the researched farmers (with just over 2 years of UTZ certification) are rather limited, there is reason to believe that farming practices might lead to more improvements in farmers' livelihoods in the future.

Although the results of this study give little reason to question the potential of the UTZ certification scheme to address certain aspects of farmer livelihoods, it is much less clear whether the UTZ Certified standard does address those aspects of farmer's livelihoods which – according to the perception of farmers – require most attention. From the participatory village meetings, it becomes clear that farmers' development priorities lie in the domains of human, physical and natural capital. At the same time, the results of the structured interviews with farmers show that the strongest impacts of the UTZ certification scheme are found in the domains of economic and social capital, which were given much lower priority. Therefore, to make the UTZ Certified certification scheme more effective in its objective to contribute to sustainable livelihoods, care has to be taken to be more responsive to the needs of those farmers whose lives it intends to improve.

8 Discussion

For this master thesis, a wide range of methods have been employed, each with their own limitations. This chapter offers a reflection on the benefits and shortcomings of the methods employed. First, the use of structured interviews for measuring changes in livelihoods is discussed. Secondly, the added value of using participatory methodologies to get insights in development context and farmers' priorities, is reflected on. Thirdly, the value of using the Sustainable Livelihoods approach is discussed.

In this research, an attempt was done to quantitatively measure impacts of certification through structured interviews. According to many studies on the impacts of sustainability standards, it is hardly feasible to quantitatively separate the change effected by a sustainability standard from many other influencing factors at an aggregated impact level (ISEAL, 2009; Blackman & Rivera, 2010). Even using a non-certified control group, as in this case, might not create a credible counterfactual, because of a possible selection bias. It might very well be the case that certified farmers had different characteristics than the non-certified farmers, which helped them to get certified in the first place. Instead, a few challenging alternatives could have been used: a randomized design, matching or using instrumental variables.

On top of that, several more general limitations can be found to the method of structured interviews: first, the farmers interviewed might have the tendency to give 'socially desirable' answers, even though they received a clear introduction on the independence of the researcher. Moreover, this method does rely to a high extent on the reliability of the memory of the respondents. As many cocoa farmers have had little education of often low quality, they might have problems with assessing the changes that took place between the current and the pre-certification situation. Another limitation to this method is that is largely dependent on the perceptions of farmers and not backed up by any quantitative measurements, like cocoa pod counting, soil and water quality measurements. Whereas this study was based on two case studies only, future research efforts could use a similar research design for larger sample sizes, covering more regions and implementing organizations. Preferably, cocoa farmer communities are selected that have been certified for over 2 years, to be able to detect longer-term livelihood impacts not visible in this study.

This research project used the Participatory Assessment of Development (PADev) methodology to get insight in the development context, perceived challenges and development priorities that affect farmers' livelihood strategies. This proved a very practical method to acquire a large amount of in-depth information in a relatively short time. Future research on sustainability standards could make use of the much broader scope of exercises that participatory methodologies have to offer to assess livelihoods, for example by looking at farmers' vulnerability to external shocks, seasonal changes in well-being and differences in livelihood impacts for different wealth categories. Unfortunately, this method only provides very localized results, which are hard to generalize to higher levels of scale.

This research project created a detailed overview of the contribution of certification to different domains of farmer well-being by making use of the Sustainable Livelihoods Approach. To get a more complete overview of how livelihoods have changed as a result of certification, future studies could pay more attention to the livelihood conditions of the hired labourers working on the farm. Also, more attention could be paid to the exact income and expense patterns of farmers to be able to compare cost and benefits of certification on a household level.

9 Recommendations

This research shed light on the livelihood impacts of the UTZ Certified private sustainability standard for farmers in the Ghanaian cocoa sector. For two case studies, it showed that the UTZ certification scheme does make a significant difference in the farming practices of cocoa farmers, their level of organization, their productivity and income levels. However, within these two cases limited evidence was found that the sustainability standard studied does have any significant impact on other relevant aspects of farmers' livelihoods, such as health, housing and working conditions. Moreover, the standard was unable to curb processes of biodiversity loss and deforestation in the areas under study.

For traders, manufacturers and retailers active in the cocoa sector, these findings show the importance of making well-informed choices when choosing to comply with any of the available private sustainability standards. A critical analysis of the actual impact these standards have on productivity, farming practices and farmers' well-being is needed to assess whether these sustainability standards meet their expectations – and those of their consumers.

For the organizations currently using the UTZ certified sustainability standard to train cocoa farmers, the results of this research give reason to critically examine the way in which the UTZ Code of Conduct is explained to farmers. It might be needed to change the focus of the farmer trainings to better respond to the 'development gaps' identified by farmers: instead of concentrating mainly on economic issues (productivity, farming practices) the focus of these trainings should shift more to those social and environmental issues which show to be little affected by the UTZ certification.

As the UTZ Code of Conduct is currently under revision, it might also be worthwhile to critically re-examine those indicators that did not yield the desired impacts in this study. Indicators related to human capital (health and safety, working conditions) and natural capital (biodiversity, shade trees, deforestation) deserve special attention.

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Annex I: Interview guide semi-structured interviews with major stakeholders

Interview guide cocoa stakeholders

Introduction research project: aims, scope, confidentiality

- What are , according to you, the major challenges the Ghanaian cocoa sector is currently facing?
- What is your view on the increasing demand for sustainably produced cocoa?
- To what extent is your organization involved in making the cocoa sector more sustainable?
- How would, according to you, a truly sustainable cocoa sector look like?
- What could be the role of certification in making the Ghanaian cocoa sector more sustainable?
- How do you see the future of the Ghanaian cocoa sector

Wind-up /Thank You

Annex II: Questionnaire for structured interviews with cocoa farmers

QUESTIONNAIRE FOR COCOA FARMERS

Survey No.: ... Name Respondent: Sex: M / F

Introduction

My name is Just Dengerink, I am a student from Utrecht University in the Netherlands. I am carrying out this research project for my master programme in Sustainable Development. I am not working for any LBC, processor, manufacturer or trader of cocoa. This project is an independent study for my university.

The aim of this research project is to gain more knowledge on the ways in which the lives of cocoa farmers are changing over time under different circumstances.

The research project consists of two parts: first I will interview a large group of cocoa farmers to get an overview of changes at the household level; then I will organise a village meeting on the changes that have taken place on a community level.

The results of this research project will be written down in a report, which will be made available to whoever is interested. This report will not mention the names of farmers or the locations of your farms. Any information you will provide me with will be used for research purposes only.

The interview will take about 1 hour of your time. If you agree to be interviewed for my master thesis, you also agree that the information you provide me will be treated confidentially and you finally do agree that the results will be used to create a report that is publicly available, you are invited to sign the consent form on the first page of the questionnaire with your name, signature and date of the interview.

Consent Form

I confirm that I consent to be interviewed and recorded by Just Dengerink, master student from Utrecht University, the Netherlands.

I agree that the information I will provide him with will be used for his master thesis on the livelihoods of cocoa farmers.

I understand that this master thesis will be publicly available and shared with any person which might be interested in its content

I confirm that I have read this document, understand it and am signing it willingly.

Name: _____

Signature: _____

Date: _____

1. FARMER & HOUSEHOLD CHARACTERISTICS

Farmer characteristics

01 What is your age?

Number: ...

02 What is your position in the household?

- | | |
|---|--|
| <input type="checkbox"/> Household head | <input type="checkbox"/> Other adult (grandparents / relative of spouse) |
| <input type="checkbox"/> Spouse | <input type="checkbox"/> Child |

03 How many years of education have you completed?

Number:

04 Which types of education did you attend?

- | | |
|---|--|
| <input type="checkbox"/> Primary school (6 years) | <input type="checkbox"/> SSS (3 years) |
| <input type="checkbox"/> Middle school (4 years) | <input type="checkbox"/> Post-secondary (3-4 years) |
| <input type="checkbox"/> JHS/JSS (3 years) | <input type="checkbox"/> Vocational (mostly 3 years) |

05 What is your status in cocoa farming?

- | | |
|--------------------------------------|---------------------------------|
| <input type="checkbox"/> Landowner | <input type="checkbox"/> Abusa |
| <input type="checkbox"/> Family land | <input type="checkbox"/> Abunan |
| <input type="checkbox"/> Abunu | <input type="checkbox"/> Other |

06 Did you sell cocoa in the last 12 months? (if NOT, stop interview and go to NEXT farmer)

- No
 Yes

07 To which person / LBC did you sell most of your cocoa over the past 12 months?

Name LBC/person:

08 Is your cocoa farm UTZ certified? (if NOT, stop interview and go to NEXT farmer)

- No
 Yes
 I don't know

09 Did you receive a price-premium for the UTZ cocoa you produced in the last year?

- No
 Yes
 Not anymore
 Not yet
 I do not know

10 If yes, or not yet, how much per bag?

-Cedi per bag
- I do not know

Household characteristics

11 How many people are part of your household? (eat from the same pot)

Number: ...

12 How many people were part of your household in 2010?

Number: ...

13 How many of them work on the cocoa farm?

Number: ...

2. CHANGES IN WELL-BEING

Natural Capital

14 If you look at the things nature provides you and your family with, what changes do you see between 3 years ago and now?

(Examples: Land, Soil, Forest, Water, Crops, Livestock, Air, Biodiversity)

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.....
.....
.....
.....
.....
.....
.....
.....
.....

15 How many separate cocoa farms do you cultivate?

... farms

16 What, do you think, is roughly the size of each farm?

Unit: ... Farm 1: Farm 2: Farm 3: Farm 4: Farm 5:

17 What, do you think, was roughly the size of each farm in the year 2010?

Unit: ... Farm 1: Farm 2: Farm 3: Farm 4: Farm 5:

18 How much water do you roughly use each month?

On the farm: Unit:..... Amount: In the household: Unit:..... Amount:

19 Is the amount of water you use now more, less or the same as compared with 3 years ago?

- More
- Same
- Less

20 How much energy do you use each month, both on the farm and in the household?

Firewood: Unit:..... Amount:

Charcoal: Unit:..... Amount:

Kerosene: Unit:..... Amount:

Electricity: Unit:..... Amount:

Gas: Unit:..... Amount:

Petrol: Unit:..... Amount:

Batteries: Unit:..... Amount:

21 Is the amount of energy you use more, the same or less than 3 years ago?

- More
- Same
- Less

22 Have you prepared any new land for cocoa farming over the past 12 months?

- No
- Yes

23 Did you prepare more, less or the same amount of land as 3 years ago?

- More
- Same
- Less

24 Have you planted any shade trees over the past 12 months?

- No
- Yes How many:

25 Have you cut any shade trees over the past 12 months?

- No
- Yes How many:

26 Do you have more, less or the same amount of shade trees on your farms compared with 3 years ago?

- More
 - Same
 - Less
- Amount in 2013: Amount in 2010:

27 Is the amount of animal and plant species you can find on your farm higher, lower or the same as 3 years ago?

- Higher
- Lower
- The same

28 Do you feel the fertility of the soil on your farms is higher, lower or the same as compared to 3 years ago?

- Higher
- Lower
- The same

Physical capital

29 If you compare the buildings and infrastructure you and your household are benefiting from with 3 years ago, what kind of changes do you see?

(Examples: houses, sheds, sanitation, water and electricity connections)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

30 Do you feel the quality of your housing situation is better, worse or similar as compared to 3 years ago?

- Better
- Worse
- The same

31 Did you make any improvements to your house over the past 3 years?

- No
- Yes

32 Did you make any of the following improvements to your house? (More answers possible)

- | | |
|---|--|
| <input type="checkbox"/> New roofing | <input type="checkbox"/> Painting of walls |
| <input type="checkbox"/> Cementing floor | <input type="checkbox"/> Expansion of building |
| <input type="checkbox"/> Walls from mud to cement | <input type="checkbox"/> New front porch |
| <input type="checkbox"/> Plastering of walls | <input type="checkbox"/> Other: |

33 What type of toilet facilities do member of the household regularly use?

- | | |
|--|---|
| <input type="checkbox"/> Flush toilet | <input type="checkbox"/> Public toilet |
| <input type="checkbox"/> Pit/latrine | <input type="checkbox"/> Toilet in another house |
| <input type="checkbox"/> Kumasi Ventilated Improved Pit (KVIP) | <input type="checkbox"/> No toilet facility (bush, beach) |
| <input type="checkbox"/> Pan/bucket | <input type="checkbox"/> Another type: |

34 What type of toilet facilities did members of your household use 3 years ago?

- | | |
|--|---|
| <input type="checkbox"/> Flush toilet | <input type="checkbox"/> Public toilet |
| <input type="checkbox"/> Pit/latrine | <input type="checkbox"/> Toilet in another house |
| <input type="checkbox"/> Kumasi Ventilated Improved Pit (KVIP) | <input type="checkbox"/> No toilet facility (bush, beach) |
| <input type="checkbox"/> Pan/bucket | <input type="checkbox"/> Another type: |

Economic capital

35 If you compare the economic situation of yourself and your household with 3 years ago, what changes do you see?

(Examples: Jobs, Income, Savings, Credit, Remittances)

.....
.....
.....
.....
.....
.....
.....
.....

36 In the last 12 months, roughly how many bags of cocoa did you sell from each of your farms?

(Both main and light/mid-crop)

Farm 1: Farm 2: Farm 3: Farm 4:

37 How many bags did you roughly sell from each farm 3 years ago?

Farm 1: Farm 2: Farm 3: Farm 4:

38 Do you have other sources of income besides cocoa?

- No
- Yes

39 What was your most important source of income over the past 12 months?

Source of income:

40 What was your second most important source of income over the past 12 months?

Source of income:

41 What was your third most important source of income over the past 12 months?

Source of income:

41 What was your third most important source of income over the past 12 months?

Source of income:

42 Is the income from other sources than cocoa more, less or the same as 3 years ago?

- More
- Less
- The same

43 Is your total income (cocoa + other sources) more, less or the same as 3 years ago?

- More
- Less
- The same

44 In the last 12 months, were any cocoa trees planted on your cocoa farms?

- No
- Yes

45 Have you planted less, more or the same amount of cocoa trees as three years ago?

- More
- Less
- The same

46 Do you have any form of savings

- No savings
- Bank account
- Susu account
- Savings at home

47 Do you have more, less or the same amount of savings as 3 years ago?

- More
- Less
- The same

48 If you compare the current situation with 3 years ago, is it easier, just as easy or more difficult to provide in the needs of your household?

- Easier
- Just as easy
- More difficult

49 What kind of investments have you made for your cocoa farm(s) over the past 3 years?

- Planting material (seedlings/pods)
- Pesticides
- Fungicides
- Fertilizers
- Farming equipment (cutlass, harvesting hook, axe, hoe, drying mat, mist blower, pruner)
- Personal protective equipment (PPE)
- Storage for chemicals

50 Did you invest more, less or the same during these 3 years as compared to the 3 years before?

- More
- Less
- The same

Human capital

51 If you compare the quality and availability of people working on your farm with 3 years ago, what changes do you see?

(Examples: education, health, working conditions, availability)

.....
.....
.....
.....

52 During the last month, how many of your household members did seek any medical care from a [SOURCE]?

- | | | | |
|--|----------|--|----------|
| <input type="checkbox"/> Maternity home: | no.: ... | <input type="checkbox"/> doctor/nurse: | no.: ... |
| <input type="checkbox"/> pharmacy: | no.: ... | <input type="checkbox"/> hospital: | no.: ... |
| <input type="checkbox"/> spiritualist : | no.: ... | <input type="checkbox"/> clinic: | no.: ... |
| <input type="checkbox"/> traditional healer: | no.: ... | <input type="checkbox"/> other: | no.: ... |

53 Is the health of your household members better, worse or the same compared to 3 years ago?

- Better
- Worse
- The same

54 Does any of your household members face the following problems as a result of working on the cocoa farm?

- | | | | |
|---|----------|---|----------|
| <input type="checkbox"/> Injury from machete or cutlass | no.: ... | <input type="checkbox"/> Coughing or respiratory problems | no.: ... |
| <input type="checkbox"/> Backache from carrying heavy loads | no.: ... | <input type="checkbox"/> Skin damage or irritation | no.: ... |
| <input type="checkbox"/> Burn injuries | no.: ... | <input type="checkbox"/> Eye irritation | no.: ... |

55 Did the occurrence of these health problems increase, remain stable or decrease over the past 3 years?

- Increase
- Decrease
- Remain stable

56 How many of your household members are aged 5 – 21?

Number:

57 How many of them are currently enrolled in school?

Number:

58 Is the share of your children going to school higher, lower or similar to 3 years ago?

- Higher
- Lower
- Similar

59 How many sharecroppers did assist you with your cocoa farm over the past 12 months?

- None Abusa no.:
 Abunu no.: Abunan no.:

60 Is the amount of work done by sharecroppers more, less or the same as 3 years ago?

- More
 Less
 The same

61 How many persons working as hired labour did assist you with your cocoa farm over the past 12 months?

Number:

62 Is the amount of work done by hired labour more, less or the same as 3 years ago?

- More
 Less
 The same

63 What is the wage these hired labourers would receive for one day of work?

GHC: ...

64 How many adult household members did assist you with your cocoa farm over the past 12 months?

Number:

65 Is the amount of work done by adult household members more, less or the same as 3 years ago?

- More
 Less
 The same

66 How many minor household members (under 18) did assist you with your cocoa farm over the past 12 months?

Number:

67 How many hours a week do these minor household members work on the cocoa farm?

Hours:

68 Is the amount of work done by minor household members more, less or the same as 3 years ago?

- More
 Less
 The same

Social Capital

69 If you compare the network you and your household can rely on with 3 years ago, what changes do you see?
(Examples: Family, NGO's, churches, associations, local leaders)

.....
.....
.....
.....
.....

70 Of which organized groups, such as farmers groups, associations, cooperatives, societies or other types of political and religious organizations, are you a member?

- | | |
|---|---|
| <input type="checkbox"/> Farmer groups or associations NOT registered with the government | <input type="checkbox"/> Ethnic associations |
| <input type="checkbox"/> Cooperatives or societies registered with the government | <input type="checkbox"/> Religious associations |
| <input type="checkbox"/> Credit unions/ Susu | <input type="checkbox"/> Women's associations or cooperatives |
| <input type="checkbox"/> Other professional associations | <input type="checkbox"/> Youth associations |
| | <input type="checkbox"/> Other: |

71 Compared with 3 years ago, are you member of more, less or an equal amount of organized groups?

- More
- Less
- The same

72 Are you a member of a producer group?

- Yes
- No

73 How often do the members of this producer group meet each year?

Number:

74 How often did the members of this producer group meet 3 years ago?

Number:

75 How many of these meetings do you attend?

All / Most of them / Half of them / Some / None

76 Do you visit more, less or an equal amount of meetings from these groups compared to 3 years ago?

- More
- Less
- The same

3. FARMING PRACTICES

Good Agricultural Practices

77 Did you prune any trees over the past 12 months?

- No
- Yes

78 How many times did you prune over the past 12 months?

Number:

79 How many times did you prune 3 years ago?

Number:

80 Did you remove any defective cocoa pods over the past 12 months?

- No
- Yes

81 How many times did you remove defective cocoa pods over the past 12 months?

Number:

82 How many times did you remove defective cocoa pods 3 years ago?

Number:

83 Did you do any weeding over the past 12 months?

- No
- Yes

84 How many times did you weed over the past 12 months?

Number:

85 How many times did you weed 3 years ago

Number:

86 Did you apply any fertilizer over the past 12 months?

- No
- Yes Name:

87 How many times did you apply fertilizers over the past 12 months?

Number:

88 How many times did you apply fertilizer 3 years ago?

Number:

89 Was any pest control (Capsis) done over the past 12 months

- No
- Yes Name:

90 How many times was any pest control done over the past 12 months?

Number: By whom:

91 How many times was any pest control done 3 years ago?

Number: By whom:

92 Was any disease control (Black Pod) done over the past 12 months?

- No
- Yes Name:

93 How many times was disease control done over the past 12 months?

Number: By whom:

94 How many times was disease control done 3 years ago?

Number: By whom:

95 When chemicals are sprayed by you, which personal protective equipment (PPE) do you use?

<input type="checkbox"/> Not applicable, I do not spray	<input type="checkbox"/> Some PPE
<input type="checkbox"/> All PPE (Mask, gloves, boots, overall, goggles)	<input type="checkbox"/> No PPE

96 When chemicals are sprayed by others, which personal protective equipment do others use?

<input type="checkbox"/> Not applicable, I do not spray	<input type="checkbox"/> Some PPE
<input type="checkbox"/> All PPE (Mask, gloves, boots, overall, goggles)	<input type="checkbox"/> No PPE

97 What PPE was used 3 years ago?

By household members:

By workers:

By self-organized spraying gangs:

By the government spraying gangs:

98 Where do you store your chemicals?

(Multiple options are possible)

<input type="checkbox"/> I do not use chemicals	<input type="checkbox"/> I store them outside the house
<input type="checkbox"/> I store them in the house	<input type="checkbox"/> I store them outside the house in a closed room / box / sack
<input type="checkbox"/> I store them in the house in a closed room / box / sack	<input type="checkbox"/> Other

99 Where did you store your chemicals 3 years ago?

.....

100 If your farm borders a river or water body, what distance is left out without applying agrochemicals and chemical fertilizer, compost and organic matter?

Metres:

101 What distance did you leave out without applying any agrochemicals etc. 3 years ago?

.....

102 What do you do with leftover chemicals?

.....

103 What did you do with your leftover chemicals 3 years ago?

.....

104 Have Purchasing Clerks deducted kilograms from your cocoa because he said your cocoa was of bad quality?

- No
- Yes, in totalkg was deducted last year for supplying low quality cocoa

105 Was the amount of deducted cocoa more, less or roughly the same as 3 years ago?

- More
- Same
- Less

106 Do you keep records on your farming business?

- No
- Yes

107 Do you do more, less or the same amount of record keeping compared with 3 years ago?

- More
- Same
- Less

4. LOOKING FORWARD

Future of cocoa farming

108 What do you think about the future of your cocoa farm(s)?

.....
.....
.....
.....
.....
.....
.....
.....
.....

109 Are you more positive, less positive or equally positive about the future of your cocoa farm(s) as compared to 3 years ago?

- More positive
- Equally positive
- Less Positive

110 What kind of support do cocoa farmers in your community need most at the moment?

.....
.....
.....
.....
.....
.....
.....
.....
.....

111 In your village, what services are most needed?

(mention 3 in order of importance)

- | | |
|--|--|
| <input type="checkbox"/> Education ... | <input type="checkbox"/> Sanitation ... |
| <input type="checkbox"/> Health ... | <input type="checkbox"/> Agricultural extension services ... |
| <input type="checkbox"/> Roads ... | <input type="checkbox"/> Access to loans ... |
| <input type="checkbox"/> Electricity ... | <input type="checkbox"/> Projects assisting women ... |
| <input type="checkbox"/> Water ... | <input type="checkbox"/> Communication ... |

This is the end of the interview. Thank you for your cooperation!