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Income Intervention Quick Scan: Pricing Arrangements

Farmer Income Lab Intervention Quick Scan

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Abstract UK This quick scan, commissioned by the Farmer Income Lab, is part of a wider research effort looking at, "What are the most effective actions that lead buyers can take to enable smallholder farmers in global supply chains to meaningfully increase their incomes?". The quick scan provides an overview of the publicly available evidence on the impact of pricing arrangements have had on raising farmer income. Such subsidies have had little positive effect on farmer income, are not notably beneficial for women nor is this effect long-term. They have been applied at large scale. This quick scan is part of a series of 16, contributing to a synthesis report "What Works to Raise Farmer's Income: a Landscape Review".

Keywords: farmers' income, intervention, agriculture, smallholders, price volatility, minimum price, risk management, quality management, sector governance

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Contents

List of abbreviations and acronyms	5
1 Introduction	6
1.1 Definition	6
1.2 Theory of change	6
1.3 Examples	7
1.4 Geography	8
1.5 Role of actors	8
2 Summary and justification of assessment	9
3 Methodology	11
4 Impact	12
4.1 Public and private interventions	12
4.1.1 Effect on income	12
4.1.2 Intermediate and other effect	13
4.2 Private interventions	13
4.2.1 Effect on income	13
4.2.2 Intermediate and other effect	14
4.3 Applicability of impact	15
4.4 Enhancing the intervention	16
5 Key success factors	17
6 Barriers addressed	19
7 Questions for further research	20
References	21

List of abbreviations and acronyms

AICB	Interprofessional Cotton Association of Burkina Faso
CCC	Coffee-Cocoa Council
Cocobod	Cocoa marketing board in Ghana
COWI	Pricing mechanism for the cotton sector in Ivory Coast
FNC	Governance organization in coffee sector in Columbia
ICAFFE	Non-governmental organization representing the coffee sector in Costa Rica
KTDA	Kenya Tea Development Agency
LBC	Produce Buying Company of cocoa beans in Ghana
UTZ	Certification scheme
WCDI	Wageningen Centre for Development Innovation, Wageningen University & Research
WUR	Wageningen University & Research

1 Introduction

1.1 Definition

Over past centuries, technological improvements in agriculture have led to an increase in agricultural outputs, which reduced commodity prices worldwide. Due to the global nature of agricultural markets, prices are set at the world market. At the world market, less efficient producers are not able to compete in the long run at such low price levels. However, such producers often purely rely on income from agricultural production. Farmers are also exposed to highly volatile agricultural commodity prices at the world market, which may negatively influence farm economics, farmers income and livelihoods. Hence, interventions in agricultural markets in the form of **pricing arrangements are often necessary to shield primary producers from price volatility and to ensure a fair distribution of margins among the different actors of the value chain**. Pricing arrangements may come in different forms and be regulated by different actors. **A pricing arrangements** can define for example, a fixed price, minimum support price and price premium often linked to quality criteria. On the basis of actors involved in the regulation of these price interventions the following two main categories are distinguished in this write-up:

Public and public-private interventions: Public interventions refer to interventions when the government intervenes in agricultural markets as part of a broader a broader agricultural policy and sets legally binding price restrictions or requirements (Kolavalli and Vigner, 2011; Tripathi, 2013). Often times, representatives of the private sector (e.g., representatives of producers, processing companies and exporters) are members of the organizations that set up price interventions, such as marketing boards of interprofessional organizations, and they are consulted in setting price levels. These interventions are referred as public-private interventions. In this write-up, these two type of interventions will be analysed together.

Private interventions: Pricing arrangements are often part of private initiatives, such as third-party certification schemes (e.g., Fairtrade, UTZ, Organic) and schemes set up by private companies (e.g., Kenya Tea Development Agency; KTDA Ltd.). They can also be defined as part of contract agreements.

The objectives of pricing interventions can be manifold and can change over time. Public and public-private interventions aim to increase food security and price stability at domestic level, and to get sufficient income to farmers (Tripathi, 2013). The objectives of private interventions may also be diverse. Certification schemes usually aim to improve sustainability aspects of production, improve product quality, increase price levels at farm gate, improve the wellbeing of farmers and agricultural workers, and contribute to the reduction of poverty (eg. Fairtrade). Other private initiatives aim to play a role in sector governance, such as KTDA. **Many of the pricing arrangements, regardless whether it is publicly or privately regulated, set targets to increase the farmers' share of export prices (Molenaar et al., 2017).**

1.2 Theory of change

According to the theory of change, pricing arrangements, such as minimum price guarantee and price premiums, lead to reduction of possible economic losses by cutting off the downside of the price distribution (i.e., downside risk) and more stable prices. By limiting this downside risk, farmers, that are usually risk-averse, are more willing to plan and invest in capital items and improved production technology. In the long run, investments result in improved production efficiency/yield and product quality. Improved efficiency leads to cost reductions and improved quality results in higher prices. Also, income stability reduces farmers' dependency on intermediaries, such as buyers/exporters. A higher financial certainty gives farmers more power in negotiating prices and choosing buyers. The

improvements in farm technology, product quality and the increase in farmers' bargaining power result in higher net incomes, a sustainable growth of farm businesses leading to wealth accumulation and improved livelihood of smallholder farmers over time.

1.3 Examples

Some examples of typical price setting and price stabilization mechanisms found in the literature is provided below. Please note, certification schemes are not mentioned in this list as they are discussed in a specific certification intervention overview study¹.

- *Cocoa and coffee in Ivory Coast*: Coffee-Cocoa Council (CCC) sets the rules for the marketing of coffee and cocoa. The organization is governed by representatives of the government and cocoa and coffee industry and finance and insurance sector. Farm gate price is at least 60% of the export price (Molenaar et al., 2017).
- *Cocoa in Ghana*: The Producer Price Committee of the state-owned marketing board (Cocobod) sets the producer price for cocoa at the beginning of the harvest season for the entire crop year. The price is based on the price Cocobod expects to receive, having already sold nearly 70 % of the crop. To this price, Cocobod adds the costs of its operations and the export tax to arrive at what it calls "net free on board (f.o.b.) price." There is also a price stabilization fund to support farm gate prices (Kolavalli and Vigneri, 2011).
- *Coffee in Costa Rica*: ICAFE is a state-sanctioned non-governmental organization, which represents the whole sector. Within this organization, a Liquidation Commission, which sets the prices, is established. The commission has two members from the ICAFE board (one represents the farmers and the other the washing stations) and one from the Economics and Trade Ministry (Molenaar et al., 2017). Farmers receive 80% of export price. A price stabilization fund also operates, which compensates farmers when the price is below the cost of production by more than 2.5%.
- *Cotton in Burkina Faso*: In Burkina Faso, the producer price for seed cotton is annually negotiated and set by interprofessional organization, the Interprofessional Cotton Association of Burkina Faso (AICB). This organization is governed by representatives of the Burkina government, three cotton companies and producer representatives. Burkina Faso's seed cotton price setting formula is called the Smoothing Mechanism. In other words, farmers can potentially receive two payments: a floor price payment after they sell their seed cotton and a supplementary payment. Also, a price stabilization fund compensates ginning companies at the end of the season if they paid a higher fixed price to farmers than the final ex-post price (Bassett, 2014).
- *Cotton in Ivory Coast*: Ivory Coast's association, Intercoton, is a similar umbrella organization that brings producers and ginning companies together annually to negotiate prices. A new pricing mechanism for Ivory Coast was developed in 2009, popularly known as COWI, is a 175-page document that provides sector actors with a formula for calculating the producer price for a kilogram of seed cotton. A critical component of this formula is the share of cotton revenues received by producers. Also, similar organizations exist in Mali and Cameroon (Therault et al., 2013; Bassett, 2014).
- *Coffee in Columbia*: FNC is a farmer governed organization that provides sector governance through different instruments. In the context of this write-up, instruments, such as guaranteed purchase, price protection contract and pay now for future delivery contract, are of interest. Guaranteed purchase means that farmers may sell their output at an established minimum price. Prices are set and communicated daily and act as a reference point for the entire market (Molenaar et al., 2017).
- *Tea in Kenya*: KTDA is a vertically integrated private company that offers services for small tea farmers such as inputs and agri-extension, transportation, processing, marketing, and access to finance (IFC, 2014). KTDA farmers receive 75-80% of the final tea price, which is about three times higher than in other East-African countries. Farmers usually got ca. 12%

¹ Emily Bouwman, 2018. *Income Intervention Quick Scan: Certification*, report number: WCDI-18-025, Wageningen Centre for Development Innovation, Wageningen, the Netherlands

higher prices for their tea compared to the average of all teas sold at the Mombasa Auction (Molenaar et al., 2017).

1.4 Geography

Pricing arrangements are implemented globally. Examples in the reviewed literature were found for countries, particularly in Africa, such as Burkina Faso, Ghana, Mali, Cameroon, Kenya and Ivory Coast and in Latin-America, such as Cost Rica and Columbia. Also, there were references on pricing policies in the cotton sector in the US and China (Baffes, 2005).

1.5 Role of actors

Public and public-private interventions usually occur via **marketing boards** or **interprofessional organizations**. For example, in Ghana, the **government** intervenes through a **state-owned marketing board** (i.e., Cocobod) to shield farmers from price volatility. Farmers are offered a stable farm gate price for cocoa that meets minimum quality requirements. Quality requirements are important for being able to sell products to large **industry players**, such as Cadbury. Cadbury is known to exclusively use Ghanaian cocoa beans in all UK-retailed chocolate products.

Private sector has a role in public-private interventions as representatives of agribusiness companies and also farmers are often involved in **interprofessional organizations** setting the price. Power relations, are however, generally skewed. **Farmers' negotiating power is often limited** even when they are members of a price setting organization (Quarmin et al., 2012; Bassett , 2014). For example, up until March 2011, the seed cotton price in Burkina Faso was determined on the basis of six parameters. In the spring of 2011, world market prices reached record levels that year which resulted in a significant difference between the forecast price and the actual world price. The price setting mechanism was, however, amended, which severely deteriorated farmers' payments. Farmer union representatives on the cotton sector management committee were not sufficiently defending their interests during the 2011/12 price negotiations (Bassett , 2014) in Burkina Faso. Also, the negotiations in Ivory Coast during the same period illustrate the **power of cotton companies** to implement the price setting mechanism to their advantage. Similarly, cotton farmers in Zimbabwe claimed that the representative bodies for farmers have failed to sufficiently represent their interest (Muyeji, 2013).

KTDA is owned by 54 private companies and have 550,000 smallholder tea farmers as shareholders. **Farmers' benefits are more visible** in the case of this private sector initiative. For example, 30% of the KTDA's profit has to be paid as bonus payments to the farmers (IFC, 2014).

2 Summary and justification of assessment

Strength of outcome		
Assessment criterion	WUR score	Rationale for score
Scale: Size of the population intervention could impact and potential to scale to other contexts	High	<ul style="list-style-type: none"> All producers can, in principle, benefit from public price setting mechanisms, as they usually set price at sector level. Cocobod in Ghana and CCC in Costa Rica can reach around 800,000 smallholders. <ul style="list-style-type: none"> Kolavalli and Vigneri, 2011; Bassett, T.J., 2014; Molenaar et al., 2017 To benefit from pricing arrangements as part of private initiatives, farmers are usually required to join the scheme, e.g. KTDA is owned by 54 companies and has 550,000 smallholder tea farmers as shareholders. <ul style="list-style-type: none"> Molenaar et al., 2017
Impact: degree of increase in incomes	Low	<ul style="list-style-type: none"> Very limited evidence on explicit income effect. In general, negative or slightly positive effect on income was indicated by reviewed studies. An annual growth of 5% in wheat producers income was indicated as a consequence of agricultural price policy in India. One study showed that farmers income can be negatively affected by price stabilization policies. Also, with regard to farm profitability, price setting mechanism may depress farm income. <ul style="list-style-type: none"> Kolavalli and Vigneri, 2011; Bassett, 2014; Tripathi, 2013; Jayne et al., 2001; Bassett, 2014 The value capture of export prices by farmers often increases. For example, KTDA farmers receive 75-80% of export price, CCC farmers 60% and ICAFE farmers 80%. To what extent this contributes to a higher income is unclear. <ul style="list-style-type: none"> ICF, 2014; Molenaar et al., 2017
Sustainability: financial ability of farmer income increase to endure independent of ongoing external support	Low	<ul style="list-style-type: none"> Price setting and price stabilization mechanisms have endured for decades, however no evidence found whether farmer income increase would last independent of ongoing financial support.
Gender: Potential of intervention to positively impact women	Low	<ul style="list-style-type: none"> There is no evidence found whether pricing arrangements specifically targets women.

Strength of evidence		
Assessment criterion	WUR score	Rationale for score
Breadth: amount of rigorous literature that exists on the impact of the intervention, as defined by the minimum quality of evidence for this paper	Low	<ul style="list-style-type: none"> • Not considering certification literature, no meta-studies were found. Studies cited in this overview were rather a description of the pricing mechanisms than an evaluation on their impact. <ul style="list-style-type: none"> ◦ Kolavalli and Vigneri, 2011; Bassett, 2014; Jayne et al., 2001; Tripathi, 2013; Moleanaar et al., 2007
Consistency: Degree to which the studies reviewed are in agreement on the direction of impact	High	<ul style="list-style-type: none"> • Not considering certification literature, regarding other private initiatives, KTDA showed an outstanding performance in terms of increase in farm profitability (profit was 10 times higher than in other neighboring countries), however this impact was not attributed to pricing, in particular. <ul style="list-style-type: none"> ◦ ICF, 2014 • In case of public and public-private pricing arrangements, negative or slightly positive impact on farmers' income. <ul style="list-style-type: none"> ◦ Bassett, 2014; Tripathi, 2013; Jayne et al., 2001

3 Methodology

The reviewed literature on pricing arrangements overlaps with literature on certification, as pricing arrangements are often one of the key elements of such schemes/private standards. Certification-related articles on pricing arrangements dominated the literature.

In total, 50 scientific papers, industry reports and publications were found, which had some relevance to pricing (via Google Scholar and Google search). 20 out of 50 documents were related to certification. From this body of literature, studies that contained information particularly on the effect of pricing element of schemes rather than on the effect of being certified or not were investigated in more detail. The other 30 papers of the long list were, in general, related to issues, such as pricing and trade policies, market access and participation. No review studies focusing on the impact of various pricing arrangements have been found. 12 studies were consulted to draw conclusions on income and intermediate and other effects. Main sources used to draw conclusions on income effect, in particular are listed here:

- Nelson and Pound, 2009: Systematic analysis on the impact of Fairtrade. Over 80+ studies were reviewed. Evidence base containing in-depth information was found to comprise 23 reports containing 33 separate case studies, which have been analysed in detail. Although this study relates to certification, it was included here because it specifically draws conclusion on the income effect of guaranteed minimum price based on 29 studies.
- Kolavalli and Vigneri, 2011: Book chapter on the developments in the cocoa sector in Ghana.
- Jayne et al., 2001: Analysis on how governmental efforts to support maize price levels affect farm households. Survey data on 18 districts in 1997 and 1998 including 1540 households in 1997 and 612 households in 1998.
- Tripathi, 2013: Study examining the effectiveness of procurement prices in getting sufficient income to the farmers in India (wheat and rice sectors).
- Muyeji, 2013: Study analysing the impact of contract farming.
- Bassett, T.J. 2014: Qualitative study on the cotton industry in West Africa
- Molenaar et al., 2017: Report on improving the performance of agricultural commodity sectors

4 Impact

4.1 Public and private interventions

Looking at the detailed findings below, evidence suggests that public and public-private price interventions have negative or slightly positive impact on farmers' income mainly due to costs outpacing revenues and farmers' low power in price setting negotiations. Regarding farm profitability and price levels, it can be concluded that the impact of pricing arrangements is similar to that on farmers' income. There is some evidence in cocoa farming that other uses of labor may result in higher revenues. Some of the public-private schemes, such as CCC and ICAFE, set targets in terms of farmers' share in export prices, which implies a higher share for farmers than they would receive without price setting policies. It can be assumed that getting a higher share of export prices will positively influence farmers' income, however explicit evidence in literature is lacking regarding the relationship between higher value capture of prices and farmers' income.

4.1.1 Effect on income

- Jayne et al., 2001 evaluated the potential impact of high maize prices in Kenya in relation to the reintroduction of state-run marketing board into grain purchase at fixed support prices, coupled with tariffs on maize imports, as part of their protectionist policy against downside price risks. The study argues that most rural farmers are net buyers of maize, hence they are directly hurt by high maize prices. Further, they conclude that maize import tariffs act as a tax on rural poor because low-income households are more likely to be net buyers of maize than high-income households. This finding is specific to subsistence crop and such policy may have different implications for cash crops, such as tea, coffee, and cocoa.
- In the spring of 2011, world market prices reached record levels that year which resulted in a significant difference between the forecast price and the actual world price. The Interprofessional Cotton Association of Burkina Faso had amended the price setting mechanism in March 2011 at the peak of the cotton boom. Hence, the supplementary payment provision in the smoothing mechanism was not applied as anticipated in Burkina Faso. This resulted that some of the highest world price months were not included in this critical calculation. As a consequence, supplementary payments were calculated on a lower world market price, which depressed farmer incomes. In this case, farmers were compensating cotton companies for their failure to sell cotton during those months when market prices were high (Bassett, 2014). It was estimated that farmer payments were reduced by 39% in 2010–11 as a result of the formula changes. Also, the 2011–12 floor price for seed cotton had been lowered as a result of changes made to calculating the forecast price. The new forecasting method eliminated the months in the previous 14 months when cotton companies sold less than 1% of total production.
- In 1980, in India, policies changed from maximizing food grain production to ensure a diversified production pattern that matches the demands of Indian market (Tripathi, 2013). The main instruments of this policy was 1) minimum support price for farmers, 2) inter and intra-year price stability through open market operations, 3) maintaining buffer stock, 4) distributing food grains at reasonable prices through the public distribution system. As a result of the new price policy, during pre-reform period 1981/82 to 1992/93 farm income in wheat cultivation increased from INR 148/ha to INR 261/ha, indicating an annual growth of 5.29%.
- In 1991, economic reforms were introduced in India (Tripathi, 2013). During the post-reform period, government cut major input subsidies, and no longer aimed to intervene in the production/procurement/distribution of farm inputs. In this period, price policy was considered to have a significant role in providing safety net to farmers. During the first years of the post-reform period, wheat prices fluctuated widely, however the trend in net farm income was positive. After a sharp decline in prices from INR 347/ha to INR 164/ha in the period

1999/2000 to 2004/05, net farm income recovered and reached INR 326/ha by 2009/10. This significant improvement in farm income can, however, partly be attributed to development programs to revive agricultural growth introduced in the mid-2000s in India.

4.1.2 Intermediate and other effect

Farm profitability and price levels

- The paper describing the price interventions in Ghana (Kolavalli and Vigneri, 2011) cites several models, which estimate the sensitivity of production supply to farm gate prices. Based on these studies, it can be concluded that small-scale cocoa producers in Ghana have responded positively to these price incentives, i.e., cocoa production increased in the short-run due to higher farm gate prices. Data on cocoa returns as a result of this intervention is limited. The paper includes two rural surveys, one conducted in 1996 (Agrisystems Ltd., 1997) and one in 2006 (Barrientos and Asenso-Okyere, 2008). These studies found that cocoa production has not become more profitable for farmers. More specifically, results show that cocoa, which usually is the largest source of earnings in cocoa-producing households, accounting for more than 67 percent of revenues, has actually declined over time: net cocoa profits for cocoa-producing households were 7 percent lower in 2005 than in 1996. Although, the real price of cocoa increased by 47 percent between these two years, the cost of inputs increased more. The extent to which these changes in profitability can be attributed to the Ghanaian pricing policy is unclear.
- Despite of seemingly favourable pricing arrangements, cocoa farmers in Ghana face an income problem, hence they reluctant to invest in quality-enhancing practices (Quarmin et al., 2012). Quarmin et al., 2012 illustrates that the economic position of farmers is fragile potentially due to two reasons: 1) relatively low revenue of cocoa farming compared to other uses of labour and 2) high cost of renting land.
- In contrast to wheat cultivation, a negative trend in farm profitability was observed in rice production during post-reform period in India (after 1991) (Tripathi, 2013). Net farm profitability declined by 10% per year till 2002/03. From 2004/05 to 2009/10, net profitability of rice production, however, increased by a rate of 36% per year, reaching the level of INR 249/ha in 2009/10. Despite this increase in rice prices, there is still a considerable difference between rice and wheat cultivation. While rice farmers received only 14% returns on total production costs between 2004/05- and 2009/10, wheat cultivation got 33 % net returns over costs during the same period.
- Pricing arrangements often set requirements in terms of the share of export price received by farmers. For example, CCC and ICAFE sets prices that farmers receive at least 60% of cocoa export price and 80% of coffee export price, respectively (Moleanaar et al., 2007).

4.2 Private interventions

Findings on income effect of pricing arrangements as part of private initiatives are limited. Although, certification literature was not subject of this overview the main conclusions of the specific study on certification are also presented here. Overall, **certification is shown to have a neutral or positive impact** on farmers income. The private initiative KTDA seem to be successful in getting higher share of export prices to farmers, and this business model had a very positive impact on farm profits, i.e., **profit of smallholder tea farmers** participating in KTDA was ca. **10 times higher** than in other neighboring countries. However, this **impact was not attributed to pricing, in particular**, but to factors, such as farmers collective ownership of processing and the quality of plucking and of made tea as a result of training and access to inputs. Evidence on the **effect of pricing arrangements as a part of contracts is mixed**. Despite of pre-agreed producer prices farmers often not benefit from the contracts because input prices are usually higher under contract agreements.

4.2.1 Effect on income

- A review of Fairtrade certification by Nelson and Pound (2009) referred to 29 studies, which

show that **guaranteed minimum price leads to improved income**. The study, however, did not quantify the extent of improvement in income, nor specified whether income refers to farm income or household income.

- The main conclusion of the specific certification intervention overview study is included here as pricing is often one of the elements of certification schemes. The overview study concludes that the overall effect of certification is an increase in farmers' income when looking at **net and gross income together (average increase 11%, range from 2% to 20%).** Removing studies reporting on gross income, the effect of certification is still positive, however not statistically significant. However, the study also underlies that the meta-analysis, which above conclusion is based on, was restricted by an insufficient number of effect sizes per outcome to reach any robust conclusion. The effect from **certifying coffee products on farmer income is neutral in most cases**. One cocoa-study shows that participation in a certified Organic contract scheme leads to **increases net cocoa (and vanilla) revenues by, on average, 150%. Two fruit and vegetable studies show that certification has a neutral effect on income.**

4.2.2 Intermediate and other effect

Farm profitability, price levels and yield

- The Kenya Tea Development Agency Ltd (KTDA) introduced an inclusive business model in the tea industry in Kenya. KTDA is owned by 54 tea companies and have 550,000 small tea farmers as individual shareholders (IFC, 2014). KTDA **farmers receive 75-80% of the final tea price**. That is, **a producer share of made tea prices about three times higher** than other East-African countries (Molenaar et al., 2017). In 2009, the **profit of smallholder tea farmers** participating in KTDA was ca. **10 times higher** than in other neighboring countries (Molenaar et al., 2017). Main factors that contribute to this high profit are farmers collective ownership of processing and the quality of plucking and of made tea as a result of training and access to inputs.
- KTDA trains farmers on certification standards, which enables smallholders to participate in certification schemes. Producing according to sustainable practices and selling products as certified enabled farmers to **increase yields by 36%** on average and receive premiums for certified tea (Molenaar et al., 2017).
- After the privatization of the government owned cotton company (COTTCO), the cotton industry has opened up to competition in Zimbabwe. Cargill entered the market and introduced the **cash payment system**. Due to the **increased competition**, COTTCO also shifted towards the cash payment system. Before the market liberalization the producer price of **seed cotton used to be 58% of the international price**. After the liberalization however, the **domestic price increased to 79% of the international price** (Muyeji, 2013).
- In Zimbabwe, almost 99% of seed cotton production occurs under contract farming (Muyeji, 2013). Contracts usually include four main elements, i.e., pre-agreed price, quality, quantity and time. Muyeji, 2013 suggests that **independent cotton farmer makes an extra earning of ca. UD\$34 compared to a farmer under a specific contract scheme**. This is explained by the fact that **non-contracted farmer can access inputs cheaper** because of flexibility in timing of procurement and application of inputs, opportunities to benefit from input discount sales promotions and from input support schemes. Also, margins of non-contracted farmers may further improve as they capitalize on economies of scale.
- Kumar et al., 2016 found a significant positive effect of contract farming on farmer's income. The study shows that on average contract farmers realize a **40% higher profit than independent ginger farmers in Nepal**.
- Ragasa et al. 2018 found that **maize production under contract farming in Ghana was less profitable** compared to farming without contract. This difference is explained by the much **higher input prices under contract** farming and that **producer prices paid by scheme operators are, in some instances, even lower than the market price** in the community. Further, the study underlies that 56% of the with-scheme farmers have negative profits, and the impact on profits of scheme participation in the 2014–15 cropping seasons is negative.

Food safety

- Kumar et al., 2016 found a significant positive effect of contract farming on the adoption of food safety measures among ginger farmers in Nepal. **Contract farmers are 7% more likely to adopt food safety measures** compared to farmers producing without a contract.

Community impact

Nelson and Pound (2009) in their review on the Fairtrade certification scheme explored the impact of investments that were financed by the Fairtrade **social premium** and presented anecdotal cases.

- Kuapa Kokoo and Day Chocolate initiative

Nelson and Pound (2009) refer to study of Ronchi (2002), which found that locals were very positive about the impact of this Fairtrade initiative.

- “Ca. **100,000 people** have received **medical attention and prescriptions**, yet the programme costs only 2% of the Fairtrade premium earned on Day Chocolate purchases alone.”
- “**41 of the 53 community projects** of the Kuapa Kokoo Farmers Trust **have been funded by Fairtrade premium earnings**. The quality of **water and sanitation projects** is highly appreciated by community members.”
- “**School building project** had ‘emphatically’ improved school attendance, health and the quality of education.”

- Windward Islands Bananas

- **Considerable in scale**, premiums returned to Windward Islands communities reached nearly US \$1.3 million from sales between July 2000 and April 2003. Out of this fund nearly US \$750,000 was used by Fairtrade producer groups to invest in development projects
- Investments include:
 - ✓ purchase of weedeater machinery to replace herbicides on members’ farmers;
 - ✓ wide array of community projects: buying equipment, putting up buildings for schools, improvement of roads, and vocational training programs for village youth; a novel health insurance fund in St Lucia to reimburse Fairtrade farmers and families for medical expenses up to EC \$1,000 (US \$375) and for secondary school attendance for youth in rural areas.

- Fairtrade coffee, Nicaragua

- The SOPPEXCCA co-operative has invested Fairtrade premium funds into **small improvements in community infrastructure and services**, such as building a baseball field and equipment, school building improvements.
- Disjointed use of funds: The funds **could not cover larger community infrastructure and services work** (Bacon, 2005 referred by Nelson and Pound (2009))

The above examples illustrate the **importance of cooperatives in realizing tangible benefits** for the community using Fairtrade premium funds. Further, Nelson and Pound (2009) suggest that a **more coordinated use of Fairtrade premium** would scale up the impact of funds.

4.3 Applicability of impact

Gender

No evidence found in relation to gender-differentiated impact.

Farmer segments

This intervention does usually not target specific value chains. Pricing arrangements exist across

various value chains, such as cotton, coffee, cocoa, tea, maize.

Pre-commercial and commercial farmers are most affected by pricing arrangements as they seek to sell their products on the market. Price setting/stabilization mechanisms can reach large number of farmers. FNC, the smallholder led federation, has 563,000 members. ICAFE in Costa Rica gathers 78,000 coffee growers. Cocobod and CCC, both can reach around 800,000 smallholders. KTDA in Kenya has 543,000 smallholders as shareholders.

Agribusiness companies are also affected as they buy these product. Farmers and agribusiness companies have opposing interests as farmers seek to earn the highest price for their products, while agribusiness companies would generally like to pay lower prices. Some of the initiative that intervenes in pricing also set targets with regard to the **distribution of margins in the sector** (e.g., ICAFE in Costa Rica) (Molenaar et al., 2017).

It can be hypothesized that reduction of downside risk may be of greater importance to stimulate investments of **smallholder farmers** compared to **large commercial farms**. Hence, pricing arrangements, such as minimum price can have a more substantial role for smallholder farmers. According to risk theory, risk aversion decreases as wealth increases (assuming a logarithmic utility function) (Hardaker et al., 2015). On this basis, smallholder farmers may be more risk averse as they have little financial buffer compared to large farms which possess an accumulated equity that enables them to manage investment risks. Hence, by increasing the financial buffer of smallholder farmers, their risk aversion may decrease to a larger extent relative to that of large scale commercial farmers. Hence, pricing arrangements may have a relatively larger impact at smallholder level compared to commercial farms. In contrast to this theory, however, evidence also illustrates that in some **cases low-income households are directly hurt by supporting price policies**. Whereas **high-income households** may benefit from policies that aim to keep commodity prices higher (Jayne et al., 2001).

Food pricing policies are often used to **benefit the urban population** as they particularly public employees and the military and they may have a disproportionate political influence **at the expense of farmers** (Mellor and Ahmed, 1988).

4.4 Enhancing the intervention

Linking pricing arrangements to quality criteria can be important when finding buyers for the products. For example, the fixed farm gate price for cocoa in Ghana is linked to minimum quality criteria, which is beneficial for trade with the large industry player Cadbury. However, improved trade does not mean better farmer income. Also, CCC in Ivory Coast implements a strict quality control system. As a result of selling high quality beans, both Ghana and Ivory Coast are able to sell cocoa beans with a price premium (Kolavalli and Vigneri, 2012; Molenaar et al., 2017).

Imposing levy on export prices can have a positive impact on the sustainability of stabilization funds run by price-setting organizations and on the financial sustainability of these organizations. More specifically, Cocobod in Ghana imposes a levy on export price to capitalize its price stabilization fund. ICAFE in Costa Rica also installs a levy of 1.2% to contribute to its running costs, investments in research, quality management and market promotion (Molenaar et al. 2017).

Molenaar et al., 2017 suggest that the **combination of price setting, stabilization, supply chain transparency, and quality management system** leads to high yields, high quality in the coffee sector in Costa Rica and premium prices on the world market.

5 Key success factors

Setting proper price level

- **Floor price must be carefully set** to take into account costs of production and the potential differences in these costs depending weather scenarios, regional and world market conditions, and poverty alleviation objectives (Jayne et al., 2001).
- Jayne et al., 2001 emphasize the importance of context when implementing commodity pricing and trade policies. Farmers should not be regarded as a homogenous group because there are differences in assets, the crops from which household income is derived, and food expenditure patterns. Hence, to achieve the desired impact with commodity pricing and trade policy, solid empirical information is needed with regard to these characteristics. **Policies should be tailored based on these differences across farmers.**

Increasing productivity at farm and investments in the supply chain

- Kilian et al., 2006 outlines the **importance of farm management** versus price premiums for the economic success of the farm. The study shows that best-managed conventional farms were able to produce coffee for around 51 US cents/lb, achieving net farms incomes, poorly managed farms faced average costs of around 77 US cents/lb, leading to an income loss of 17 US cents/lb of produced coffee. In the case of organic farms, the income gap has been shown to be even wider. The most efficient organic farms in Costa Rica were able to produce organic coffee for slightly more than 1 US\$/lb with a net income of 18 US cents/lb. At the same time, production costs in the less-efficient organic farms amounted for nearly 1.60 US cents/lb, hence an income loss of 35US cents/lb.
- **Fixed price policy can increase trust** among industry stakeholders, however **can have a negative effect on supply chain investments**. The fixed price policy of CCC (Cocoa in Ivory Coast) has reduced margins in the middle segment of the supply chain. Hence, these investments are highly dependent on the global industry and donors (Molenaar et al., 2017).

Increasing market competitions

- **Competition in the processing industry** would be desired. For example, the oligopsonistic structure of cotton economies in Burkina Faso, i.e., there are so few purchaser companies that their actions can materially affect price, favours the cotton companies over producers (Bassett, 2014). By Cargill entering the cotton market in Zimbabwe, competition has increased and the domestic cotton price rose from 58% of the international market price to 79% of the international market price (Muyejji, 2013).
- **Prices increases should be implemented sector-wide** (e.g. by all major buyers within a sector or by a public institution managing the crop) rather than by a selected few. **Price increases should primarily occur by strengthening the competitiveness** of the sector as a whole. For example, in the Malawi 2020 initiative: tea prices and wages to plantation workers have been increased through efficiency and quality improvements. In turn, the whole country's tea sector was able to remain competitive on world markets.

Adding value to the product

- **Creating market conditions under which prices will rise**, e.g. through supporting farmers to improve quality standards, offer more value-added services, increase market competition. For example, Fairtrade farmers add value to their coffee beans as the beans are milled at the Fairtrade cooperative mills and consequently, are sold in the form of 'green beans'. Whereas UTZ farmers sell beans in the 'kiboko' stage and non-certified farmers sell their beans as 'red cherries' or 'kiboko'. Fairtrade farmers are getting a higher price for their goods partly due to this value addition process (Chiputwa et al., 2015).
- If **price premiums is not linked to quality or other commercial criteria**, it is often insufficient to lift farmers out of poverty. For example, Kilian et al., 2006 illustrates the important link between price premiums and quality improvements. The study underlies, in the

context of coffee production, that due to the further development of sustainable markets competition has already begun to increase. Hence, farmers are obliged to increase their productivity and quality. They conclude that the benefits/price premiums that farmers currently receive should at least be partly invested in improving production efficiency and quality. Otherwise, farmers cannot remain competitive on the market in the long run.

Increasing market power among farmers and trust through the supply chain

- **Increasing farmer's bargaining power** is essential for them to be able to benefit from price setting mechanisms (see previous examples from cotton industry) (Bassett, 2014). Well-organized farmer's unions/groups with representatives, which are knowledgeable of the industry, are necessary.
- **Establishing direct and transparent trading relationship** that details the criteria for the price increases and the expectations of both buyer and supplier.
- **Timing of announcing the new prices** for crops is crucial. Quarmin et al., 2012 explained that timing of price announcement by Cocobod in Ghana varies season by season. Sometimes, farmers have to sell their cocoa at prices of the previous year. These delays in price announcement have a negative impact on their income as new prices are usually higher than prices of previous year.
- **Preventing rent-seeking activities** by the buying companies of crops is of importance. The Produce Buying Company of cocoa beans (LBC, subsidiary of Cocobod) in Ghana adjusts their scale in their favour. As a consequence they obtain more cocoa beans at the going price, which has a negative impact on farmers financial position (Quarmin et al., 2012).

6 Barriers addressed

Pricing interventions aim to mitigate high price volatility and to protect farmers from cheap imports, thereby stabilize farmers' income. Also, this intervention aims to increase price levels for farmers and to provide a fair price for products.

















































7 Questions for further research

- Quantitative evidence on the effect of pricing arrangements initiated by public or private bodies on farmers income/household income and livelihood is limited. **Comparative studies are needed on the construction of price setting mechanisms**, their implementation and impact.
- The effect of **private pricing arrangements is hardly evaluated as a separate intervention**. Rather the global effect of agricultural policies and certification schemes is assessed by the majority of studies.
- Impact studies **rarely have random samples and experimental designs with control and treatment group**. They usually present evidence for separate cases, using data reflective to a particular point of time rather than data over a period of time.
- Cost of production can vary depending on several factors such as scale of production, geographical differences. Research on the **realistic/average cost of production** is needed to be able to develop effective pricing arrangements (eg. minimum floor price that truly covers the cost of production at farm level).
- Impact studies on pricing arrangements **rarely have random samples and experimental designs with control and treatment group**. They usually present evidence for separate cases, using data reflective to a particular point of time rather than data over a period of time.
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The mission of Wageningen University and Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 5,000 employees and 10,000 students, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.



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