



Royal Tropical Institute

Incentives for sustainable cocoa production in Ghana

Moving from maximizing outputs to optimizing performance

Anna Laven and Marije Boomsma

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Summary

This study has been conducted and funded under the Multi-Annual Strategic Plan 2012-2015 of the Netherlands Embassy to Ghana, and carried out to provide an overview of the incentives system in the cocoa chain in Ghana and The Netherlands in view of mainstreaming sustainable cocoa production. The study is expected to provide food for thought and input for strategic decision-making.

Ghana is in a good position to profile itself as world leading in sustainable, high quality cocoa, therewith producing cocoa for the top of the market today, in anticipation of the fast growing demand for such cocoa tomorrow. Ghana is well placed to respond to the increased demand for sustainable, certified cocoa, and in doing so could also expand trade with and through The Netherlands.

The increased demand for sustainable, certified cocoa creates a competitive supply chain model all the way down to the farmer level, while at the same time there is increasing attention for solutions in the pre-competitive domain. This requires a balancing act between competition and pre-competitive cooperation. For that reason, it becomes relevant to analyze the cocoa sector through the incentives (and disincentives) for its sustainability.

Incentives are provided by different players and create different opportunities for different categories of farmers. By assessing the incentives against the fundamental starting points of "value creation in the chain" and "viable sharing of costs and benefits" a basis is created for supporting any meaningful intervention.

In Ghana the state-owned marketing board is the main intervener in the cocoa sector. Cocobod plays both the role as a competitive actor (e.g. trading cocoa) and a pre-competitive actor (e.g. setting producer prices). Increasingly other actors intervene actively in the sector. Some areas of intervention have and will always be competitive and others could be made pre-competitive, or were pre-competitive but could become more efficient if done competitively.

It turns out that there are still different approaches towards sustainable cocoa production. Industry and Cocobod both focus very much on control, while others (like the Dutch government) emphasize entrepreneurship and development goals. This explains also the boundaries for involvement of different actors in sustainable cocoa production, and the need for coordination and mutual understanding. This also has consequences for incentives. Incentives should be carefully defined, for example public incentives should not substitute for private sector responsibilities and activities (competitive or non-competitive).

With the increasing global demand for sustainable cocoa the sector has been pressured to use certification as a guarantee for sustainable cocoa production. Because there is not yet sufficient certified cocoa in the system, certificate holders start to compete for certified farmer groups. We see that on the one hand private sector highly invests in capacity building of farmers (e.g. training, access to inputs, organization, credit) which contributes to productivity increased and

higher incomes for farmers. On the other hand farmers are locked in to value chains in which they have little decision-making and little information.

The pressure to speed up certification is risky: instead of using it as a means to stimulate sustainable change in all its aspects, getting farmer groups certified becomes the goal. Sustainable cocoa production is a gradual process and takes time. Certification of cocoa farmers should not be done too quick: this could undermine the whole system of certification. It is recommended to follow the principle of Cocoa Abrabopa and take a gradual process towards certification.

So far, the incentives and interventions in place do not go far enough in stimulating farmer entrepreneurship. What doesn't help is that the perspective of farmers on sustainable cocoa production is not heard. Do we know enough about what drives farmers? Do we know enough about the differences among farmers to understand the kind of farmers that can take cocoa farming up as a business? Incentives should be adapted to the future generation of farmers and interventions should have a clear target group.

In Ghana, we have seen that a distinction is made between three classes of cocoa farmers, based on the kind of practices and level of technology used (low, medium, high). This classification can be adjusted for sustainable cocoa production. This includes a clear vision on the future generation of cocoa farmers, and insight in what incentivizes this group. It also requires a longer-term and shared vision on the development of the sector and the development of different scenario's.

But, while industry has committed itself to the use of certification as a means to achieve this, for Cocobod certification is not necessarily the way forward. Sustainable cocoa production requires stronger linkages and more exchange between governments from producing and consuming countries, at different levels (e.g. build stronger relationships between Dutch research community and CRIG or between Amsterdam Port and Tema). Advocacy at government level is recommended to privatize input pricing and distribution systems.

For farmers to benefit from sustainable cocoa production they have to become more entrepreneurial, and take more control over their own business. Cocobod in the past has lacked to give economic incentives to farmers to behave as entrepreneurs, but they did protect the farmers from price-fluctuations by offering stable prices, introduced subsidized input schemes (paid by FoB margin) and made sure the quality of the exported cocoa was high. The advantage of this system is stable prices and cocoa farmers in Ghana are relatively well-off, but on the downside there are many inefficiencies due to the fact that a public entity is running a private business. Liberalization of inputs and extension services would help farmers to gain more control over their business. In addition objective market information would put farmers in the driving seat of their business.

Farmers should be placed first (and not their cocoa), not from a perspective as being a critical stakeholder to reach objectives others have defined for them, but as a lead entrepreneurs in a sustainable cocoa chain. To support entrepreneurship interventions should support capacity building, building own capital, access to markets and full information as well as business skills to take business decisions. It is recommended to support farmer organizations in building their own capital, both financially, human capital as well as social capital.

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The study is also expected to provide food for thought and input for strategic decision-making for the members of the Dutch Chocolate Working Group.

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¹ Principles developed during mission on Research & Innovation in the Ghanaian Cocoa Sector:

- Alignment of development partner investments to incentives system, not to a needs system.
- Avoid conflicting incentives at farm-level
- Pooling of efforts and resources with private sector partners
- Investments in development to be sustained by proceeds from cocoa, at least in the medium and long term
- Credible incentives also for forest preservation and payment for ecosystem services.

Abbreviations

CAA	Cocoa Abrabopa
CMC	Cocoa Marketing Company
Cocobod	Cocoa Marketing Board
CSD	Cocoa Services Division
CSSVD	Cocoa Swollen Shoot Virus Disease
EL&I	Ministry of Economic Affairs, Agriculture and Innovation – <i>Ministerie van Economische Zaken, Landbouw en Innovatie</i>
FoB	Free on Board
GAP	Good Agronomic Practice/Good Agricultural Practices
GCCSFA	Ghana Cocoa Coffee Sheanut Farmer Association
ICS	Internal Control System
IDH	Sustainable Trade Initiative – <i>Initiatief Duurzame Handel</i>
KIT	Royal Tropical Institute – <i>Koninklijk Instituut voor de Tropen</i>
KKFU	Kuapa Kokoo Farmers' Union
LBC	Licensed Buying Company
MoFA	Ministry of Agriculture
PBC	Produce Buying Company
PC	Purchasing Clerk
PPRC	Producer Price Review Committee
QCC	Quality Control Company
RA	Rainforest Alliance
RSCE	Round Table Sustainable Cocoa Economy
SPU	Seed Production Unit
TCC	Tropical Commodity Coalition

1 Introduction: rethinking the cocoa sector

Cocoa is a key commodity for West-Africa and for The Netherlands. Ivory Coast and Ghana together represent roughly 60% of global production; the Netherlands is by far the biggest exporting country for cocoa products (mass and butter).

From a producer perspective, cocoa is a globalized cash crop *par excellence*. Chain organization is largely based on quality, volumes and profit margins. Cocoa, therefore, is a competitive business, although competition plays out in many different ways (related to organization and regulation of the chain).

The cocoa chain in Ghana and West-Africa has a typical hourglass shape. At the base, there are millions of smallholder farmers that cultivate small orchard like cocoa gardens. Productivity is low, and such is disposable income. There is little to no financial room for agro-inputs and rehabilitation. The level of farmer organization is low. In the middle of the chain, there are a limited number of traders, and manufacturers. In countries like Ghana, the external trade is fully monopolized by one single player (Cocoa Marketing Company - CMC). At the top of the hourglass there are again millions of consumers.

Compared to the post-harvest chain, investments in cocoa cultivation are rather limited. Cocoa production has been kept up through expansion rather than through productivity and rehabilitation. Many cocoa farmers are poor. Plot sizes and solvency of most cocoa farmers prevent them from investing; interest rates if credit is provided go up to 40% annually for rural banks in Ghana. Furthermore, input supply chains are underdeveloped, and there is no clarity on how such a supply chain can improve. In Ghana, the state-owned cocoa marketing board (Cocobod) pursues a subsidy approach, providing inputs at below-market price, but effectiveness and coverage are insufficient to boost productivity sufficiently.

The average age of cocoa farmers is high (>50) and it is yet uncertain who will be the new generation of cocoa farmers. The fear is that cocoa business is currently more of a traditional subsistence lifestyle than a profitable business, leading to young people abandoning the cocoa sector.

Critical changes

Over the last decade, a number of critical changes have become visible that require a rethinking of the cocoa sector.

1. Besides the still dominant drivers of volume, profit margin, and product quality, **process quality concerns and differentiation** have come to the fore. Global markets increasingly demand 'process quality' standards for delivering agricultural products to global markets. Issues like child labour, fair trade, and certification have led traders and industry to drive a number of innovations in the sector. But, comparing to developments in

other commodities, the cocoa sector responds slowly to this trend; many of the innovations are still in early stages;

2. Traders and industry perceive a risk for supplier failure. Increasingly, attention is paid to long-term sustainability of production (volume). **Productivity increases and rehabilitation (rather than expansion) have come to the foreground.** Donor organizations have jumped onto the bandwagon, since this agenda offers large potential to improve disposable revenue and livelihood conditions for cocoa farmers. Quality and volume increases without significant growth in productivity are increasingly seen as undesirable. However, the underdeveloped supply chain (including underdeveloped services, issues of land tenure and general livelihood conditions) has led to an array of interventions that reflect the lack of structure rather than provide a comprehensive answer. Many interventions rely on extensive training schemes of farmers, but are unable to organize the supply chain.
3. The increasing **demand for 'sustainable cocoa'** creates a **competitive supply chain model all the way down to the farmer level**, while at the same time there is increasing attention for solutions in the pre-competitive domain (solutions that benefit the sector as a whole, which can only be achieved if the sector as a whole would drive them). In the cocoa sector it is not always transparent where the pre-competitive domain begins and where it ends.

These critical changes have led or will lead to changes in the way the sector is structured and (self)organized. The basis for any intervention in the sector (public and private) will then have to look into the incentives-system that prompts actors to take meaningful actions. Incentives should be understood as steering mechanisms that are put in place consciously. Meaningful in this respect should be seen as a combination of 'creating value in the chain' (and avoid value depletion) and 'fostering a viable sharing of costs and benefits' (what cost and benefit sharing mechanisms are in place?). Meaningful also means that unintended negative impacts (i.e. trade-offs) are avoided.

It makes sense to look for solutions both in the competitive domain, and solutions that result from pre-competitive cooperation. How to balance competition and cooperation for sustainable cocoa production is a non-trivial question, under the assumption that the central rule of the game, still, will remain whether chain actors can make a profit in the chain and/or reduce their risks.

From needs-based to incentives-based

This study will provide an overview of the incentives system in the cocoa chain in Ghana and The Netherlands in view of mainstreaming sustainable cocoa production. The study will assess the incentive system against the fundamental starting points of "value creation in the chain" and "viable sharing of costs and benefits".

The study will provide insight in how to balance competition and pre-competitive cooperation for sustainable cocoa production. Furthermore, it will identify meaningful policy interventions ('innovations') for the sector that emerge from the rethinking of the cocoa sector in Ghana from an incentives-based perspective.

Methodology

This study is based on work sessions and interviews with key stakeholders in the cocoa sector, both in Ghana and in the Netherlands (for details see acknowledgements). Furthermore it builds on previous studies and discussions held in the Dutch Chocolate Working Group which was set up by the signatories of the Letter of Intent Sustainable cocoa consumption and cocoa production (see Annex 1 for a full list of names and affiliation).

The scope of the study is limited. It primarily reflects developments within the cocoa sector, and does not build upon similar experiences in other sectors, like coffee and palm oil.

2 Introduction to the cocoa sector in Ghana

In Ghana, the cocoa sector forms the economic backbone of the country. Cocoa contributes significantly to GDP, is a major earner of foreign exchange and provides employment for hundreds of thousands of people throughout the chain.

Understanding opportunities for sustainable cocoa production in Ghana requires first of all an understanding of how the cocoa chain is organized, and an analysis of some recent changes in the supply chain. Secondly, it requires an understanding of the incentives that are prioritized by Cocobod, and some of the still outstanding challenges.

The cocoa sector in Ghana is, like elsewhere, shaped as an hourglass: millions of farmers, 27 licensed buying companies (LBCs), one exporter (Cocoa Marketing Company), few processors (ADM, Cargill, Barry Callebaut) and manufacturers (Nestlé). The post-harvest production chain is placed for the largest part outside Ghana, with most cocoa exported as raw beans for processing elsewhere. The hourglass is completed with retailers, millions of consumers in consuming countries. Whereas West-Africa produces roughly 70% of world's cocoa, it consumes only 3% of its final product (ICCO data).²

Some unique features of the Ghanaian supply chain:

- Ghana is World's 2nd largest producer of cocoa: more than 1.000.000 MT in 2011, produced by approx. 1 million cocoa producers, predominantly smallholders, being male and female farmers, owners, sharecroppers, who also employ farm labour. Cocoa generates employment and income for around one third of all Ghanaians.³
- Over the last decade Ghana doubled its output; in 2003 cocoa output was 500.000 tonnes, in 2011 Ghana officially recorded slightly over 1 million tonnes. However, productivity levels are still low. Between 50 and 65% of cocoa farmers produces 400kg/ha (*low technology*). Between 20 and 40% produces 650 kg/ha (*medium technology*). The remaining part produces on average 1400 kg/ha (*high technology*) (CRIG 2010; personal communication Francis Baah - CRIG).
- Ghana is known for the reliable supply of large quantities of high quality cocoa, for which CMC is rewarded with a premium price on the world market. To maintain product quality, Cocobod's Quality Control Company (QCC) does three inspections: 1. Up-country store; 2. Take-over point; 3. At the point of export (see figure 1).

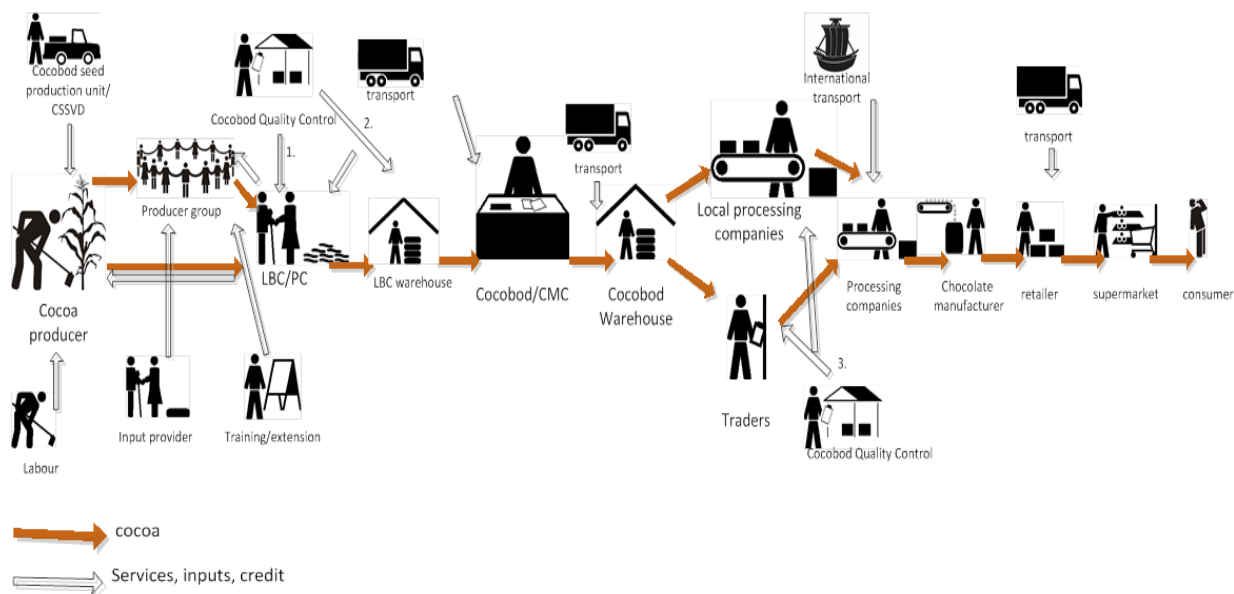
² Who consumes the most chocolate? By David McKenzie, 17th January 2012. Available at <http://thecnnfreedomproject.blogs.cnn.com/2012/01/17/who-consumes-the-most-chocolate/>

³ According to estimates of Masterfoods 2007 (in Laven 2010).

- The cocoa sector in Ghana is partially liberalized. Cocobod has still a monopoly on cocoa marketing and export through its subsidiary, the Cocoa Marketing Company (CMC).
- Upstream evacuation of cocoa (from farmers to Cocobod warehouses) is privatized, but still coordinated by Cocobod. Cocobod is the major shareholder of Ghana's largest LBC, the Produce Buying Company (PBC). The majority of the LBCs are Ghanaian companies, of which one is owned by a farmer organization (Kuapa Kokoo Ltd). Two large LBCs, Armajaro and Olam, have parent companies in the UK and Singapore respectively. Cocoa Merchants, Transroyal and Fedco – are owned by the same shareholder, transport company Global Haulage. Currently there are 27 LBCs active in Ghana.
- Cocobod pays farmers >70% of net Free on Board (FoB) price (in 2012, the rate is fixed at 76% of net FoB price, or GHc 205 per bag). This producer-price is annually fixed, so that farmers know in advance of the harvest season what they will get, irrespective of the yield or world market price fluctuations. LBCs are expected to respect the producer price scrupulously. See annex 2 for the composition of the Net FoB 2011/12.
- Over the last few decades extension services has shifted from services provided by the Cocoa Services Division (CSD) (exclusive for cocoa farmers) to unified extension services provided by the Ministry of Food and Agriculture (MoFA). The CSD was considered to be too costly, unified extension was however a poor solution, with many farmers being underserved. Currently steps have been made to put in place a system of joint extension (Cocoa Extension Public-Private Partnership Ghana), where public and private partners work together exclusively for the provision of extension services to cocoa farmers.
- The average age of cocoa farmers is > 50 years. Not only farmers are ageing, but also their trees.
- The overall majority of cocoa farmers is not formally organized. Farm-owners are (automatically) registered at the Ghanaian Cocoa Coffee Sheanut Farmers Association (GCCSFA), but this association is not known to be representing farmers' interest. Besides GCCSFA there are two important farmer groups that do function as a farmer organization: the Kuapa Kokoo Farmer Union (KKFU), with around 50,000 members, and Cocoa Abrabopa (CAA), with over 18,000 members. There are a number of smaller organic cocoa groups, under the supervision of AgroEco-Louis Bolk Institute. Informally farmers also work together in labour exchange groups (nnoboa), and some have been part of farmer field schools.
- Most cocoa farmers are not bankable. Increasingly business partners provide credit (in-kind) to farmer groups.

The next figure illustrates a simplification of the process from cocoa production in Ghana to cocoa consumption. The cocoa flows from producers to consumers. In order to stimulate cocoa production (volume, productivity) and quality, a number of services and inputs are in place.

Figure 1 The cocoa chain in Ghana



Cocobod controls many parts of the supply chain; they set the prices, control the quality, test and distribute inputs, do research and provide extension, are involved in buying and processing part of the cocoa, and they are the sole exporter of cocoa.

In striving towards sustainable cocoa production the emphasis is being put by Cocobod on production targets and producer prices, as main efforts to incentivize cocoa producers.

Production target

The targets of the government in terms of production, as formulated in the Cocoa Strategy (published in 1999), were set at 500,000 tonnes for 2004/2005 and 700,000 tonnes for 2009/2010 (Ministry of Finance, 1999). Although Ghana has doubled its output over the last decade, productivity levels remained low. Growth is explained by factors like the product-life cycle, expansion of cocoa land and smuggling from Ivory Coast.

Like the industry and governments in processing and consuming countries, Cocobod is concerned about the lowering of output levels due to the combination of aged and diseased cocoa trees, in combination with ageing farmers. Therefore Cocobod sets aside over 100 million\$ from the gross FoB price for stimulating higher productivity levels among farmers (e.g. through the Hi-Tech programme, investments in Disease and Pest Control and Cocoa Swollen Shoot Virus Disease - CSSVD) (annex 3 gives a detailed overview of the costs involved in internal marketing operations).

Cocobod's concern about productivity levels and rehabilitation of cocoa farms is also reflected in the recently launched National Cocoa Rehabilitation Programme⁴. Components of this programme are:

- Providing 20 million cocoa seedlings to farmers for free (using hybrid cocoa tree varieties that are more disease- and drought-resistant in order to increase yields)
- The Good Agronomic Practices initiative, which aims to support higher yields and sustainability in the cocoa sector.

Cocobod's orientation is very much based on a continuous growth for Ghanaian cocoa the coming years, but with the pre-caution for Ghanaian over-supply.

Pricing Policy

Cocobod sees an increase in the producer price as incentive for increasing cocoa production. There is evidence that farmers respond to price by changing the intensity with which they tend their farm (for example when prices fall they stop with maintenance and with new planting activities). Conversely, if prices cover or exceed variable costs farmers will intensify farm management (for example by investing in harvesting, weeding and the use of inputs) (Anim-Kwapong and Frimpong 2004 in Laven 2010).

Cocobod sets the producer price. The annual producer price increased from 56% of the FoB in 1998/99, up to 70% in 2004/05 (Ministry of Finance 1999) and 76% in 2011/12. Cocoa production has followed this growth path (usually delayed). Besides that Cocobod managed to increase its producer price, the Ghanaian pricing system provides farmers with a stable income, allowing farmers business planning. The downside of the pricing system is that it does not provide farmers with incentives to produce superior quality of cocoa beans. It also does not allow negotiation for better prices.

In Ghana there is no price differentiation for cocoa of different quality. Moreover, LBCs are not allowed to buy cocoa below the producer price, and are not encouraged to pay farmers more than the fixed price. LBCs receive a fixed buyer margin for their services. What we do see is the introduction of (voluntary) premiums for specialty cocoa and certified cocoa. This gives both farmer groups and LBCs the opportunity to diversify their marketing channels. This premium, which is put on top of the producer-price, is shared between cocoa farmers, certificate holders, and possible other business partners. It is common that farmers receive at least 50% of the premium. Not always is this premium paid in cash to the farmers, but (part) can also be put in a social fund (e.g. KKFU).

⁴ Official press release 27th of April 2012. <http://www.ghana.gov.gh/index.php/information/press-releases/12441-launch-of-national-cocoa-rehabilitation-programme-rescheduled-for-friday-27th-april-2012>

Outstanding challenges

Demography of the sector

In providing incentives, what is often ignored, is defining a clear target group. This is remarkable as there is a serious concern on who will be the cocoa farmer of the future. Will it be migrants from Northern Ghana, will it be young farmers, educated farmers, or maybe a mix? Should we target mainly low class farmers to become middle class, middle class to become high class or are we primarily concerned about high class farmers remaining in business?

It is expected that in the future a smaller group of more productive and innovative cocoa farmers will dominate the sector. How to incentivize this group to continue to invest in cocoa production, and at the same time, incentivize others (like farmers that do cocoa only on the side and do not intend to make on-farm investments) to move into other income generating activities?

Currently, Cocobod puts in place incentives that provide benefits for the mass of cocoa farmers. There are no public steering mechanisms in place for outreach to a particular group. In practice this creates two possible risks: 1. The principle of equal opportunity in practice means that some groups are unintentionally excluded. For example women, sharecroppers, youth have more difficulty accessing certain opportunities that require landownership. This, while these same farmers might fit the profile of the 'professional cocoa farmer'. 2. Targeting the mass can work counterproductive if a large part of the subsidies are allocated to farmers that have no intention to turn their farm into a business.

Farmer organizations

Sustainable cocoa production cannot do without farmer organizations: providing services to individual farmers is too costly. Moreover, being organized is a prerequisite for certification. This puts forward quite a challenge as the majority of cocoa farmers is not organized.

Besides the two formal farmer groups in place (CAA and KKFU), and some of the already existing smaller farmer groups, there are recent attempts to set up farmer groups around lead firms or purchasing clerks, for example by LBCs like Yayra Glover and Armajaro. The Cocoa Service Centre of Mars uses such a construction (used in Indonesia and currently piloted in Ivory Coast), organizing cocoa farmers around a cocoa Village Cocoa Clinic which is led by a lead farmer. This cocoa clinic provides inputs, credit and training to farmers.

This is a powerful idea but first experiences with lead farmers show that there are quite a number of issues that need to be resolved before this model is really effective. This can be because of a misperception of who actually the lead farmers are, and whether or not they have the legitimacy to act on the behalf of other farmers or whether they have sufficient knowledge and expertise to

train other farmers. It can also be challenging to keep lead farmers motivated and committed, as being a lead farmer is time-consuming.⁵

Another challenge is that these types of farmer organizations might work for the business deal in place, but does not automatically support farmer organizations in a more structural way, encouraging their entrepreneurial behavior.

⁵ Personal communication with Jennie van der Mheen (WUR/LEI).

3 Mainstreaming sustainable cocoa production

In defining sustainable cocoa production we refer to the Second Roundtable for a Sustainable Cocoa Economy (RSCE), where 10 draft Principles for a Sustainable Cocoa Economy⁶ were defined:

1. Transparency
2. Compliance with applicable laws and regulations
3. Remuneration for quality cocoa and improved farmers income
4. Access to credit and rural development services
5. Access to markets and market information
6. Decent working conditions
7. Support of farmers and workers organization
8. Clear land use planning, secure access to land and proper infrastructure
9. Natural resource management
10. Conservation and wise-use of biodiversity

These key elements were adopted in the Dutch Letter of Intent (Annex 1) for sustainable cocoa consumption and production, and will also be used in this study to frame the ambitions for mainstreaming sustainable cocoa production in Ghana. In principle certified cocoa is accepted as standard for guaranteed sustainable cocoa.

Certification

A few years ago certification of cocoa in Ghana was limited to fair trade (KKFU) and small quantities of organic cocoa. Currently, 4 certification schemes are operating in Ghana: Fairtrade, Rainforest Alliance, Organic and UTZ Certified. UTZ Certified, as one of the faster growing certification scheme, is mainly driven by private sector parties. Recently also differentiation of cocoa beans is introduced (fine flavour, fully traceable, tray-fermented). Because CMC allows segregation of the physical certified cocoa from the conventional cocoa (but keeps control over financial flow), direct links between private buyers and farmer groups are being created. This opportunity for more structural and direct relationship between buyers and farmer groups is important, and has become the license to produce for markets like the Dutch.

⁶ http://www.roundtablecocoa.org/documents/RSCE2-7_EN%20Draft%20Principles%20for%20a%20Sustainable%20Cocoa%20Economy.pdf

As long as there are no other standards that guarantee sustainable cocoa production, mainstreaming of sustainable cocoa production requires a substantial increase in certification over the next ten years, both in the number of cocoa producers certified and in the volumes of certified cocoa farmers produce.

The adoption rates of UTZ Certified cocoa are the fastest growing, compared to the other schemes. Increasingly certified cocoa farmer groups use different labels for their cocoa (e.g. combining UTZ CERTIFIED with Rainforest Alliance, or organic with a fair trade label, or combining different organic labels). The share of UTZ Certified cocoa in Ghana grows rapidly (forecast 141.138 tonnes in 2013) (Source: UTZ Certified 2011), but it is a challenge to speed up certification, without undermining the quality of the scheme. Demand is expected to keep increasing in the period 2011-2013.

Over the last decade the ambitions for mainstreaming sustainable cocoa production have been translated into concrete interventions and programmes, mainly initiated by cocoa traders, processors and manufacturers in collaboration with other private and public partners. What these actions have in common is that they put emphasis on **primary production**: making cocoa farming a profitable business: more cocoa, on less land, by fewer farmers. The main drive for taking action is that these private actors want to secure access to cocoa supply and want to maintain their license to operate (IDH 2012).

Innovations aim at bringing good planting materials and fertilizer closer to professional farmers. Different business models are currently being tested, like the Cocoa Service Centres initiated by Mars in Indonesia and the Ivory Coast, or the Cocoa Abrabopa (CAA) model (organizing inputs, extension services, credit and certification under one scheme) in Ghana. Similar models are being upscaled or (elements are) duplicated by other traders and manufacturers who tend to move upstream in the supply chain. Important questions to ask are how farmers can move away from farming as a kind of life-style to farming as a business, as well as who will be the future cocoa farmer, and what will happen with the farmers and the land that will be incapable of absorbing the sector innovations.

Besides primary production, mainstreaming sustainable cocoa is also about having in place an **efficient cocoa chain** and an **efficient market**.

Efficiency in the cocoa chain involves an efficient organization of the supply chain, strong linkages between different chain actors, as well as increasing and speeding up the flows of cocoa, money and services in the chain. Efficiency adds value to the different chain activities and reduces losses along the chain. Efficiency is also about combining economic, with social and ecological sustainability. Lastly, it is also about giving farmers a voice and increase their options, so that they can behave as entrepreneurs.

An efficient market is a market environment that creates opportunities for private sector development, for innovation. It also about an environment that stimulates entrepreneurship among farmers, service providers and buying companies. In aiming at mainstreaming sustainable cocoa, an efficient market also refers to poverty reduction strategies, food security and

safeguarding the environment. Moreover, it involves a vision on how rural transformation takes place and the role that cocoa plays in this process of change. The scope for using innovation is important⁷.

Increasing efficiency in the chain comes with a cost. Since cocoa is a smallholder sector, the costs of reaching out to and fully engaging with the supply base is in general too costly for most supply chain partners. Furthermore, the fact that all cocoa is bought by CMC at a fixed price, makes it difficult for buying companies and traders to establish a loyal supply base that would justify (and repay) significant investments. Nevertheless, the sector as a whole would agree that investments in productivity and quality (of both product and production processes) would benefit all. Hence, the sector is facing a classical problem of collective action in a competitive market. And such a problem will require a balancing act between competition and pre-competitive cooperation. For that reason, analyzing the sector through the incentives (and disincentives) for its sustainability becomes relevant. Currently incentives in place, or being put in place, are prioritizing primary production. In the next chapters these incentives are listed and assessed.

⁷ Personal communication with Marcel Vernooij (EL&I).

4 Assessment of incentives for mainstreaming sustainable cocoa production

In Ghana there are different incentives that contribute to sustainable cocoa production: e.g. price and financial incentives (incl. subsidies), profit incentives, quality incentives, institutional and organizational incentives, productivity incentives, market incentives, capital incentives, political incentives and environmental incentives.

In assessing the incentives it makes sense to make a distinction between:

1. Incentives that are already in place and changed behavior of large group of farmers
2. Incentives that are in place but so far have had little impact.
3. Incentives that are in place, but have (potential) economic, social or environmental trade-offs
4. Perverse incentives

It makes also sense to recognize the different categories of farmers in place. As incentives can be more or less useful for a certain group of farmers. In Ghana a distinction is made between three classes of cocoa farmers (adapted from CRIG 2010)⁸:

Low production class or level (L) *Between 50 and 65% of cocoa farmers produces 400kg/ha*
Characteristics: Farmers plant at stake with unspecified sources of seeds, at irregular spacing and high density; Little or no pruning of trees; Inadequate weeding; No removal of mistletoes; No disease and pest control; Irregular harvesting; and Shade management is seldom practices.

Medium production class or level (M). *Between 20 and 40% produces 650 kg/ha*
Characteristics: Farmers plant in line at regular spacing with improved seeds from designated seed gardens; They follow recommended practices: weed management, regular pruning and mistletoe removal; Shade management, pest and disease control, but not at optimal levels recommended; and Frequent harvesting.

High production class or level (H). *The remaining part produces on average 1400 kg/ha*
Characteristics: Farmers apply full package of recommended practices by CRIG: use of improved seeds from designated seed gardens, regular spacing at 3m to 3m, regular weed control, shade management, pest control (4 x a year) and disease control (5-6 times a year); Frequent pruning; Fertilizer application once a year; and Frequent harvesting.

Lastly, it is helpful to make a distinction who provides the incentives:

⁸ Adopted from CRIG 2010 Cocoa Manual and personal communication Francis Baah CRIG, 2012.

- a) **Public sector (public):** Ghanaian government, Cocobod and its subsidiaries
- b) **Private sector (private):** Cocoa industry, input providers, banks, LBCs, farmers
- c) **Public-private partnership (PPP):** partnerships between public and private actors (in- and outside Ghana), including civil society

Table 1 Organizing incentives

Incentives	Status	Who gives the incentive?
L,M,H = all farmers	1 = large impact	Public
L → M = incentive supports low class farmers to become medium class	2 = little impact 3 = with trade-offs	Private PPP
M → H = incentive supports medium class farmers to become high class	4= perverse incentive	

We will assess the incentives system against “value creation in the chain” (focus is on adding value to cocoa) and “viable sharing of costs and benefits”:

1. **Value creation in the chain:** Do the incentives add value to the cocoa (i.e. upgrading)? Does added value outweigh additional costs? Are the investments that are associated with putting the incentives in place smaller than the benefits associated with the impact of the incentives?
2. **Viable sharing of costs and benefits:** Who are expected to bear the costs of upgrading and who reaps the benefits? Is this sustainable?

The full list of incentives is given in the next table.

Table 2 Assessment of price and financial incentives

Price and financial incentives	Description	Status	Who?	Value creation	Viabile sharing costs & benefits
Increase in producer-price <i>L+M+H</i>	Selling cocoa at higher prices, increases the income of cocoa farmers. Cocobod has increased farmers' share of the FoB.	1	Public	Yes. Farmers get higher % of FoB price. While in 1998/99 the producer price was only 56%, in 2005 it was 70%. For 2011/12 it is set at 76%.	Yes In Ghana the price for cocoa is annually fixed; cocoa farmers cannot negotiate for higher prices, but on the other hand are certain to get the threshold price irrespective of world market price fluctuations.
Subsidies on fertilizer <i>Beneficiaries: Moving from M→H</i>	Subsidies on fertilizer potentially give a financial incentive for applying fertilizer, which contributes to higher productivity levels, improved soil conditions and higher incomes. In Ghana the use of fertilizer has increased over the last decade. Nevertheless there is not enough fertilizer being made available locally. Demand for fertilizer outreaches supply.	3 – Economic and environmental trade-off. What has turned out to be powerful is involvement of private input providers in supply chain management. These companies have a natural drive to sell fertilizer to farmers, at the lowest costs. Subsidies disturb these markets. Moreover, subsidization may lead to overuse	Public	In principle subsidies reduce production costs for farmers that apply input. But, for majority of farmers, investments are still considered to be high. Farmers are risk-averse: whether or not investments will pay-off depends on number of variables, like local availability, rainfall.	Not transparent. The decisions on fertilizer distribution and prices are highly political. Not all farmers benefit equally from subsidized prices; no equal opportunity for accessing inputs (Who determines who will get fertilizer?). The downside of subsidies is that for cocoa farmers in the end nothing is really for free: the costs involved are paid from the gross FoB price. Alternatively, without subsidies and free distribution of inputs, farmers could receive even a higher % of the FoB and make their own decisions with regard to

		and environmental pollution. It may also hamper the introduction and further use by farmers of effective management tools, that may intrinsically (so without fertilizer subsidies) be more cost effective for in particular smallholder farmers.			making on-farm investments.
Free seedlings <i>Beneficiaries: Moving from M→H</i>	Cocobod hands out free seedlings to farmers.	3 – economic trade-off The centrally organized system is not efficient and the capacity of the seed gardens is too low. The seedlings are not locally available. Because access to certified seedlings can be difficult still many farmers reproduce seedlings themselves, which affects the quality of the planting material.	Public	The use of better planting material creates value on longer term (> 5 year). The seedlings replace sick/old trees. Farmers are compensated for the loss. Nevertheless they resist cutting down trees.	Not transparent Costs involved are paid from FoB price. Not all farmers have access to free seedlings. Primary beneficiaries are farmers that are being compensated for removing old and/or affected trees. So far, low class farmers and/or more remote farmers generally have more difficulty accessing free planting materials.

<p>Price-differentiation for certified/specialty cocoa</p> <p><i>Beneficiaries: L → M; M → H</i></p>	<p>Certified and specialty cocoa fetch a premium, on top of the producer price. For UTZ Certified cocoa this premium is negotiable, for organic cocoa, fair trade and Rainforest Alliance this premium price is annually fixed. Organic cocoa farmers receive the highest premium.</p>	<p>2 - Total number of certified farmers is small.</p> <p>Entering the certification process is principally possible for all organized farmers. Certification is for farmers that use medium to high technology on their farm.</p>	<p>Private, PPP</p>	<p>Yes. Certified/specialty groups fetch higher price But, producing this type of cocoa involves on-farm investments and requires farmers to be organized.</p>	<p>Currently viable for farmers. On longer-term viability is at risk, because the costs involved are high. Costs are initially for third parties, benefits partly for farmers (50%), partly for certificate holder and other, business partners. On longer-term farmers have to pay the involved costs. Premium is not assured.</p>
<p>Payment for Ecosystem services</p> <p><i>Beneficiaries: L</i></p>	<p>Payment for ecosystem services (carbon, biodiversity/buffer zones, watersheds) is promising for farmers in vulnerable areas.</p>	<p>2 – New incentive</p>	<p>PPP</p>	<p>Yes. Not clear yet who will be main beneficiaries.</p>	<p>Not clear yet.</p>

LBCs and their PCs are not allowed to pay less than the producer price, and do not compete on price (although some pay slightly more for conventional cocoa). LBS receive a buyers' margin (almost 8% of net FoB), and PCs are paid on commission basis. The higher the volume PCs buy from farmers, the more they earn. This is a financial incentive for PCs to build a good business relation with the farmers.

Local processing companies receive 20% discount on light crop beans; without this discount local processing is economically not viable. This incentive has been important for local processors to start up their business in Ghana (albeit there are additional, more strategic, reasons for having a cocoa plant in Ghana). While Cocobod is still thinking about increasing local processing capacity, the amount of light crop beans is unstable and unlikely to grow at the same pace as its demand.

For Cocobod certification of cocoa can bring in extra money: certificate holders pay Cocobod for keeping certified cocoa segregated in their warehouse.

Income incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
<p>Input packages</p> <p><i>Beneficiaries: M → H</i></p>	<p>Income maximization is often put forward as an incentive for farmers to invest in recommended inputs.</p> <p>Inputs are offered to farmer groups in combination with training, extension and credit.</p>	<p>2 – but increasing</p>	<p>Private, PPP</p>	<p>Yes. Farmers receive combination of services, work together and start making on-farm investments. This improves performance of farmers.</p> <p>Income incentives tend to ignore the risk averseness of many farmers. Of course most, if not all, farmers are interested in earning a higher income, but they are not necessarily willing or able to make the required investments. There are different reasons. For example, farmers tend to be risk averse, they have a strong preference for avoided costs over increased revenues at a later date (KPMG 2011). Or farmers simply cannot bear the costs. Farmers unwillingness to invest can also be linked to the unlikeliness of reaping the future benefits of the investment (e.g. sharecroppers might not be sure if they will receive part of the premium for certified cocoa, or whether the land-owner will claim this reward).</p>	<p>Yes. Farmers make on-farm investments, and reap benefits (yield increase).</p> <p>Private and public sector invest in these packages. In return private partners can sell more inputs to farmers, and/or by more cocoa from farmers.</p> <p>Income incentives demand farmers having at least some basic business skills, able to calculate costs and benefits of investments in cocoa production, including opportunity costs.</p>
<p>Cheap fake/ illegal inputs available</p>	<p>Fake and illegal inputs are smuggled into Ghana.</p>	<p>4</p>	<p>Private</p>	<p>These inputs can be cheaper for farmers and more easy accessible, BUT can be harmful and are more likely to be applied wrongly (as selling these inputs does not go hand-in-hand with advice on proper application).</p>	<p>No</p>

Income incentives higher up in the chain

Cocobod's control on the supply side gives little room for LBCs to make high profits. LBCs are paid a fixed margin for internal marketing. They can increase their profits mainly by buying more cocoa, and reduce their operational costs (such as transport).

Quality incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
Premium for specialty cocoa <i>Beneficiaries: L+M+H</i>	With the recent introduction of tray-fermentation and fully traceable cocoa (e.g. Armajaro) and special flavor cocoa (e.g. Armajaro and currently one AgroEco group) voluntary premiums are given to this cocoa.	2 – very small-scale	Private, PPP	Yes, but requires on-farm investments. Premium is not guaranteed on longer-term.	<i>See price and financial incentives: price differentiation</i>
Premium for certified cocoa	Premium for certified cocoa gives incentive for process quality of cocoa. <i>See price and financial incentives: price differentiation</i>	2 – small-scale	Private, PPP	<i>See price and financial incentives: price differentiation</i>	<i>See price and financial incentives: price differentiation</i>
No price differentiation for different quality cocoa	In Ghana, for conventional cocoa there are no product quality incentives for farmers: there is no price differentiation for grade 1 and 2 cocoa. But, because the quality control system in Ghana is	4 - This lack of price differentiation means a loss for the sector, as grade 1 is automatically downgraded to grade 2.	Public	No value is added, but farmers are protected from price fluctuations. The possibility to introduce some kind of price-differentiations has been explored (e.g. introducing Ghana Super Beans – grade 93A), but has not yet	The quality control system in place is expensive. Farmers bear part of the costs. Farmers cannot make their own calculations, and based on that take economic decisions.

strict, farmers cannot sell cocoa of lower quality than grade 2.

Because LBCs cannot compete on price but on volume they buy as much cocoa as possible, with the risk that this goes at cost of the on quality.

materialized.

Quality incentives for actors higher up in the chain

Selling premium quality cocoa, in combination with being a reliable supplier, fetches a higher price on the world market. For Cocobod, this is a reason to have a labor-intensive, strict and expensive quality control system in place. The recent growth in cocoa production puts quite a burden on QCD.

For process quality (eg certified cocoa), Cocobod, certificate holders and involved LBCs receive an incentive as they can get a share of the premium, and as the demand for certified cocoa is increasing.

For PCs, getting commission based on volumes, gives a perverse incentives to be very strict on quality control while buying their cocoa. It is not uncommon that PCs and LBCs dry the cocoa some additional days after buying the produce; normally cocoa farmers would dry their cocoa sufficient days before selling the product.

Institutional/ organizational incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
<p>Large formal groups</p> <p><i>Beneficiaries:</i></p> <p><i>L → M</i></p> <p><i>M → H</i></p>	<p>Increasingly cocoa farmers are being stimulated to organize themselves in groups. Being organized is a prerequisite for certification and for accessing technical and business training, extension and inputs on credits.</p> <p>The farmer groups that have been formed over time have a different status. Some are large associations, others are small groups organized around a particular need.</p>	<p>2 – In Ghana there are two large formal farmer groups (CAA and KKFU)</p> <p>There is little incentive in place for farmers to organize in more traditional organizations, like cooperatives. Cooperatives not only have a bad reputation, but also because the benefits of being organized are not immediately clear (e.g. there is not a lot of room for collective negotiation as prices are fixed).</p>	<p>Private, PPP</p>	<p>Yes. Farmer as a group access to niche/certified markets (price premium), inputs on credit, training.</p> <p>Farmers pay members-ship fees.</p>	<p>Formal groups (KKFU and CAA) are supported by third parties.</p> <p>Members benefit in different ways. KKFU members benefit for example from fair trade prices and dividend (being shareholder of Divine chocolate company), while CAA members benefit from higher levels of productivity, in which they themselves have invested (business model).</p>
<p>(Informal) smaller farmer groups</p> <p><i>Beneficiaries:</i></p> <p><i>L → M , M → H</i></p>	<p>Increasingly smaller, more informal, groups are formed (e.g. to exchange labour, to access certification or credit).</p>	<p>2 – the majority of farmers is not organized</p>	<p>Private, PPP</p>	<p>Yes, new groups are mainly being organized for certification purposes.</p> <p>Working together in a group can also reduce production costs.</p>	<p>Premium is on longer-term not guaranteed. Costs of certification ultimately have to be internalized.</p> <p>Farmers depend on certificate holders for accessing inputs and credit. Farmer groups do not build own capital.</p>

Institutional and organizational incentives for actors higher up in the value chain

Private companies work together occasionally to make a fist against Cocobod policies in case these are considered to be harmful and/or unjustified. Certification gives an incentive for certificate holders to develop input packages in partnership with different private and public actors.

Productivity incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
Increase in producer price	The increase in producer price is also meant as stimulus for farmers to make on-farm investments.	1	Public	Yes	<i>See price and financial incentives</i>
Good Agronomic Practice/Good Agricultural Practices (GAP) <i>Beneficiaries: mainly L→M</i>	<p>The National Cocoa Rehabilitation Programme introduced a Good Agronomic Practices initiative aiming to support higher yields and sustainability in the cocoa sector.</p> <p>Global markets increasingly demand the use of Good Agricultural Practices and sustainable practices for delivering agricultural products to global markets. In return premiums are being paid for certified cocoa.</p>	1	Public, private, PPP	Yes, investments in GAP are benefiting all farmers, especially low class.	<p>The costs involved in efforts to increase GAP (like training) are increasingly covered by private sector players and Cocobod.</p> <p>Ultimately farmers themselves have to be motivated to make the investments. However, for some, like female farmers (e.g. who not necessarily have control over cocoa income) or sharecroppers (e.g. who get only a share of yield) incentives to invest in GAP can be constrained.</p>
Extension services L+M+H	Extension services are provided to assist farmers in sustainable cocoa practices	1 – The aim is to reach all farmers, but so far primarily	PPP	Yes, extension supports farmers in GAP, applying inputs and manage their farm. But, only if the right people receive extension (e.g. NOT the absent	<p>No</p> <p>Although extension has impact costs of are very high. Currently private sector</p>

		those farmers are reached that are linked to private (e.g. Armajaro) and PPP extension partners (e.g. CLP)		farm owner) and new skills are applied, value is being created (all).	parties and PPP pay for extension services. Capacity is still too low to reach majority of farmers. It is not common (yet) that farmers pay for these kinds of services.
Training <i>Beneficiaries: all</i>	Besides extension services, farmers are trained in farmer business schools. Before farmers were also trained in farmer field schools.	2	Public, private, PPP	Yes, farmer business schools support farmers in making economic decisions.	No. Farmer field schools were perceived to be too expensive. Farmer business schools are relatively cheap (shorter and focused on business aspect of farming). Costs of farmer business schools are paid by third parties.
Germplasm/ rehabilitation	Free seedlings are handed out to increase on-farm productivity and reduce no of diseased and old trees.	3	Public	<i>See price and financial incentives: Free seedlings</i>	<i>See price and financial incentives: Free seedlings</i>
(Pest and disease control) Mass spraying <i>Beneficiaries:</i>	Cocobod provides free spraying of farms	1	Public	Yes, it combats pests and diseases that normally affect productivity	Not optimal Costs of mass spraying are covered by gross FoB. Although the mass of farmers is being reached, not all farmers benefit equally and there are a lot of

<i>L+M+H</i>					inefficiencies. Environmental/health costs are not internalized.
Centrally organized input distribution system	Both pricing and distribution system for fertilizer and seedlings are centrally organized	4	Public	<i>See price and financial incentives: Free seedlings</i>	<i>See price and financial incentives: Free seedlings</i>

Productivity incentives for actors higher up in the chain

Input providers, LBCs, certification holders, Cocobod; they all have an incentive to invest in productivity. Besides that it is seen as the way to guarantee the future supply of cocoa, it brings in direct money.

For LBCs the incentive to invest in productivity is threefold: 1. It is a way of establishing stronger linkages with their suppliers; 2. It is likely that at least part of the increase in yield can be purchased by the LBC (this is also an incentive for the purchasing clerk who normally works on a commission basis); 3. It is a requirement for accessing markets for certified cocoa.

Market incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
Market differentiation (certification) <i>Beneficiaries:</i>	With certification, farmer groups, LBC and other certificate holders are able to 'directly' access global markets for their certified produce (which is small-scale). This is possible because CMC has	2	Private and PPP	Yes. Certificate holders tend to speed up the process of certification. This is risky for all involved: farmers, certificate holders, business	Unclear Market differentiation involves a cost, now covered by third parties. Furthermore, it depends on CMC, allowing to continue to segregate (increasing quantities) physical flow of

<i>M→H</i>	<p>segregated the physical flow of certified cocoa from the financial flow, which CMC still controls. To make certification work certificate holders combine capacity building efforts with giving farmers access to these new marketing channels.</p>	<p>partners, third (public) parties.</p> <p>Most cocoa farmers lack an overview of possible markets (e.g. UTZ Certified, fair trade) they can supply their cocoa to. Farmers sell cocoa to PCs in their communities, giving preference to the ones they know, trust and who pay promptly (Laven 2010). In case farmers joined a farmer group they cannot choose their buyers, but sell to the LBC that is connected to the group.</p>	<p>certified cocoa from financial flow.</p> <p>Premium that goes with new market is shared (farmers 50%).</p>
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Market incentives for actors higher up in the value chain

The increasing demand for certified cocoa, the premium, in combination with financial support of third parties for certification, gives private sector companies in Ghana an incentive to access these certified markets.

Capital incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
Planting trees <i>Beneficiaries: L</i>	Cocoa is not only a cash crop, but also the trees and land have value. For farmers a cocoa farm is a kind of social security, and	1	Public	Planting new trees benefits farmers >5 years, when tree bears fruit.	Planting trees gives landless right to economic use of land. Benefits of planting trees will be > 5 years (start bearing fruit). No security for long-term economic use

	planting trees is a way of claiming land rights. So, in this respect on-farm investments support the long-term and inheritable use-right to land (Takane 2002 in Laven 2010).				right of land
Health/ pension scheme <i>Beneficiaries:</i> <i>M+H</i>	In Ghana, where there is no competition based on prices and product quality, social incentives are used as a way to compete with other buyers, service providers or certificate holders. For example, CAA provides access to health and pension schemes to farmers, and uses this to stimulate farmer groups to pay back their loans.	2	Private	Yes, value is created 'social upgrading'. Access to such schemes improves quality of life.	Yes. Farmers contribute to schemes, and are ones that benefit. But, farmers have no equal opportunity to schemes (e.g. you need to be formally registered as a farmer and have a passbook).

Political incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
Positioning Ghana as sustainable	Ghana is in a good position to profile itself as world leading in sustainable, high quality cocoa.	2 – Cocobod still positions itself mainly with high	Public	Yes, on long term	Yes

cocoa producing country			product quality, not process quality		
Public pricing and distribution system for inputs	Stakes in cocoa are high. This also is reflected in Cocobod's involvement in the sector and their efforts to incentivize producers.	3	Public	<p><i>See price and financial incentives - subsidized inputs</i></p> <p>Characteristic of political incentives is that they not aim at short-term profits, but far more are directed towards long-term control or firm positioning.</p>	<i>See price and financial incentives - subsidized inputs</i>

Incentives for actors higher up in the chain

For Cocobod setting prices and controlling the distribution of input distribution is a way of controlling supply chain management, and protecting vested interests

Environmental incentives	Description	Status	Who?	Value creation	Viable sharing costs & benefits
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<p>Shade management</p> <p><i>Beneficiaries: L+M+H</i></p>	<p>Shade management is traditionally part of GAP. It has become an explicit requirement for certification.</p>	1	PPP	<p>Proper shade management contribute to more resilient agricultural systems. In situations where no fertilizer is being used it helps to combat soil erosion. Furthermore, shade management contributes to ecologically sustainable cocoa. What is a problem is that shade management is associated with productivity losses.</p>	<p>Not clear</p> <p>Shade management is perceived as to go hand-in-hand with productivity losses. Recent studies show that this is not necessarily the case. Moreover, on longer term it benefits the farm.</p>
<p>Organic cocoa certificate</p> <p><i>Beneficiaries: L → M</i></p>	<p>Not all cocoa farmers are keen on using large amounts of chemical inputs on their farm. They favour organic cocoa production, are worried about their families' health, they want to contribute to maintaining biodiversity and/or to protecting the forest. It can also be, and that happens more often, that farmers do not want to invest in inputs.</p>	2	PPP	<p>Yes, organic cocoa fetches premium. Also productivity increases (from low to middle class). But small scale, because organic cocoa production is niche market.</p>	<p>Yes, premium for farmers is high. But premium is not guaranteed. For farmers there are opportunity costs.</p>
<p>Rainforest Alliance certificate</p>	<p>Rainforest Alliance (RA) certification gives an environmental incentive, combining environmental practices with increases in</p>	2	PPP	<p>Yes, RA fetches premium. But small-scale because few farmer groups are certified so far by RA.</p>	<p>Farmers pay costs for certification from the start. On the long-term this is more sustainable.</p>

	yields and premiums.				
Payment for ecosystem services <i>Beneficiaries:</i> L	Payment for ecosystem services (carbon, biodiversity/buffer zones, watersheds) is promising for farmers in vulnerable areas.	2	PPP	<i>See price and financial incentives</i>	<i>See price and financial incentives</i>

Incentives for actors higher up in the chain

All certification schemes have environmental and health standards (e.g. shade management, use of protective gear). For organic cocoa, and Rainforest Alliance (focusing on biodiversity) this is straightforward. For other schemes, like UTZ Certified and fair trade, dealing with environmental issues is a requirement, rather than an intrinsic value of the scheme.

The overview of incentives reflects primarily incentives for sustainable primary production. What we see is that some of these incentives are perverse in terms of chain efficiency. For example, the centrally organized pricing and distribution system (which aims to incentivize cocoa production) is not efficient. While other incentives in the areas of primary production support chain efficiency. For example, productivity incentives aim at the use of less land for cocoa production.

Incentives for an efficient cocoa chain

What contributes to more efficiency in the cocoa chain is increased competition among buyers and service providers, increased cooperation between chain actors and supporters (both horizontally and vertically), more efficient distribution systems of inputs, more efficient transport system, better financial service infrastructure, better waste management and efficient use of natural resources, the use of less land for cocoa production, and equal opportunity of farmers to access services and assets.

Incentives for efficient markets

Efficient markets require a balance between competition and cooperation. It also requires a balance between controlled and liberalized services (such as input distribution). Efficient markets demand an integrated strategy where cocoa production, food security, poverty reduction and safeguarding the environment are secured. A landscape approach (instead of a 'farm approach') can support the development of efficient markets, as well agri-hub development. Moreover, it involves a vision on how rural transformation takes place and the role that cocoa plays in this process of change.

In chapter 5 we will look more closely into the domains where Cocobod, industry, local buyers and farmer organizations compete or cooperate in Ghana.

5 Balancing competition and cooperation for sustainable cocoa production

Before we can identify meaningful interventions contributing to sustainable cocoa production we will take a closer look at where actors in the cocoa chain already cooperate (and can align their incentives) and where there is competition. Solutions can be found both in the pre-competitive and in the competitive domain, and will often come down to a combination of the two.

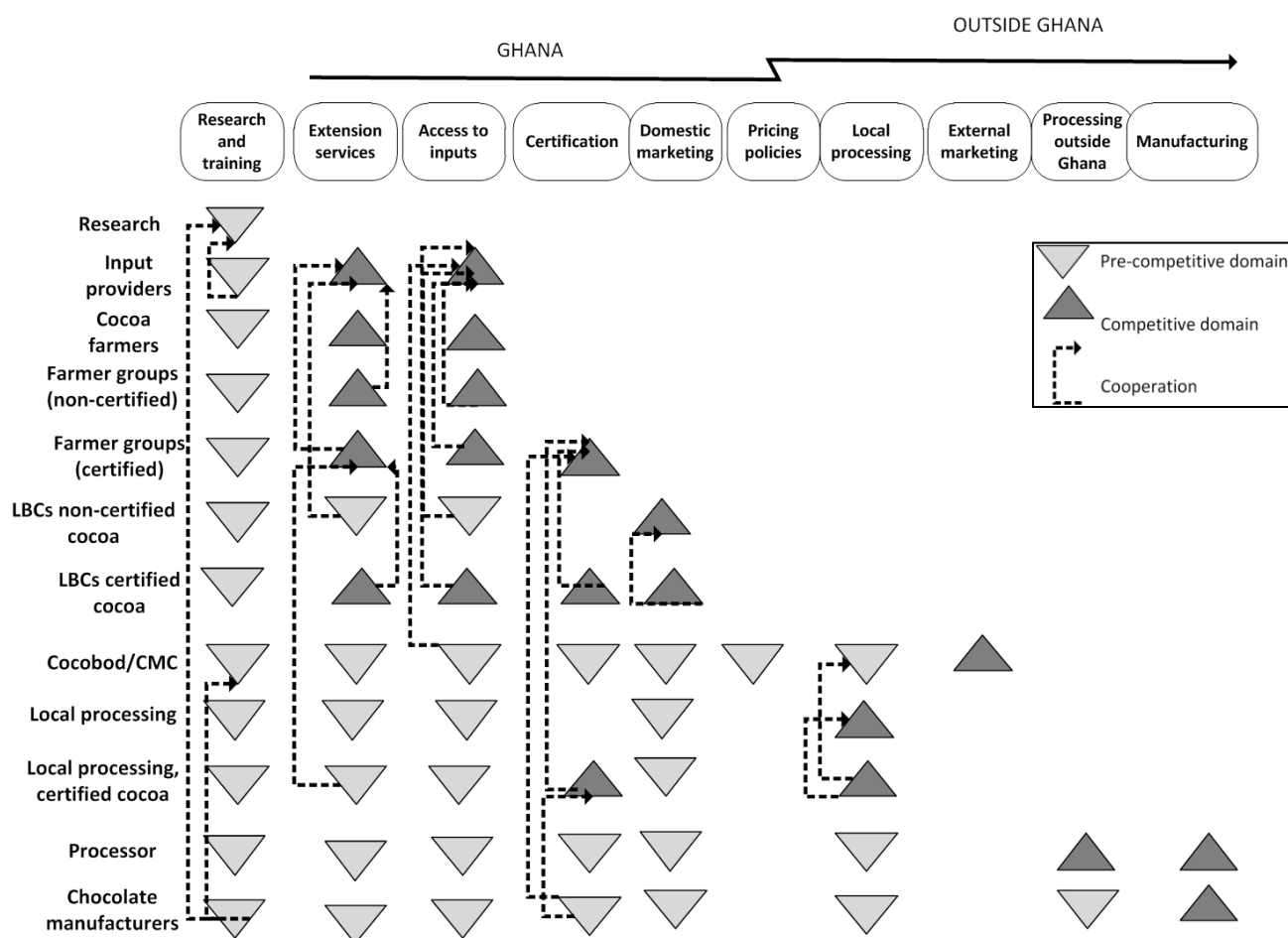
In identifying meaningful interventions aiming at sustainable cocoa production emphasis has been put on finding solutions in the pre-competitive domain: solutions that benefit the sector as a whole, which can only be achieved if the sector as a whole would drive them. The idea is that pre-competitive interventions are only successful in case they limit the potential for opportunistic or free rider behavior (TCC 2012).

Within the cocoa sector there have been some proposals to introduce pre-competitive investments e.g. introduction of a 50\$/tonne levy on the processing of cocoa to establish a worldwide fund to be invested in good agricultural practices. Another example is cooperation between standard bodies and supporting NGOs to create less costly and complicated training and audits for farmers (TCC 2012).

In the cocoa supply chain in Ghana recently there have also been some interventions in the pre-competitive domain. For example the joint development of the Cocoa Manual (CRIG 2010), a source book for sustainable cocoa production used by public and private extension service providers. However, the pre-competitive domain for the sector as a whole is rather limited, and seems to become even smaller as long as the supply of sustainable (ie certified) cocoa lags behind its demand, creating a competitive environment.

To understand where actors compete and where they cooperate it is helpful to look at the domains for different actors (instead of looking at the sector as a whole). For example for chocolate makers operating outside Ghana most activities in Ghana are considered to be pre-competitive, while for a LBC buying and selling cocoa within Ghana the pre-competitive domain is considered to be much smaller. This is visualized in figure 2: the dark-grey triangles illustrate entering a competitive domain (horizontal competition), the light-grey triangles illustrate the pre-competitive space (horizontal cooperation). The dotted arrows indicate vertical cooperation.

Figure 2 Unravelling the pre-competitive and competitive domain



The cocoa sector is competitive by default. Some areas have and will always be competitive (for the fact that people compete directly over resources and revenues) and others could be made pre-competitive (but could also be used competitively, e.g. research), or were pre-competitive but are now competitive (for example domestic marketing). It is important to note that the public sector plays many different roles: as a competitive actor (buying, selling and processing cocoa), as a pre-competitive actor in its capacity as price setter and referee, in providing general services, and as in stimulating competition by others.

What figure 2 illustrates is that besides the competitive and pre-competitive domains value chain actors and supporters work increasingly together (both horizontal: e.g. farmers work together to access services, and vertical: e.g. different chain actors work together in certification). What does this tell us in terms of working towards sustainable cocoa production, and meaningful interventions? Table 3 gives an overview of how interventions work out differently in the

competitive and pre-competitive domain, and provides suggestions for what works best if we aim at sustainable cocoa production.

Table 3 Interventions in the competitive and pre-competitive domain

Area of intervention	If done competitive	If pre-competitive	Suggestions: What is sustainable?
Research and training	<p>Results are not always put in public domain</p> <p>Not all farmers benefit, but the farmer that do benefit do this more deeply since data will be more precise.</p> <p>Potential for private sector investments is high.</p> <p>Space for bilateral learning.</p> <p>With respect to training: only those groups that are linked to private sector players will be trained.</p>	<p>Knowledge will be put in public domain</p> <p>More farmers potentially benefit, but less deeply</p> <p>Changing farming into a business requires farmer business training. If this is done jointly far more farmers can be reached.</p>	<p>In this area the competitive and pre-competitive domains don't exclude each other.</p> <p>Sustainable cocoa requires that as much knowledge as possible is put in the public domain, and that on-farm piloting takes place. Part of the research agenda should focus on how to bring knowledge to the farmers.</p> <p>With respect to training, this requires joint efforts to support the development of farmer business skills. Experience with farmer field schools shows that intensive training is costly, but has considerable impact.</p>
Extension services	<p>Primarily farmer groups that have established links with private sector players will be reached.</p> <p>Costs of extension are initially paid for by private sector and PPPs, but on longer-term have to covered (at least partly) by farmer groups.</p>	<p>Joint extension system.</p> <p>Extension services will be consistent and supplied to mass of farmers. This however is expensive and is counterproductive if it reaches farmers that have no intention turning their farm into a business.</p> <p>Reaching majority of farmers requires private and public support (e.g. Cocoa Livelihood Programme).</p>	<p>Sustainable cocoa requires joint efforts to reach majority of farmers. This will be expensive.</p> <p>Efforts should focus on Trainer of Trainers and payment for extension services.</p> <p>Efforts should focus on the (potentially) professional cocoa farmer.</p> <p>Commercialization of independent extension services through Agri hubs (business</p>

			development centres).
Inputs	<p>Private sector is (potentially) a more efficient distributor of inputs. The price of inputs will increase, but availability is expected to improve. Farmers have to be willing/able to pay for inputs.</p> <p>Input packages (combining inputs, with advice, credit and organisation) are delivered to farmer groups with whom they do business.</p> <p>Potentially limiting distribution to medium or high tech farmers for reasons of solvability.</p>	<p>A centrally organized pricing and distribution system of inputs can absorb private sector inadequacy.</p> <p>Equal access for all farmers (no a priori distinction between H, M and L).</p> <p>However, it risks to be non-transparent and inefficient. In the end farmers pay for the subsidies (subsidies are paid from gross FoB).</p> <p>Subsidies disturb local market development. Especially in the case of fertilizer: local demand for fertilizer > supply.</p> <p>In the case of planting material: need for local seed gardens.</p>	<p>Liberalisation and decentralisation of input pricing and distribution is put forward as a necessary step towards sustainable cocoa.</p> <p>Input distribution have to go hand-in-hand with advice/training and credit. Farmers and groups should have sufficient agency to choose for 'right' package that fits their particular needs/interests.</p> <p>Agri-hubs can support farmer's enabling environment and can create off-farm employment in villages.. Input shops should provide also services/inputs for other crops (diversification).</p>
Certification	<p>Competition for certified/trained farmer groups</p> <p>Farmers are locked into certified value chains</p> <p>Because demand for sustainable cocoa is high, the process of certification is speed up. The risk is that this will undermine the quality of certification.</p>	<p>This would support a gradual process of certification:</p> <p>Step 1 – build the capacity of farmers and strengthen their organisation</p> <p>Step 2 – enable farmers to choose between different certification schemes (or to continue with non-certified cocoa), having the overview and ability to calculate costs and benefits, and based on that make own decisions.</p>	<p>For sustainable cocoa it is recommended to support a gradual process of certification. The first step (preparing farmers to enter certification) could be done more in a non-competitive sphere or in a competitive sphere.⁹</p> <p>It should be avoided that certification becomes an end goal (rather than a means).</p> <p>The voice and participation of producing countries and farmers in certification schemes should</p>

⁹ CAA is a powerful example of a farmer organisation that takes a gradual approach towards certification. After 1 year, farmers that have been trained and applied input on their farm (and paid back the loan) can apply for certification.

		This will be costly.	increase.
Domestic marketing	Farmers can choose to whom they sell, and can negotiate for services	The partly state-owned LBC (PBC) is also present in more remote areas which are avoided by LBC due to high transaction costs	The demand for sustainable cocoa has increased the competition between LBCs. Mainstreaming of sustainable cocoa requires full segregation of physical cocoa from financial cocoa, or/and it requires firmer positioning of Ghana as country that produces sustainable cocoa and of high quality.
Pricing policies	Competition through prices would change the sector. It would open-up options for farmers and LBCs to negotiate, it would also introduce fluctuating prices and instability. If competition through prices was introduced, farmers could make their own calculations and choices on the quality they produce.	Centralized pricing of cocoa fixes producer prices annually. Farmers receive stable prices and are protected against unfair prices at farm gate. Price risk fluctuations absorbed by public entity. Risk of politicisation of price setting. The lack of price differentiation for different types of cocoa quality reduces incentives for high quality production and requires an labour-intensive and costly quality control system to make sure Ghanaian cocoa beans are of uniform quality.	The farmers share of the FoB has increased over the last decades. Part of the gross FoB is reinvested in the sector. However, this goes hand-in-hand with inefficiencies. Sustainable cocoa is helped by stable prices, but it should become fully transparent at what cost (e.g. the costs for quality control, opportunity costs).
Local processing	Attracts processing activities, which adds value locally and generates employment.	Low capacity. Difficult to compete with multinational processors outside Ghana. Regional consumption of cocoa is low.	Cocobod (and the farmers) currently subsidize local processing companies (providing them with 20% discount on light crop beans). The question is to what extent this is sustainable and desirable.

The increase in demand for sustainable cocoa, in combination with the segregation of certified cocoa from conventional cocoa, has increased competition in the supply chain. What we also observe is that increasingly buyers and service providers involved in certification, become "supply chain managers", increasing their control over certified cocoa (and non-certified cocoa); Cocobod is still the main driver of the conventional chain.

Certificate holders (e.g. a number of LBCs, farmer groups like CAA and KKFU, Cargill) provide services and inputs to farmer groups, linking farmers to their organization/company and creating a kind of parallel vertical value chains. In these certified chains farmers do not have automatically more influence. Rather farmer groups are locked into such a chain, for the period that there is demand for their cocoa. For example

farmers that become member of farmer group X receive a package of services, in return they are expected to buy inputs from a certain input provider from which they receive a combination of inputs on credit (in-kind). They sell their cocoa to a prearranged LBC. The LBC and CMC segregate the cocoa, and a certain local processor/trader/manufacturer is buying the certified cocoa.

So, farmers by becoming member of a group, they become at the same time part of a particular value chain. These parallel value chains starts then competing with each other. So far, farmers do not seem to make an informed choice between membership of one chain over the other. Moreover, on the longer term the impact for farmers of being inserted in these different types of value chains is not known. On the other hand some benefits are straightforward, e.g. in most schemes:

- Farmers access recommended inputs and get advice on how to apply inputs.
- Productivity levels of farmers being member of a group increase.
- Trained and motivated farmers can access certification, which brings in an additional premium, protective gear, fertilizer supplement and shade trees.
- Farmers access other services, like credit, but also health care or access to pension schemes.

What we can say is that this type of vertical integration generates (short-term) benefits, but it is not about empowerment of farmers and supporting them to build their own (financial) capital. In order to put the cocoa farmer first (and not 'the cocoa') farmers should be much more supported to develop their 'agency', become independent decision-makers and have full access to information.

The question is how do we move from a system which is still driven by (public and private) control, to a sustainable system where there is more room for true farmer entrepreneurship?

6 Conclusions and recommendations

Following from our analysis, a number of observations can be made and recommendations can be done on how to shift from maximizing cocoa outputs to optimizing performance.

- There are still different approaches towards sustainable cocoa production (e.g. supply chain control, development, entrepreneurship). Industry and Cocobod both focus very much on control, while other (like the Dutch government) emphasizes entrepreneurship and development goals. This explains also the boundaries for involvement of different actors in sustainable cocoa production, and the need for coordination and mutual understanding. This also has consequences for incentives. Incentives should be carefully defined, for example public incentives should not substitute for private sector responsibilities and activities (competitive or non-competitive).
- With the increasing global demand for sustainable cocoa the sector has been pressured to use certification as a guarantee for sustainable cocoa production. Because there is not yet sufficient certified cocoa in the system, certificate holders start to compete for certified farmer groups. We see that on the one hand private sector highly invests in capacity building of farmers (e.g. training, access to inputs, organization, credit) which contributes to productivity increased and higher incomes for farmers. On the other hand farmers are locked in to value chains in which they have little decision-making and little information.
- The pressure to speed up certification is risky: instead of using it as a means to stimulate sustainable change in all its aspects, getting farmer groups certified becomes the goal. Sustainable cocoa production is a gradual process and takes time. Certification of cocoa farmers should not be done too quick: this could undermine the whole system of certification. It is recommended to follow the principle of CAA and take a gradual process towards certification.
- So far, the incentives and interventions in place do not go far enough in stimulating farmer entrepreneurship. What doesn't help is that the perspective of farmers on sustainable cocoa production is not heard. Do we know enough about what drives farmers? Do we know enough about the differences among farmers to understand the kind of farmers that can take cocoa farming up as a business? Incentives should be adapted to the future generation of farmers and interventions should have a clear target group.
- In Ghana, we have seen that a distinction is made between three classes of cocoa farmers, based on the kind of practices and level of technology used (low, medium, high). This classification can be adjusted for sustainable cocoa production. This includes a clear vision on the future generation of cocoa farmers, and insight in what incentivizes this group. It also requires a longer-term and shared vision on the development of the sector and the development of different scenario's.
- Ghana is in a good position to profile itself as world leading in sustainable, high quality cocoa, therewith producing cocoa for the top of the market today, in anticipation of the

fast growing demand for such cocoa tomorrow. Ghana is well placed to respond to the increased demand for sustainable, certified cocoa, and in doing so could also expand trade with and through The Netherlands.

- But, while industry has committed itself to the use of certification as a means to achieve this, for Cocobod certification is not necessarily the way forward. Sustainable cocoa production requires stronger linkages and more exchange between governments from producing and consuming countries, at different levels (e.g. build stronger relationships between Dutch research community and CRIG or between Amsterdam Port and Tema). Advocacy at government level is recommended to privatize input pricing and distribution systems.
- For farmers to benefit from sustainable cocoa production they have to become more entrepreneurial, and take more control over their own business. Cocobod in the past has lacked to give economic incentives to farmers to behave as entrepreneurs, but they did protect the farmers from price-fluctuations by offering stable prices, introduced subsidized input schemes (paid by FoB margin) and made sure the quality of the exported cocoa was high. The advantage of this system is stable prices and cocoa farmers in Ghana are relatively well-off, but on the downside there are many inefficiencies due to the fact that a public entity is running a private business. Liberalization of inputs and extension services would help farmers to gain more control over their business. In addition objective market information would put farmers in the driving seat of their business.
- Farmers should be placed first (and not their cocoa), not from a perspective as being a critical stakeholder to reach objectives others have defined for them, but as a lead entrepreneurs in a sustainable cocoa chain. To support entrepreneurship interventions should support capacity building, building own capital, access to markets and full information as well as business skills to take business decisions. It is recommended to support farmer organizations in building their own capital, both financially, human capital as well as social capital.

It is important to end with a word of caution. The methodology used in this study did evoke a lot of discussions on primary production. Although this study might reflect well the state of the debate in Ghana and in the Netherlands, and the priorities that are being set by the sector, it could not provide insight in incentives and interventions that contribute to efficient cocoa chains and an efficient markets beyond primary production. Taking this study beyond its initial focus, one could gain a better idea on the incentives for processing industries and end-customers, which quite probably sheds a different light on the day to day challenges, such as ownership of certification rights. What our study can contribute to getting a better picture of wider developments both within and the cocoa sector and other sectors is its approach to disentangle incentive structures with their intricate context of competitive and pre-competitive behaviour.

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Annex 1 Letter of Intent Sustainable cocoa consumption and cocoa production

Letter of Intent¹⁰

Sustainable cocoa consumption and cocoa production

Context

Cocoa is highly appreciated by consumers. The production of cocoa and cocoa products contributes to many jobs and is a major source of income. In producer countries, millions of people depend on cocoa for their daily livelihood and income.

Global cocoa production is approximately 3 million tonnes, with 25% of all cocoa processing executed in the Netherlands. We therefore see it as a good signal that all participants in this market support and contribute to the further sustainability of the international cocoa industry. The Dutch cocoa industry has an annual turnover of Euro 2.5 billion and generates over 10,000 jobs. In the Netherlands alone, we consume approximately 37,000 tonnes of cocoa beans: this is equal to nearly 5 kg of chocolate per person.

Possible future scarcity of cocoa on the world market and the quality of cocoa beans is at stake. Many cocoa farmers can hardly survive and they often lack the resources to improve cocoa production. The sector faces the challenge of meeting the growing consumer demand for guaranteed sustainably produced cocoa. Civil society organizations, the cocoa industry, unions and the government have come together to address sustainability in the cocoa value chain.

Objective

We, the signatories of this Letter of Intent, strive to continuing our efforts at an international level to contribute to the revitalization of the cocoa sector within our own responsibilities and capabilities. In close collaboration with the responsible authorities we will help improve the lives and incomes of millions of small farmers, in order to build an attractive cocoa sector for current and future generations. We will continue to contribute to training of farmers in modern agricultural techniques to promote higher productivity and better quality cocoa. We support the organization and strengthening of producer groups and improved working and living conditions.

Government, business and civil society will continue to invest in international public-private cooperation in the cocoa sector. This initiative fits well with - and can serve as a source of inspiration for - the cooperation occurring around initiatives by the International Cocoa Organization, the Roundtable for a Sustainable Cocoa Economy and

¹⁰ Agreed and signed on March 4th 2010, in The Hague by the Ministry of Economic Affairs Agriculture and Innovation also on behalf of the Ministry of Foreign Affairs, Dutch Sustainable Trade Initiative IDH, Verkade, La Place, Solidaridad, Jamin, Utz Certified, Friesland Campina, FNV Bondgenoten, Port of Amsterdam, Albert Heijn, Mars Nederland, Vereniging Biologische Producenten en Handel, Plus, Oxfam Novib Nederland, Rainforest Alliance, Unilever, TCC, Fair Trade, VBZ Vereniging Bakkerijen en Zoetwaren, A.S.Watson Kruidvat, ORAM, Baronie, CBL, Hema, Dutch Cocoa, Ferrero, Royal Tropical Institute, CREM, Agro Eco Louis Bolk, Continaf BV.

the World Cocoa Foundation. Additionally, we support public-private initiatives in the supply chain, in which the Dutch Sustainable Trade Initiative (IDH) will play an important role.

To achieve this objective, we will also put our efforts into:

- Trust and understanding of consumers and the industry in sustainable cocoa, including reliable communication on sustainable cocoa to consumers and the sector;
- Stimulating further growth of demand for and supply of sustainable cocoa;
- Further cooperation between labels, lowering costs for the process of certification, unequivocal verification, and clarity about joint training for stakeholders in the cocoa chain;
- Optimal cooperation in the chain, in order to increase the availability of the right quality and origins of sustainable cocoa;
- Full recognition of and compliance with international labor rights, as defined in ILO Conventions and OECD guidelines, where appropriate for the cocoa sector.

As part of our international efforts, for the Netherlands specifically, we aim to achieve 100% guaranteed sustainable cocoa consumption by 2025. Considering the results of a market survey to demand and supply of sustainable cocoa for the Dutch market and a subsequent consultation round, we are striving for the following intermediate milestones:

- 2012: all chocolate letters for the Dutch market are from 100% sustainable cocoa
- 2015: 50% of all cocoa used in cocoa and chocolate products that are consumed in the Dutch market to be guaranteed sustainable cocoa
- 2020: 80% of all cocoa used in cocoa and chocolate products that are consumed in the Dutch market to be guaranteed sustainable cocoa

The stakeholders will set up a Chocolate Working Group for implementation and monitoring of the activities, facilitated by IDH and the Ministry of Agriculture, Nature and Food Quality. They will define clear rules and agreements. We will further develop this Letter of Intent in a broadly recognized and concrete action plan; furthermore, each of us will also announce what our contributions are from our own responsibilities and capabilities. We will have periodic consultations on progress in achieving the targets. Taking into account future market research and international developments in the demand for and supply of sustainable cocoa, we can adjust the targets.

We will also jointly monitor the embedding of the principles for sustainable cocoa in the labels as mentioned in the annex, and if necessary, strengthen them.

Finally, we invite others to join with this Letter of Intent. The Letter of Intent is open for signing by stakeholders in the cocoa sector who are willing to contribute to achieving a sustainable cocoa sector.

Annex 2 The Composition of Net FoB 2011/12¹¹

Cost Items	% of Net FoB price
Producer Price	76.04
Stabilization Fund	0.58
Buyers' Margin	7.94
Hailers' Cost	3.25
Storage & Shipping Cost (CMC)	1.05
Disinfestation/Grading/Sealing/Check Sampling Costs (QCC)	1.45
Crop Finance	0.85
Scale Inspection and Phytosanitary	0.01
Government/Cocobod	8.64
Farmers' Housing Scheme	0.02
relanting/rehabilitation (cocoa)	0.13
relanting/rehabilitation (coffee)	0.04
Total	100

¹¹ The total value of Net FoB is 3,666,689,332.80 GHS, the price for one tonne of cocoa is 4,313.75 GHS. Source: Ghana Cocoa Board 2011.

Annex 3 Costs involved in internal marketing operations

From the gross FoB price, 6.6% is set aside to cover for “industry costs for the projects and the procurement of logistical materials for internal marketing operations during the 2011/12 cocoa year”(Ghana Cocoa Board 2011), as detailed in next table.

Table 4 Costs involved in internal marketing operations (2011/12)

Costs involved	Amount in GHS
Disease and Pest Control Cost	100,190,825.20
Jute Sacks and Related Items Cost	39,091,000.00
Scholarship Fund	2,000,000.00
CSSVD Cost	2,456,817.00
Hi-Tech	106,970,000.00
Child Labour Certification	2,000,000.00
Farmers' Pension Scheme	7,602,025.00
Total	260,310,667.20¹²

¹² 260,310,667.20 GHS = 140,178.056.72 USD