Cocoa Production in the Dominican Republic: Sustainability, Challenges and Opportunities

Dr Amanda Berlan & Dr Ame Bergés

Report of findings commissioned by Green & Black’s October 2013
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Professionalizing Cocoa Growing in the Dominican Republic

This report presents the findings of a study of cocoa production in the Dominican Republic. It expands the body of literature on cocoa production, which is often focused on larger producing countries in West Africa, and is the result of a successful long-term collaboration between academia and the private sector.

In the global map of cocoa production, the Dominican Republic has consolidated its position as a leading exporter in recent years. It is now increasingly recognized as a producer of quality, organic and Fairtrade-certified cocoa. This report documents these achievements and helps to develop a better understanding of some of the challenges it faces going forward. This will help enhance the long-term sustainability of the Dominican cocoa sector and has already paved the way for several important policy interventions.

Owing to institutional delays and to my maternity leave in 2011-2012, the time period from the inception of the study to the publication of this report has spanned a number of years during which considerable changes have taken place in the chocolate industry. One of the most significant of these has been the acquisition of Green & Black’s (already owned by Cadbury) by Kraft Foods, and their subsequent creation of Mondelez International, its global confectionery arm. However, amid all the changes, it remains clear that sustainability must remain an imperative of future policy in the cocoa industry not only in the Dominican Republic but globally.

It has been a privilege for me to lead this study and I hope that readers from commercial, academic and policy backgrounds alike will find this report useful in their work and in shaping their thinking on sustainability.

It is with great sadness that I learnt in November 2012 that José Ricardo Roques Ortiz, my collaborator in the Dominican Republic, had passed away so this report is dedicated to him.

Amanda Berlan
Senior Lecturer in Ethical Business
Coventry University

The Cocoa Life investment in the Dominican Republic

The research led by Dr Amanda Berlan on the Dominican Republic cocoa value chain has had a significant influence on the strategic direction of the global cocoa sourcing and sustainability strategies of Mondelez International. It has also formed the basis for the business investment in the Dominican Republic as part of the Cocoa Life program.

The Cocoa Life investment is based on the realization that Mondelez International needs to embed supply chain stewardship as part of our business operations. It involves recognizing that the business relies on smallholder farmers who often live a precarious existence and who operate at the beginning of a long supply chain.

Our work takes a holistic view. Our programs are farmer centered and identify the need to not only improve the productivity of the key crop but also the need improve livelihoods through knowledge transfer systems, and community development. We also know that we can’t tackle these problems alone and working in partnership with government and non-government experts is core to our approach.

Our aim is to professionalize cocoa growing and to demonstrate that cocoa farming can be a profitable business for the next generation of cocoa farmers.

We are actively addressing the key areas raised within the report:

– For example there are 1,200 one hectare demonstration plots that show farmers the benefits of tree management techniques in improving their cocoa productivity. These are key in our farmer training approach to develop improved livelihoods from cocoa.

– On a broader basis we are developing a number of community development projects which include water provision; community access to computer technology and information.

– We are also looking to the future. We are developing an innovative approach to respecting and caring for the environment, which includes the involvement of cocoa farmers in a Payment for Ecosystem Services Review. We hope this will lead to new income streams for farmers.

Our goal is to provide a sustainable legacy for future cocoa growing communities.

I would like to thank Amanda Berlan and her team for providing these forward looking insights which are driving the future investment in cocoa sustainability in the Dominican Republic.

Neil la Croix
Director of Sustainable Supply Chains
Mondelez International
Acknowledgements

This project would not have been possible without the support, advice, cooperation and expertise of many individuals and organisations. We would like to thank all of these for their contribution. In no particular order, special thanks go to:

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- the Dominican government, and especially the Ministry of Agriculture and the Ministry of Education. Special thanks go to the Cocoa Department and its former director Diego Borbón who provided advice and knowledge to the project

- Legado Batista from Centro Para el Desarrollo Agropecuario y Forestal, whose knowledge and expertise of cocoa production in the Dominican Republic is unparalleled

- Omar Benítes of the Junta Agroempresarial Dominicana, who was an excellent Chair at the July 2009 workshop in Santo Domingo

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- David Croft and Anna Swaithes of Cadbury for their useful comments on early versions of the report and to Steven Sabo of Cadbury for support in the field

- Last but not least, special thanks go to Neil La Croix and Tony Lass of Green & Black’s for their assistance with the project, for reviewing early versions of the report, and for sharing their valuable expertise in cocoa.

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List of terms

Please note: For simplicity and readability, names/acronyms in capital letters such as FUPAROCA and CONACADO, have been changed to lower case with a capital first letter. Throughout the English version of the report the names of regions have also been anglicised (e.g. North-East for Nordeste).

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List of abbreviations and acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>CP</td>
<td>Cocoa Partnership</td>
</tr>
<tr>
<td>CEDAF</td>
<td>Centro Para el Desarrollo Agropecuario y Forestal</td>
</tr>
<tr>
<td>CEI-RD</td>
<td>Centre for Exports and Investment in the DR</td>
</tr>
<tr>
<td>COE</td>
<td>Centro de Operaciones de Emergencia de la República Dominicana</td>
</tr>
<tr>
<td>CONACADO</td>
<td>Confederación Nacional de Cacaocultores Dominicanos</td>
</tr>
<tr>
<td>FLO</td>
<td>Fairtrade Labelling Organizations</td>
</tr>
<tr>
<td>Foresta</td>
<td>Dirección General de Foresta, Secretaría de Estado de Agricultura</td>
</tr>
<tr>
<td>FUPAROCA</td>
<td>Non-profit social foundation funded by Rizek Cacao C X A</td>
</tr>
<tr>
<td>GTZ</td>
<td>German Technical Cooperation Agency</td>
</tr>
<tr>
<td>IADB</td>
<td>Inter-American Development Bank</td>
</tr>
<tr>
<td>ICCO</td>
<td>International Cocoa Organisation</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>JAD</td>
<td>Junta Agroempresarial Dominicana</td>
</tr>
<tr>
<td>JAS</td>
<td>Japanese Agricultural Standards</td>
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<tr>
<td>NOP</td>
<td>American National Organic Program</td>
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<tr>
<td>Rizek Cacao CXA</td>
<td>Cocoa exporter hereafter referred to as Rizek</td>
</tr>
<tr>
<td>NCC</td>
<td>National Cocoa Commission of the Dominican Republic</td>
</tr>
<tr>
<td>SEA</td>
<td>Secretaría de Estado de Agricultura</td>
</tr>
<tr>
<td>USDOL</td>
<td>United States Department of Labor</td>
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<tr>
<td>USDOS</td>
<td>United States Department of State</td>
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Weights and measures – conversions

In the DR cocoa (both Sanchez and Hispaniola) is sold and exported in 70kg bags.

At farm level, land is measured in tareas and cocoa is weighted in quintales.

- 1 hectare (ha) = 10,000m² = 16 tareas
- 1 tarea = 628.9m²
- 1 acre = 4.86 tareas
- 1 quintal (qq) = 50kg (c.f. section 4.4)
- 1 metric ton (MT) = 2,205 pounds

The local currency is the Dominican Peso (RD$)

Unless otherwise stated £1 = 50.03RD$ (March 2009 - start of fieldwork)

Unless otherwise stated, US$1 = 35.79RD$ (March 2009)
Executive Summary

The present study was commissioned by the UK chocolate company Green & Black’s through the Cocoa Partnership programme in order to gain a better understanding of the cocoa sector in the Dominican Republic (DR). Beyond its immediate relevance to Green & Black’s, this study is a significant step in reducing some of the knowledge gaps in the global map of cocoa production. While considerable attention has been paid to cocoa in West Africa, the fact it is grown in a variety of regions including South-East Asia, South America and the Caribbean, is often overlooked.

Even in the DR, the cocoa sector has received less attention than other agricultural exports. However, this sector has undergone considerable changes in the last 20 years, most notably in the area of quality. It is continuing to evolve and secure its position in the global cocoa market and is clearly deserving of greater attention.

The summary presented here is based on a research project bringing together a variety of academic consultants from the University of Manchester and other institutions in the UK and the DR. Their expertise ranges from Social Anthropology, Economics, Development Studies and Sociology. It was carried out as an independent study and reflects an academic rather than a commercial perspective. The information and views expressed here are the views of the authors alone; they should not be attributed to Green & Black’s. The design and the execution of the research and the interpretation of findings were undertaken independently by the research team.

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Most of the literature on Dominican cocoa (e.g. Sofreco 2002, Batista 2009, Siegel and Alwang 2004) relates to specific aspects of production and commercialisation. The present study offers a broader perspective by including a detailed discussion of technical production issues (such as shade management and pruning) and social issues relating to different types of labour, community needs, producer and worker incomes and child rights.

It has sought the views of individuals at all levels of the value chain in a holistic way. This means that the views of actors who are often ‘invisible’, such as women and children, whose contribution is not necessarily recognised or remunerated, are also included. Data was collected using both qualitative and quantitative methods. However, it is necessary to emphasise that this report only constitutes a snapshot of the DR cocoa sector as it stood in 2009 when the research was conducted.

As previously outlined, this industry has been through considerable changes and much consolidated its global standing in recent years. Although it remains dominated by a small number of export companies, it is a rapidly evolving sector. These companies operate in a climate of tight competition which does not favour transparency. This also reduces opportunities for adopting a coordinated approach on some of the main issues affecting producers.

This sector has undergone considerable changes in the last 20 years, most notably in the area of quality. It is continuing to evolve and secure its position in the global cocoa market and is clearly deserving of greater attention.
Farmer perceptions

The considerable achievements of the last 20 years in the cocoa sector have not significantly enhanced the attractiveness of the industry in the eyes of farmers, or necessarily affected their attitudes towards production. Although high prices since 2009 have stimulated interest in cocoa cultivation among some farmers, the overall perceptions of the cocoa industry indicate a decline rather than an increase in interest, especially on the part of younger generations. While this was more manifest in some areas than others, unless present overall trends are reversed, this raises questions as to the future sustainability of cocoa.

The lack of appeal of cocoa largely relates to the question of incomes. Because productivity rates are low, even when the prices at farm level are high, they are not enough to provide a living wage to farmers. The problem of low productivity is exacerbated by the volatility of world market prices and the fact that producers receive varying proportions of it.

Efforts which could boost production, such as replanting or pruning, are not carried out frequently enough. They are undermined by cost (seedlings of better quality plants with higher yields are typically twice the price of other seedlings and pruners are the most expensive segment of the hired workforce) and inaccurate beliefs, thereby fuelling a vicious circle of underinvestment and low productivity. Low investments in farm maintenance are further perpetuated by the producers’ decision to invest whatever capital they have in other ventures because they know the cocoa farm will still produce a small quantity of cocoa even if minimal inputs are provided. This inevitably results in low yields, and therefore perpetuates farmers receiving low incomes from cocoa.

Household challenges

At the macro-level, there is also an important household dimension to the issue of incomes which should not be overlooked. Globally, much has been written about macro-level issues (e.g. cocoa producers being vulnerable to surge and slumps in world market prices etc.) but little attention has been paid to the difficulties of managing cocoa incomes at the household level. Perhaps controversially, this study argues that the seasonality of cocoa production and income streams – at least as they currently stand in the DR – are increasingly at odds with the demands of the modern world, even in rural communities. More specifically, receiving seasonal payments based on fluctuating prices is not compatible with the requirement for rent, school fees, transport costs, health bills, communication costs, water and electricity bills etc. to be paid regularly.

In practical terms, the research found that the fact that cocoa producers receive a seasonal and variable income from cocoa has the following key implications:

- It is not conducive to careful financial planning which is necessary to secure a minimum standard of living based on a low income. The lack of funds at particular periods results in producers becoming indebted which further undermines their ability to manage their incomes. In extreme cases indebtedness can result in them losing their land.
- Cash payments directly to male heads of household raises the risk that the income will be diverted away from the household.
- Young people expect a certain standard of living involving education, key services and other expenses as outlined above. This requires a frequent and regular income which a seasonal crop like cocoa cannot provide. Unless this issue is addressed, cocoa will not be attractive to younger generations.
Community challenges
The study has highlighted several community development opportunities. Many communities in the heart of cocoa-producing areas have to rely on a poor road infrastructure, are very prone to flooding and lack social facilities. They are also vulnerable to extreme environmental adversity, such as hurricanes, cyclones, earthquakes and landslides, all of which their housing is ill-equipped to withstand. The considerable damage caused by Hurricane Georges in 1998 to individuals, their property and cocoa farms amply illustrates the need for investment in order to reduce the vulnerability of local communities.

Fairtrade
The study found that whilst the Fairtrade model offers numerous valuable benefits, it cannot address many of the difficulties outlined here. The Fairtrade minimum price for cocoa and the social premium were reviewed and increased in 2010. However, as the Fairtrade minimum price is below the current world market price for cocoa, it does not demarcate Fairtrade from other trade through higher prices. The premium for community development is of course significant, especially on large volumes of cocoa. However, the fact that the minimum price and premium were not reviewed for many years is problematic as inflation had a negative impact on the real value of the premium and the number of community development projects it could fund. Fairtrade International has now put in place a system for more regular price reviews based on a projected three year cycle but with the flexibility to delay or bring forward a review of any element of the pricing standard if it is necessary or appropriate to do so.

Being Fairtrade involves much more than a certification process. From an organisational perspective, it can place local agents in the difficult position of having to simultaneously manage significant local challenges and global expectations. More positively, Fairtrade has enabled a confederation of local producer organisations, research institutions, and of course, the farmers themselves and their families. This represents a significant challenge as decades of underinvestment and the attitudes this has fostered among growers will not easily be overturned. Furthermore, like producers in many other countries, Dominican cocoa farmers have particular mindsets which are not typically amenable to top-down approaches, and which are unlikely to be altered in a short frame of time. Raising productivity is therefore a long-term and complex challenge.

High levels of competition and lack of trust between different stakeholders in the DR may mean that it proves impractical to try to adopt a coordinated approach on certain issues. On a more positive note, there is increased recognition in the DR of some of the problems outlined in this summary. One can be hopeful that this will facilitate innovation and policymaking in this area in future.

Conclusion
In order to support its expansion, the DR cocoa sector needs to address the disparity between its growing international market and its weakening local systems of production, which are characterised by low investments in farm maintenance, ageing trees and a failure to attract younger generations. As the cocoa produced in the DR can command some of the highest prices on the world market and has a promising future, it is important that changes are put in place in order to make sure that producers capture more benefits from this and earn a living wage from cocoa.

In order to ensure that the producer population does not further decline in number or in its productivity and to ensure that cocoa farmers are receiving commensurate rewards, significant changes will have to be implemented by a wide range of stakeholders. This will require the Dominican government to mobilise resources and formulate policies to achieve positive and lasting changes and require companies in the DR and abroad to provide consistent support to the industry.

Increasing productivity and promoting socio-economic development will not only require input from government, cocoa exporters, chocolate companies, but also from voluntary organisations, research institutions, and of course, the farmers themselves and their families. This represents a significant challenge as decades of underinvestment and the attitudes this has fostered among growers will not easily be overturned. Furthermore, like producers in many other countries, Dominican cocoa farmers have particular mindsets which are not typically amenable to top-down approaches, and which are unlikely to be altered in a short frame of time. Raising productivity is therefore a long-term and complex challenge.

The DR cocoa sector needs to address the disparity between its growing international market and its weakening local systems of production.

Chapter 1: Project overview

1.1 Background
This study was commissioned by Green & Black’s to gain a better understanding of the challenges in cocoa production in the Dominican Republic, from where it sources significant tonnages of cocoa from for use in its chocolate bars. As a company with a distinct ethical ethos, Green & Black’s is keen to ensure that its high social and environmental standards are implemented throughout its value chain and that their operations support sustainability.

For this reason, the company commissioned the present research project into the economic, social and environmental challenges facing cocoa farmers in the DR. In order to ensure impartial and reliable findings through the application of rigorous research methods, this project was designed and led by independent researchers with expertise in relevant areas.

The research aimed to examine the following issues:
- The criteria for economic sustainability at farm level
- Key characteristics of the current cocoa producer population and patterns of productivity
- Key characteristics of the hired workforce, labour standards and incomes
- Challenges posed by country-specific environmental issues
- Young people’s level of involvement and interest in cocoa farming and what factors affect their perceptions
- The community-based needs and what interventions could be put in place to a) make rural areas more attractive to current and future generations of producers and b) enhance the long-term sustainability of cocoa

Mondelez International has continued the Cocoa Partnership under a new initiative known as Cocoa Life. This involved a $400 million investment in 2012 to help cocoa farmers round the world over the next 10 years. Green & Black’s are part of the CP through being owned by Cadbury and now Kraft Foods. The CP aims to secure economic, social and environmental sustainability for cocoa farmers and their communities in Ghana, India, South-East Asia and the Caribbean. In 2008, Cadbury committed to an investment of $45 million over an initial 10 year period to improve farmer incomes, develop communities and build partnerships.

Research carried out in the DR will complement a previous project on cocoa sustainability in Ghana (Barrientos et al 2008) and research carried out in India in 2010–2011. These studies aim to provide robust data which can guide individual country initiatives funded by the CP. More broadly, any support provided as a result of this project will not only reflect the CP but also extend Green & Black’s long-standing commitment to assist the producers in its supply chain.
1.2 Multidisciplinary approach

The research was led by Dr Amanda Berlan, initially as an independent consultant then through the University of Manchester. A social anthropologist by training, her long-term specialisation is in the social aspects of cocoa production. She was supported in this project by Dr Arne Bergés, a political economist whose specialist research interests include export-led growth in the Dominican Republic. The field research was coordinated by Dr José Ricardo Rosés Ortiz, a sociologist focusing on Rural Livelihoods from the Universidad Autónoma de Santo Domingo (UASD). The research therefore benefited from a range of disciplinary expertise which included Social Anthropology, Economics and Sociology.

The data was collected by a team of researchers under the supervision of Dr Ortiz. He recruited the researchers via local contacts and the Universidad Autónoma de Santo Domingo. Each of them was assigned to work in a particular region and the research benefited from contributions from all team members. The data entry and preliminary analysis were carried out by a statistician from UASD, José Eligio Peralta. The present report was written by Dr Berlan and Dr Bergés with advice and feedback from colleagues and key informants in the UK and the DR.

Green & Black’s were not involved in the design, execution of the research or data analysis. Editorial control remains with the Principal Investigator of the study. The views expressed here are the views of the authors alone; they should not be attributed to Green & Black’s.

Owing to the range of expertise of the academics involved in this study, no single analytical framework captures all the dimensions of the project. The study goes beyond the conventional scope of any single discipline. Bringing together different approaches has no doubt enriched the findings and it is hoped that this report will be relevant and insightful for commercial users and academics alike.

1.3 Representativeness of the study

The farmers involved in the present study were growing cocoa for sale to two companies in the DR: the Confederación Nacional de Cacaocultores Dominicanos (Conacado) and Rizek Cacao C. Por A. (Rizek). These companies are or have been involved with Green & Black’s in recent years and they are among the largest exporters of Dominican cocoa. The research did not include independent producers (with the exception of independent producers who also had other roles in the Dominican cocoa industry and who were interviewed as key informants) or producers selling to other companies.

As such, this is a study of a select group of cocoa producers rather than a more generic study of cocoa producers in the DR. This introduces some limitations as to the representativeness of its key findings. However, the present study touches on many issues also central to the lives of other cocoa producers in the DR, and therefore has relevance beyond its primary scope.

The study aimed to provide an in-depth case study of Dominican cocoa using mixed methods. Therefore, it is important to emphasise that this study is not, and was not intended to be, representative (statistically or otherwise) of the entire Dominican cocoa industry. The sampling procedure which is outlined in section 1.5 does not reflect regional production figures. Similar numbers of respondents were taken from each of the regions surveyed, irrespective of the cocoa production figures for those regions, because the focus was to obtain a broad picture of farm practices and labour patterns.

It is also important to emphasise that although many of the farmers in the study were members of a cooperative certified as being Fairtrade, this is a study documenting the DR cocoa value chain, rather than a specific study of Fairtrade. A complete assessment of all the direct and indirect impacts of Fairtrade was beyond the scope of the present project, although some discussion of the impact of Fairtrade on incomes is included in chapter 5.

The representativeness of the study has also been affected by delays in the publication of the report. Even though the final report was completed in 2010 it was not published until 2013 owing to institutional delays and other factors such as the Principal Investigator’s maternity absence. Since the research was carried out, certain aspects of the cocoa industry are likely to have changed, and some findings may be out of date as a result. This caveat notwithstanding, it is hoped that the study will still help advance knowledge and understanding of this sector.

1.4 Methodology

The research was conducted in the Central, East, and North-East cocoa-producing regions which make up 85% of national production (see section 4.1 for regional breakdown of production).

The data for the study was collected using both qualitative and quantitative research methods and using any relevant literature. Unfortunately, as cocoa has not typically been a high profile crop in the DR, especially compared to sugar, coffee or bananas, the literature available on it is limited.

Data collection included the following:

- 160 producer and worker questionnaires, a small number of which were also subject to more in-depth follow-up interviews
- 30 in-depth open interviews with producers, wives of producers and workers
- 12 focus groups with producers, women’s groups, young adults and cocoa technicians
- Child-focused research methods involving interaction with over 150 children and teenagers
- Key informant interviews with cocoa companies, the Cocoa Department, the Ministry of Education, ILO/IPEC, JAD, etc. in the DR
- Key informant interviews in the UK
- A workshop held in July 2009 with 27 key stakeholders in the DR cocoa industry

The questionnaires were developed by the Principal Investigator and reviewed in collaboration with the local collaborator in the DR who also tested and finalised them. The researchers were briefed on the questionnaire, which they had a chance to review prior to the start of fieldwork. Training was provided in qualitative research methods such as open interviews and child-focused participatory methods as required. Open interview questions were prepared by the Principal Investigator.
The focus groups included the following:

– 5 focus groups with producers
– 2 focus groups with technicians (one with Conacado and one with Rizek technicians)
– 3 focus groups with wives of producers in local women’s associations
– 2 focus groups with young adults (aged 18–24)

The research also included approximately 150 children and teenagers (aged between 8 and 17) in the East, Central, North and North-East cocoa-producing regions. Research with children and young people involved different methods, which included drawings, essay-writing, focus groups and semi-structured interviews. The appropriateness of different research methods was determined by the young people’s ages and level of understanding.

Participation from all informants in the research was voluntary. In activities involving minors, consent was sought and obtained from the young people and from their teachers and/or parents depending on the circumstances. No financial remuneration was given for any of the research activities but younger informants were thanked with sweets when they completed their tasks.

The questionnaire application was carried out between March and May 2009 and was followed up by qualitative work between May and July 2009. Some additional follow-up qualitative work was carried out in December 2009.

The total number of respondents in the research, all activities included, was around 480–500 individuals. Additionally, a workshop was held in July 2009 with key stakeholders from the DR cocoa industry to review preliminary findings and policy implications.

### 1.5 Questionnaire sampling procedure

After selecting the cocoa regions, the sample frame purposively selected a sample of 80 small farms, 12 medium farms, and 8 large farms for a total of 100 farms for the questionnaires. The sampling selection broadly reflected the size composition of cocoa farms in the DR.

There is no official consensus in the DR cocoa industry (or in the global cocoa industry) as to the definition of a small, medium or large producer. After consultation with key informants, they were defined as follows for the purpose of this study: producers were considered to be small if they had fewer than 65 tareas of land (4 hectares or 10 acres), medium if they had between 66 –101 tareas (4.1–6.3 ha/10.2 –15.6 acres), and large if they had more than 102 tareas (6.35ha/15.7 acres) of land.

Within the parameters identified above, random sampling was used to select 100 producers for the questionnaires. The selection of producers was guided by a listing of farmers who are affiliated to Conacado or who are members of the Rizek Fuparoca programme. From these listings, 60 producers were randomly selected and their workers were interviewed. Some substitutions had to be made by researchers in the field if someone who had been selected to take part was unavailable or their home or farm could not be reached (for example due to flooding). Following the sampling procedure explained above, a total of 7 municipalities from 6 administrative districts were selected for field data collection, as shown in the table below.

### Table 1
Cocoa districts and communities sampled

<table>
<thead>
<tr>
<th>Cocoa Region</th>
<th>Administrative districts</th>
<th>Municipalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>Monte Plata</td>
<td>San Antonio de Yamasá</td>
</tr>
<tr>
<td>East</td>
<td>El Seybo, Hato Mayor del Rey</td>
<td>El Seybo, Hato Mayor del Rey</td>
</tr>
<tr>
<td>North-East</td>
<td>Duarte, María Trinidad Sánchez, Sánchez Ramírez</td>
<td>Villa Riva, San Francisco de Macorís</td>
</tr>
</tbody>
</table>

### Table 2
Number of producer and worker respondents by region and farm size

<table>
<thead>
<tr>
<th>Cocoa Region</th>
<th>Small farm operators</th>
<th>Medium farm operators</th>
<th>Large farm operators</th>
<th>Workers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>26</td>
<td>5</td>
<td>2</td>
<td>20</td>
<td>53</td>
</tr>
<tr>
<td>East</td>
<td>28</td>
<td>3</td>
<td>3</td>
<td>21</td>
<td>55</td>
</tr>
<tr>
<td>North-East</td>
<td>26</td>
<td>4</td>
<td>3</td>
<td>19</td>
<td>52</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>12</strong></td>
<td><strong>8</strong></td>
<td><strong>60</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

As explained in section 1.3, the sampling deliberately did not reflect regional production figures as the focus was to obtain a broad picture of farm practices and labour patterns. Of the 100 producers surveyed in the questionnaire, 17 were female; of the 60 workers, 2 were female (see section 3.2 on gender).
Chapter 2: The cocoa value chain

2.1 Agriculture in the DR economy

With almost 30% of the total land area suitable for crop production and about 17% of the labour force engaged in farming (UK Trade & Investment 2008, cited in Smith, 2010), agriculture has been and remains an important sector in the DR economy. In 2006, it accounted for 9.9% of GDP. It is the most important sector in terms of domestic consumption and is in second place (behind mining) in terms of export earnings (Smith, 2010).

These figures notwithstanding, agriculture in the DR is in long-term decline. From the mid-1990s until 2000, the DR experienced high and stable rates of economic growth of around 8% per annum, even following a major hurricane (Hurricane Georges) and frequent tropical storms which affected the country and its agriculture badly. However, since 2001, economic growth has slowed. In the first trimester of 2002, economic growth was negative in agriculture (-7.8%), tourism (-11.2%) and duty free zones (-7.5%) (Siegel and Alwang 2004).

Siegel and Alwang (2004) argue that growth in the DR in the 1990s was led by exports of goods and services and growth in communications and construction following substantial economic reforms. They also argue that the growth patterns have not been homogeneous; sectors such as traditional agriculture, mining and non-industrial manufacturing have experienced slower growth or decline. In particular, while agriculture grew at a rate of around 2.6% in the 1990s, its growth was comparatively slower than other sectors. As a result, the share of agriculture in GDP fell from 12.8% in 1996 to 11.1% in 2000. For comparison, in 1960 agriculture represented around 30% of GDP. Agriculture’s share of primary exports in total exports has also declined (Siegel and Alwang 2004).

For the purpose of the present study, two other changes within the DR agricultural sector are also worthy of note. Firstly, the importance of crops relative to livestock has fallen significantly in the last thirty years. Siegel and Alwang (2004) partly attribute this to policy decisions favouring non-traditional crops and livestock at the expense of more established crops such as coffee, sugar and cocoa.

Secondly, the production and value of non-traditional crops have risen considerably in recent years. The reasons for this are too complex to be detailed here but this has had key implications for the cocoa sector. More specifically, new crops such as citrus or horticulture have received credit and input subsidies, technical assistance, extension services etc. The shift of resources towards these sectors has resulted in the production of traditional crops such as cocoa and coffee stagnating or declining. Siegel and Alwang report that coffee and cocoa together accounted for about 13% of the value of Dominican exports in 1996 and less than 5% in 2000 (2004: 18). Interestingly, at certain periods during the 1990s the Dominican cocoa sector achieved parity with, and in some years even surpassed, the coffee sector in terms of its contribution to GDP and exports. A more detailed discussion of the specific role of cocoa within the DR agriculture sector is provided in section 2.5 below.

2.2 Organic production in the DR

One of the growing areas of non-traditional production is organics and the Dominican Republic is one of the world’s leading exporters in this sector. Organic exports from the DR generated US$1.75 million in 2008 and were expected to exceed US$200 million in 2009. This is a rapidly growing sector.

The Dominican export of organic products grew 34.4% in the first 9 months of 2009, going from US$28.83 million in August of 2008 to US$38.75 million in 2009. This represents an increase of US$9.92 million. The Ministry of Agriculture estimates that it generates 30,000 jobs directly and indirectly. Raynolds (2008) reports that there are 14,000 growers certified organic in the DR, although this figure is lower than the estimates provided by many key informants. Raynolds also reports that the DR has one of the largest organic sectors in Latin America, and that only Mexico and Peru have more organic producers than the DR.

According to the Centre for Exports and Investment in the DR (CEI-RD), the main organic products which are exported from the DR include: bananas, leaf tobacco, eggplant, peppers, cocoa beans and powdered cocoa, pineapple, plantain, herbs, dried coconuts, cherry tomatoes, coffee, mango and avocado. The country has 288,000 tonnes (approx. 18,000 hectares) of land devoted to organic production and non-traditional products.

To put this in context, though they only make up a small proportion of internationally traded food, total global sales of organic products are valued at US$28 billion annually and they are increasing at a rate of 20% annually in the main North American and European markets (Willer and Yussefi, cited in Raynolds 2008). Interestingly, Raynolds reports that Europe has consistently been the largest importer of Dominican organic products (about 50%), though country shares have varied over time. In 1997, Holland and Belgium dominated imports but in 2001, Belgium and the U.K. became the main importers. According to the most recent figures she cites, in 2005, the United Kingdom imported fully 75% of all Dominican organic exports, while the United States imported 4% and Japan about 1% (2008: 172).

2.3 Organic cocoa

Trends in global cocoa production have also already been discussed in Barrientos et al (2008) so they will not be retold here. Instead this section focuses on the global production of organic cocoa.

At present, the following countries are known to produce some cocoa certified as organic: São Tomé, Madagascar, Tanzania, Uganda, Belize, Bolivia, Brazil, Costa Rica, Dominican Republic, El Salvador, Mexico, Nicaragua, Panama, Peru, Venezuela, Fiji, India, Sri Lanka and Vanuatu. The Dominican Republic is the leading exporter of organic cocoa by a significant margin, although ‘estimates of its production and exports differ widely across sources’ (Byers, Giovannucci and Liu 2008: 53), with estimates ranging between 5,000MT and 14,350MT annually (Ibid.) Recent government figures on cocoa exports (see section 2.7) indicate that 11,602MT of organic beans were exported from the DR in 2009–2010.

4  Source: Diario Libre, http://www.diariolibre.com/noticias_det.php?id=221791 accessed 02.11.09

One of the growing areas of non-traditional production is organics and the Dominican Republic is one of the world’s leading exporters in this sector.
Organic cocoa represents only a very small share of the global cocoa market. In total, it is estimated to represent less than 0.5% of world production. The ICCO reports that certified organic cocoa amounts to approximately 15,500 MT/year, although key informants in the study believed this figure to be out of date and estimated that current figures are closer to 30,000 MT/year. Given the high number of producer countries and the relatively small annual global production, it is clear that some countries produce (or at least certify) only very modest tonnages of organic cocoa. In order to be certified organic, cocoa producers must comply with the requirements set by certifying bodies in importing countries (e.g. the Soil Association in the UK or USDA Organic in the US).

The market for organic cocoa is said to have grown considerably in recent years; Byers, Guivannucci and Liu state that

> "global sales of organic chocolate alone (not including other cocoa products) reached $304 million in 2005, a 75 percent rise over its level of 2002." (2008: 51)

However, it is extremely difficult to obtain trade data on cocoa certified as organic (Pay 2009; Byers, Giovanniucci and Liu 2008). Byers, Giovanniucci and Liu (2008) report that three factors are central to the absence of official statistics on certified cocoa (including organic): the small volumes produced/certified and marketed; the various forms cocoa products can take (beans, liquor, powder, cake, butter, paste, chocolate); and the difference between the quantities produced and traded due to stocks. Byers, Guivannucci and Liu also state: "The data are incomplete and very fragmented. Worse, the reliability of the few available estimates may be questioned" (2008: 51), therefore it is often better to pay attention to trends rather than to specific figures.

Organic cocoa can earn attractive premiums compared to conventional cocoa; however, the premiums paid for organic cocoa are highly variable and there is also a discrepancy in figures given. Pay (2009) states:

> "Because of the volatility of prices, as well as the difficulties of estimating premiums along the supply chain, price premiums for organic cocoa fluctuate considerably according to the source of information used. ICCO (2006) indicates a premium of US$100–300 per tonne, while Liu (2008) indicates premiums of up to US$1,600 in 2006. Other sources indicate an organic premium of between 10 and 40 percent, or 10 and 50 percent, over non-organic cocoa." (p.7)

In the present study, key informants reported that the organic price is set by a buyer agreeing a premium for the season in addition to the market price at the time. So the actual price paid will vary from day to day, depending on the international market, although the organic premium remains the same for that season. Byers, Giovanniucci and Liu (2008) report that for Dominican cocoa exported to the US in 2006, the average conventional bean price was US$1,394/MT and US$1,590/MT for organic beans, representing a price premium of US$195/MT or 14% above the conventional price. This figure is lower than the premiums that some key informants reported having paid for organic cocoa from the Dominican Republic in 2006 (the premiums reported to have been paid between 2004 and 2011 ranged between US$300 and US$1,600/MT).

It also compares poorly with figures for certain other countries. For example, Byers, Giovanniucci and Liu (2008) report that Peruvian beans exported to the US in 2006 fetched an average price of US$2,250/MT, compared with US$3,586/MT for organic beans. This represents an organic price premium of US$1,331 or 142% above the conventional price. However, although high premiums for organic cocoa may seem attractive, it is important to bear in mind that organic production carries certain costs (e.g. yields for organic cocoa are typically lower than for conventional cocoa and fees have to be paid to certification bodies).

Cocoa from different origins has different flavour characteristics therefore cocoa from different sources cannot easily be substituted. Certain buyers seek out particular flavour characteristics from different countries for the gourmet market and pay especially high premiums for such cocoa.

2.4 Background on cocoa in the DR

According to the ICCO, there were early but unsuccessful attempts to plant cocoa in Spanish territories like the Dominican Republic, Trinidad and Haiti as demand for cocoa increased in Spain but it was not until the late seventeenth century that cocoa cultivation was truly developed in the Caribbean. France introduced cocoa to Martinique and St Lucia in 1660, the Dominican Republic in 1665 and Grenada in 1714. England was reportedly growing cocoa in Jamaica by 1670.

Approximately 25,364,800 tareas (1,585,100 ha) of land in the DR is under forest cover, and cocoa presently occupies approximately 9.6%, or 2,436,185 tareas (152,262 ha) of land. A map of the DR cocoa regions is provided in section 4.1. Like most of the global production of cocoa, in the DR it is grown by smallholders, and by some owners of medium or large plots of land, rather than on large commercial plantations.

The Trinitario variety of cocoa grown in the Caribbean produces chocolate with a distinctive flavour. This variety only makes up a very small proportion of global production, which is dominated by Forastero-type cocoa beans. Although both are present in the DR, Trinitario dominates the DR cocoa production.

2.5 Cocoa in the DR economy

As previously explained, the role within the DR economy and the policies of recent years have not favoured traditional crops such as cocoa. Mislabeled exchange rates and high export taxes during the 1980s are widely blamed for disadvantaging Dominican cocoa in international markets (Siegel and Alwang 2004, World Bank 1991, Schiff 2001) and for disadvantaging them relative to non-traditional untaxed agricultural exports and crops destined for domestic markets (Siegel and Alwang 2004). The value and share of primary exports of cocoa beans dropped between 1995 and 2000. In 1995, cocoa beans had a value of US$554.6m and represented 6% of total exports. By 2000, this had fallen to US$21.7m and represented 2% of total exports (Ibid).

Although the high direct export taxes on cocoa were abolished in the early 1990s, the frustration brought on by their existence (especially coupled with a perceived lack of governmental support for the cocoa industry) was raised by many key informants during interviews. Siegel and Alwang (2004) contend that even following the removal of tariffs, DR government policy remained biased against the traditional sector and that this is likely to have been a key factor in the DR cocoa sector’s inability to keep pace with competing countries.

Cocoa from different origins has different flavour characteristics therefore cocoa from different sources cannot easily be substituted.
Interestingly, Siegel and Alwang also emphasise that other institutions have to some extent compensated for the ‘gap’ created by the lack of public sector support to the cocoa industry. For example, they argue that international development agencies and NGOs have delivered substantial support as a result of adverse market conditions or following natural crises, such as weather or pests. The following section further exemplifies the support provided by non-governmental organisations by detailing the contribution some of them have made to developing facilities to support the DR cocoa industry.

While the full benefits of non-governmental interventions are not known and cannot easily be quantified, according to Siegel and Alwang it is clear that much of this support:

‘has been ad-hoc and not administered with a clear vision as to how they might impact the sectors — and different types of producers — and to what extent they complement other government policies and objectives.’ (2004: 20)

They go on to describe the government as having a somewhat ‘hands-off’ approach to the cocoa sector, a lack of strategic vision and failing to provide transparent and direct support. While the government has provided some annual budgetary assistance and some aid in times of crises, it is clear that the DR cocoa industry has not benefited from coordinated or consistent policymaking in recent years. One key informant described it as an ‘orphan industry’ within the DR.

2.6 Key developments in the DR cocoa industry

Given the uncoordinated and sometimes ‘patchy’ nature of governmental support, it is perhaps no surprise that the Dominican cocoa industry long failed to capitalise on its full potential. Siegel and Alwang state that

‘The Dominican Republic has natural conditions to produce world-class coffee and cocoa, including organic production. In contrast, Dominican coffee and cocoa do not, in general, have a good reputation for quality in international markets.’ (2004: 74)

However, this poor reputation is increasingly being challenged by the developments of the last 20 years. The present section summarises some of the developments instrumental in raising the poor quality low-grade status of DR cocoa to an increasingly recognised high quality and organically-certified product.

The historic trading name of Dominican cocoa is Sanchez (named after the port of Sanchez from where it was originally exported). This cocoa acquired a poor reputation on international markets due to inadequate drying and lack of fermentation. Abundant rainfall at particular times of year in the DR make it virtually impossible for producers to be able to dry cocoa to satisfactory international standards by sun-drying alone, as is done in countries such as Ghana. This had a crippling effect on its quality and price. Turning this cocoa into good quality, well-dried and fermented cocoa now known as Hispaniola (which commands much higher prices) was a crucial turning point in the sector in the late 1980s/early 1990s.

Having two formal categories of cocoa bean quality is particular to the DR and could be described as a mixed blessing. Being a recognised and long-standing source of low grade beans provides an established international market for Sanchez cocoa.10 Other countries do not have ready markets for their poor quality unfermented cocoa, the only outlet for such beans in other countries is by mixing them with good quality beans and hoping to still achieve the right standard for export. The disadvantage of being an internationally recognised source of poor quality beans is that it can undermine attempts to expand the production of – and find markets for – good quality Hispaniola beans.

The entire process of developing Hispaniola cocoa is too lengthy to be documented in the present chapter. save for the key stages described below. Following these, the DR has become the leading global exporter of organic cocoa and the second leading exporter of Fairtrade cocoa (both of which require cocoa to be dried/fermented to international standards).11

— The greater potential of Dominican cocoa was recognised in the 1980s by individuals working in the German development organisation GTZ who decided to instigate the process of improving the fermentation of Dominican cocoa. This was done in conjunction with producer associations grouped under the umbrella of Conacado (see profile in section 2.10).
— Owing to the decision by two large international buyers of Dominican Sanchez cocoa to source beans from Indonesia in the 1990s, there was even greater pressure to find an outlet for Dominican cocoa, which at the time could only be sold at considerably discounted prices.
— Conacado, with support from Western partners (such as the cocoa processor ICAM), took the lead in improving the drying and fermentation process described above and in identifying/consolidating markets for this cocoa such as organic and Fairtrade. Following Conacado’s example, other exporters also began investing in drying and fermentation facilities in order to capture the higher value of fermented and organic fermented cocoa.
— With guidance on quality standards and support from the cocoa processor ICAM and from Green & Black’s, Conacado continued to improve facilities and acquired large-scale centralised fermentation facilities. This involved financial support from ICAM/Green & Black’s in the region of $600,000.

The involvement of Green & Black’s is linked to a number of issues. Because of its commitment to exclusively organic sourcing and its business growth, it requires a strong supply of organic and high quality cocoa, and it is therefore rational for Green & Black’s to invest in and develop the capacity to meet their demand in the DR. It is also in keeping with their broader social ethos to provide support to producer groups for viable business expansion and to promote high-quality standards (see section 2.11).

Turning this cocoa into good quality, well-dried and fermented cocoa now known as ‘Hispaniola’ was a crucial turning point in the sector in the late 1980s/early 1990s.

10 Broadly speaking, Sanchez beans are preferred by US buyers due to its high butter content whereas Hispaniola is more popular with European clients.
11 The DR was the leading exporter of Fairtrade cocoa until the Cadbury’s Dairy Milk bar became Fairtrade in autumn 2009, at which point Ghana became the leading global exporter of Fairtrade cocoa.
2.7 Volume and value of DR cocoa exports

Tables 3 and 4 and Graphs 1–4 below are all compiled using data from the División de Comercialización of the Cocoa Department of the DR Ministry of Agriculture (SEA) from Oct 2006 to Aug 2010. For simplicity and readability, the figures in these tables have been rounded off to the nearest unit. This section is compiled using all the data available at the time of writing (2009–2010). Unfortunately, there are many gaps in official statistics and therefore it is difficult to analyse this data satisfactorily. It should also be noted that the data reviewed here only covers a very short period (2006–2010) which limits the degree to which one can generalise from it.

The figures indicate that there is still a considerable market for Sanchez beans. Whereas in 2007–2008 the volume of Hispaniola Organic bean sales overtook that of other types of cocoa, in all other years Sanchez dominated exports (Table 3). However, the figures also indicate that demand for different types of bean can be unpredictable: in 2007–2008 8,864MT of Sanchez were exported but in 2008–2009 this figure rose to 44,228MT. For the other types of beans, the figures show greatest fluctuation in the demand for Hispaniola Organic and a relatively steady, if lower, demand for Hispaniola Conventional and Sanchez Organic. Overall, there is a decrease in the demand for organic cocoa, which was especially marked for Hispaniola Organic. It is worth noting that the total volume of bean exports was very variable over the period, for example ranging from a total of 30,404MT in 2007–2008 to 59,415MT in 2008–2009.

### Table 3

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanchez</td>
<td>16,988</td>
<td>27,170,252</td>
<td>8,864</td>
<td>20,764,216</td>
</tr>
<tr>
<td>Sanchez organic</td>
<td>2,594</td>
<td>4,402,724</td>
<td>1,355</td>
<td>2,791,950</td>
</tr>
<tr>
<td>Hispaniola</td>
<td>6,753</td>
<td>14,462,963</td>
<td>3,183</td>
<td>10,208,318</td>
</tr>
<tr>
<td>Hispaniola organic</td>
<td>12,200</td>
<td>30,753,134</td>
<td>17,002</td>
<td>52,853,134</td>
</tr>
<tr>
<td>Total</td>
<td>38,535</td>
<td>76,789,073</td>
<td>30,404</td>
<td>89,624,381</td>
</tr>
</tbody>
</table>

Source: DR Ministry of Agriculture (SEA) 2006-10

As regards price, some key informants reported that Hispaniola Organic has had greater long-term price stability than Sanchez. While it may be true that the price for Hispaniola Organic has been less prone to large price fluctuations over a long period, the figures indicate that it has not risen in value as much as other types of cocoa in 2006–2010 and that the overall price differential between all types of cocoa has considerably reduced over that period (Graph 1). The gap between Sanchez Conventional and Hispaniola Organic, for example reduced from US$921/MT to US$345/MT. In 2008–2009, the price of Sanchez Organic (US$2,872/MT) even slightly exceeded the price of Hispaniola Organic (US$2,870/MT). The rate of increase in price for Sanchez (both Organic and Conventional) was higher than for Hispaniola, although there is no guarantee that this will be sustained in future.

Graphs 2–4 show the export volumes for exporters from 2007 to 2010. The most striking development in these figures is the sustained growth of Conacado which, although only set up in the mid 1980s, became the largest cocoa exporter in 2008–2009 by a significant margin. Figures for 2009–2010 indicate it remains the largest cocoa exporter in the DR. Other producer co-operatives such as Aproaci and Yacao also feature among the exporters but have not grown as significantly as Conacado. Traditionally, established commercial firms have dominated the DR cocoa market. Figures for all available years between 1996 and 2008 show that Rizek has dominated exports, followed by Comercial Roig and Munne & Co. Roig overtook Rizek in 2008–2009, although only by a small margin.
Graph 1
Export prices and export price trends for Sanchez (Conventional and Organic) and Hispaniola (Conventional and Organic) between 2006-2010 in US$/MT
Source: based on Table 3

Graph 2
Total cocoa exports (MT) according to exporters Oct 2009 – Aug 2010
Source: DR Ministry of Agriculture (SEA) 2007–10

Graph 3
Total cocoa exports (MT) according to exporters Oct 2008 – Sept 2009
Source: DR Ministry of Agriculture (SEA) 2007–10

Graph 4
Total cocoa exports (MT) according to exporters Oct 2007 – Sept 2008
Source: DR Ministry of Agriculture (SEA) 2007–10

Source: based on Table 3
2.8 The DR cocoa value chain

Key informants reported that there are approximately 40,000 active cocoa producers in the DR, but official sources based on the 1993–1994 census report that this is closer to 36,000, at least in 2006–2007. Producers sell to a number of private cocoa companies who export cocoa. Among these, Conacado is made up of 9,200 producers while Rizek has 6,000 registered producers (of which 3,000 were in the Fuparoca scheme) at the time of research.

Although Rizek (inc. Fuparoca) and Conacado-affiliated producers represent only around 40% of the total population (assuming the total cocoa population is 36,000), their output statistics indicate that they consistently made up almost half the total volume of cocoa exports from the DR between 2006 and 2009. In 2009–2010, their combined output represented 43.6% of total cocoa exports. This is lower than in previous years when their combined outputs represented the following proportions of total cocoa exports: 48.5% (2008–2009), 48.1% (2007–2008) and 49.3% (2006–2007). Rizek and Conacado produced most of the higher value organic Hispaniola cocoa from the DR between 2006 and 2009 (Table 4). Together with Comercial Roig, they are the most consistent large exporters of Organic Hispaniola.

Table 4
Volume of Organic Hispaniola cocoa (MT) exported
Oct 2006–Aug 2010 by exporter

<table>
<thead>
<tr>
<th>Exporter</th>
<th>Volume of Hispaniola Organic exported (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nazario Rizek</td>
<td>2,373</td>
</tr>
<tr>
<td>Comercial Roig</td>
<td>1,833</td>
</tr>
<tr>
<td>Conacado</td>
<td>5,224</td>
</tr>
<tr>
<td>Munne &amp; Co.</td>
<td>50</td>
</tr>
<tr>
<td>Garcia &amp; Mejia</td>
<td>378</td>
</tr>
<tr>
<td>Jose Pareswonsky</td>
<td>50</td>
</tr>
<tr>
<td>Biocafcao</td>
<td>454</td>
</tr>
<tr>
<td>Yacao, S.A.</td>
<td>781</td>
</tr>
<tr>
<td>Aprocazi</td>
<td>479</td>
</tr>
<tr>
<td>Coprimagro</td>
<td>202</td>
</tr>
<tr>
<td>Cortes Hnos</td>
<td>25</td>
</tr>
<tr>
<td>Oka Carbe S.A.</td>
<td>n/a</td>
</tr>
<tr>
<td>Marabel Farms</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Please note that not all exporters are listed due to incompleteness of data.

The financial returns of different categories of bean can be significant. As shown in Table 3, higher quality, organically-produced Hispaniola cocoa can fetch much higher prices for exporters than conventional Sanchez cocoa. However, according to key informants, the tonnage of Hispaniola quality beans categorised as conventional, Fairtrade, organic or Fairtrade organic and available for export can exceed the demand for these cocoas. Exporters that operate fermentation and drying facilities decide when beans arrive at their facility whether to ferment these beans or whether to sell them unfermented into the traditional markets as Sanchez quality, for which there remains a quite considerable demand, as previously shown.

It is also important to remember that it is exporters rather than producers who are adding value to Hispaniola beans. Growers sell unfermented wet cocoa which gets a base price; the value is added by the fermentation and drying of the beans which is carried out by cocoa export companies. This requires an initial investment in fermentation facilities which, as shown in section 2.6, can be very expensive as well as ongoing running costs. Therefore, while returns for certain categories of beans can be attractive, in order for them to remain viable for exporters it is important that high prices are sustained.

Higher quality, organically-produced Hispaniola cocoa can fetch much higher prices for exporters than conventional Sanchez cocoa.
producing a booklet ‘Pedrito y el Cacaotal’ and a community play. Of key international conventions occurs at any point in its supply chain. This has involved on child rights in order to promote education and ensure that no child labour in breach e.g. on protecting the rights of migrant labourers. They have invested in awareness-raising organic and sustainable agriculture (e.g. on technical issues such as shade management piped water. In addition to this, the Fuparoca Foundation runs workshops for farmers on technical support. Their work involves providing farmers with advice and education on a variety of issues including grafting, replanting/conservation, child labour, rubbish disposal, not using chemicals and water purification initiatives. Rizek employs 14 technicians to provide the 3,000 Fuparoca-affiliated farmers with technical support. Their work involves providing farmers with advice and education on a variety of issues including grafting, replanting/conservation, child labour, rubbish disposal, not using chemicals and water purification initiatives. Rizek has the Organic (Imo Control) and Rainforest Alliance certifications. Its beans and other cocoa products are certified organic according to European standards (EEC), National Organic Program (NOP), Japanese Agricultural Standards (JAS) and Bio Swiss standards. The Fuparoca Foundation has initiated many community support activities, donated items and provided important development assistance such as building bridges and installing piped water. In addition to this, the Fuparoca Foundation runs workshops for farmers on organic and sustainable agriculture (e.g. on technical issues such as shade management and the prevention of forest fires) as well as workshops promoting good labour practices e.g. on protecting the rights of migrant labourers. They have invested in awareness-raising on child rights in order to promote education and ensure that no child labour in breach of key international conventions occurs at any point in its supply chain. This has involved producing a booklet ‘Pedrito y el Cacaotal’ and a community play.

Higher quality, organically-produced Hispaniola cocoa can fetch much higher prices for exporters than conventional Sanchez cocoa

2.9 Rizek Cacao CXA company profile

Founded in 1905, Nazario Rizek CXA is the parent company of Rizek Cacao CXA (Rizek), which produces organic cocoa beans and its derivatives. According to the 2009–2010 government figures, Rizek is the second largest cocoa exporter in the DR as measured by volume of total cocoa exports (Graph 2).

It owns 5,000 hectares of cocoa farms (which were not included in the research) across all cocoa-producing regions. In addition to this, the company buys some beans directly from farmers and some via a system of intermediaries. It operates a modern system of control that allows the tracking of the cocoa throughout all key steps of the supply chain which includes the identification and codification of trees, sacks and the logistics of the industrial process.11

The company has an active programme of Corporate Social Responsibility and it funds the non-profit foundation for cocoa producers known as Fuparoca. At the time of research, the foundation included 3,000 members out of the total 6,000 cocoa farmers who are affiliated to Rizek and Rizek were in the process of incorporating the remaining 3,000 farmers into the programme. Key informants in the company said that their socially responsible commercial practices already extend to farmers who have not yet been formally integrated into Fuparoca.

Rizek employs 14 technicians to provide the 3,000 Fuparoca-affiliated farmers with technical support. Their work involves providing farmers with advice and education on a variety of issues including grafting, replanting/conservation, child labour, rubbish disposal, not using chemicals and water purification initiatives.

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2.10 Conacado company profile

Conacado, the National Confederation of Dominican Cocoa Producers, began as a development project in 1985. As outlined in section 2.6, Conacado developed through initiatives to improve the quality of Dominican cocoa and is a confederation of producer associations grouped into Bloques. It includes approximately 160 associations and 9,200 producers. Bloque 4 no longer exists and Bloque No. 1 is no longer affiliated to Conacado. The Bloques are located in the following areas: Yamasá (Bloque 2), Hato Mayor (Bloque 3), Bonao (Bloque 5), Gaspar Hernández (Bloque 6), Cotui (Bloque 7), Castillo (Bloque 8) and Nagua (Bloque 9). It uses no intermediaries and most of its 37 technicians are also cocoa producers themselves. According to Byers, Giovannucci and Liu (2008) it is the largest producer and exporter of organic cocoa in the world.

Figure 1

Organisational structure of Conacado (adapted from Roche, 2006)

Conacado have been astute at finding markets for their cocoa and they are certified to the following standards: European standard (EC834/2007), Biodynamic, National Organic Program (NOP), Hand in Hand, Fairtrade Labelling Organizations (FLO), Rainforest Alliance, International Organization for Standardization (ISO), Kosher and Japanese Agricultural Standards (JAS). These illustrate Conacado’s high social and environmental standards. In 2007/2008 it sold approximately 50% of its production on the Fairtrade market generating a premium of US$888,478.50 to help its members. The company also has a long-standing policy of offering end of season bonuses to producers.

The scale and number of projects operated by Conacado vastly exceeds the support provided to producers by other companies. Given the nature of Conacado and the fact it primarily exists to help cocoa producers achieve social and economic sustainability, it is not possible to summarise all their numerous projects here. Examples (many of which are funded by Fairtrade) include: building and renovating schools, building libraries and community centres, providing school supplies and scholarships for students from low-income families, road improvements, building and repairing bridges, electrification projects, storage/drying/cocoa collection facilities, housing assistance for producers, clean water projects, providing a rural healthcare clinic and free medical check-ups, erecting buildings for women’s associations and other support for women’s groups. Unfortunately, as previously explained, a full impact assessment of Fairtrade and of the community benefits of Conacado, was beyond the scope of the present study.

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13 See http://www.nazariorizek.com
2.11 Green & Black’s company profile

Since it was founded in 1991, Green & Black’s has been closely associated with high social and environmental standards. Its Maya Gold bar, which uses cocoa sourced from Maya Indian producers in Southern Belize, was the first product in the UK to be awarded the Fairtrade mark in 1994. Whereas the Fairtrade mark was initially only on a small number of Green & Black’s products, it is on their entire range as of 2011.

In addition to this, all its products are certified organic by the UK Soil Association. Green & Black’s social values have been most evident in their partnership with the Toledo Cacao Growers Association (TCGA) in Belize, which they have supported since 2004. TCGA is certified Fairtrade and organic. Green & Black’s currently buy all the cocoa produced by this cooperative and have long-term contracts with them to give farmers added security. Due to technical constraints, TCGA are unable to supply enough cocoa to Green & Black’s for its entire product range. This in part accounts for Green & Black’s decision to source some of their cocoa from the DR.

Green & Black’s partnership with TCGA has involved the provision of technical advice and support to help improve farming practices, rehabilitate hurricane-damaged crops, plant over a million new cocoa trees and give farmers training. As outlined in sections 2.6, they have also supported and made significant – although perhaps less widely advertised – financial investments in cocoa production in the DR.

Green & Black’s organic ethos involves some of the following key principles:

- No artificial pesticides or fertilisers are used to produce key crops such as cocoa or sugar. This promotes better health for producers by not exposing them to excessive and/or chemical spraying and helps local wildlife by protecting their natural habitats.
- Crop rotation is used as a natural way of producing fertile soil and biodiversity.
- No artificial additives are used in the manufacture of the final products.
- No artificial lecithin is available or can be used.

It is worth noting that a chocolate bar certified organic can have up to 5% non-organic ingredients if a particular product e.g. lecithin is not available in an organic variant.

2.12 Concluding remarks

The DR cocoa value chain is quite unique, not least because it offers both considerable potential and limitations in equal measure. Organic fermented cocoa can command much higher prices and demand for it has increased in keeping with changing consumer tastes in the West. This places the DR in a favourable position as the leading global producer of organic high-quality cocoa.

However, due to local production constraints, certain bottlenecks exist in the value chain. Value is created through drying and fermentation, which is not in the hands of individual producers, as is the case in many countries. This results in cocoa companies having to make costly investments in drying/fermentation facilities and in producers not being able to sell high-value cocoa directly. This is regrettable because as following chapters will illustrate, productivity and cocoa incomes are currently low relative to their potential.

Greater returns to producers would boost the motivation of the current cocoa growers and make the cocoa industry more appealing to younger generations.

In view of the difficulty in gaining access to complete statistics on the DR cocoa industry, making all production, price and export figures for current and recent years available online and in a timely way would help promote transparency and confidence in the DR cocoa industry. Furthermore, to reiterate one of the conclusions of the study carried out by Siegel and Alwang (2004) on behalf of the World Bank, the DR cocoa industry would benefit from the DR government formulating and putting into practice a strategic and coordinated vision for it, clearly allocating the areas for government, donor and NGO support.

Greater returns to producers would boost the motivation of the current cocoa growers and make the cocoa industry more appealing to younger generations.
Chapter 3: Producer and worker profiles

3.1 Age
The mean age of producers who took part in the study is 58.4 years of age. The oldest producer included in the research was 84 years old and the youngest was 32. One of the respondents selected through random sampling to take part in the study was 102, which further illustrates that producers belong to an older generation.

As following chapters will illustrate, the main reason given by young people for not wanting to work in cocoa is the low returns, therefore this question needs addressing. As the 58 year age average was based on an equal number of respondents from each cocoa region, the average age may indeed have been higher than 58 if regionally proportionate sampling had been used. However, irrespective of whether the average age is 58 or 65, it is clear that younger generations are not becoming involved in cocoa and this raises questions as to who will grow cocoa in future.

Table 5
Average age of respondents by region and farm size in years

<table>
<thead>
<tr>
<th>Region</th>
<th>Small producers</th>
<th>Medium farms</th>
<th>Large farms</th>
<th>Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>57</td>
<td>52</td>
<td>53</td>
<td>33</td>
</tr>
<tr>
<td>East</td>
<td>61</td>
<td>47</td>
<td>52</td>
<td>40</td>
</tr>
<tr>
<td>North-East</td>
<td>60</td>
<td>56</td>
<td>58</td>
<td>35</td>
</tr>
<tr>
<td>Source: field survey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The study clearly showed that cocoa producers in the DR are an older population although a caveat must be included in this discussion. The producers’ names were taken from the Rizek and Conacado records which list individual producers according to who owns the farm. This introduces some element of bias as certain producers own the cocoa farm but an adult child (generally male) is the person who actually manages the day-to-day running of the farm and takes care of selling etc. Therefore, sampling based on the official lists will inevitably yield the oldest respondents and this is not an absolutely accurate reflection of the workforce in cocoa.

However, this represents only a relatively small bias, and it remains clear that the age of cocoa producers in the DR is a problem. When told the average age of cocoa producers, one of the key informants (who had reported being concerned with the ages of producers and the failure of the cocoa industry to attract younger generations) expressed relief ‘that it wasn’t even higher’ as his estimate of the average age of producers would have been closer to 65. He believed that the oldest producers were concentrated in the North-East which also produces most of the cocoa (almost 61% of total national production).

As the 58 year age average was based on an equal number of respondents from each cocoa region, the average age may indeed have been higher than 58 if regionally proportionate sampling had been used. However, irrespective of whether the average age is 58 or 65, it is clear that younger generations are not becoming involved in cocoa and this raises questions as to who will grow cocoa in future.

As following chapters will illustrate, the main reason given by young people for not wanting to work in cocoa is the low returns, therefore this question needs addressing with some urgency. Some key informants argued that the only way to interest younger generations is raising prices; later chapters will argue that this is important but must be supported by initiatives to increase productivity and to help producers to manage the seasonality of incomes better, among other issues.

3.2 Gender
Of the 100 producers surveyed in the questionnaire, 17 were female; of the 60 workers, 2 were female. While working in cocoa is commonly thought of as a ‘man’s job’, the number of women found to be working in cocoa, both formally and informally, was higher than expected. Many producers said they thought that women could make good cocoa farmers. Some of them reported that their daughters, rather than their sons, would take over their farms because they showed more interest in farming. In one of the local Conacado-affiliated producer associations visited during the research, as many as 15 out of 80 members were women.

In addition to women being involved as producers with their own plots of land, many of them were also involved in an informal capacity as family labour. One of the women said:

‘they say women don’t work in cocoa but we cook for the men every day, bring them the food on the farm and when we get there, there is a heap of cocoa [pods] waiting for us to cut [i.e. break] and sort and after we’ve done that we have to go home and cook and take care of the house. Are we really not involved in cocoa?’

Although women are clearly involved to varying degrees in various tasks relating to cocoa, their inputs are not always recognised. This raises two practical problems. Firstly, it is clear that some prejudice remains and women are not actively encouraged to become cocoa farmers. A sector such as cocoa, which is urgently in need of rejuvenation and consolidation, cannot afford to disregard up to 50% of its potential farmers. Concerted efforts need to be made to ensure that all interested and capable individuals are supported to become cocoa farmers irrespective of gender.

Secondly, there is evidence that women have a crucial role to play in cocoa farming. Vigneri and Holmes argued that female cocoa farmers in Ghana use hired labour and land more efficiently than men and even ‘that women have the potential of being better farm managers in the cultivation of the export cash crop’ (2009: 1). Research on other crops indicates that women are perceived as being more observant of advice given by agricultural extension officers (Smith, 2010).

In the case of cocoa in the DR, the women surveyed in the present study tended to have a higher level of education than the men (see section 3.3, below). Furthermore, anecdotal evidence based on conversations with female cocoa farmers and key informants would support the idea that women are better farm managers. For example, key informants in cocoa companies agreed that women were better at managing money and probably more receptive to farming advice. However, they also felt that women were not strong enough to farm or that it was not their ‘proper’ place. When asked about the role of women in cocoa they tended to focus on setting up women’s groups and income-generating activities such as sewing, making cocoa jam, cocoa wine or cooking rather than on the possibility of women being actual farmers, which suggests some biases also exist within higher echelons of the cocoa industry.
Some women’s groups linked to cocoa have been very successful. For example, the Conacado-affiliated women’s group near Castillo (with some external support) have been able to set up and develop a range of income-generating activities including making good quality jams and chocolates and cocoa butter for cosmetic use. Their initial set-up loans have been paid off and they appeared to have clean and well-run facilities. However, not all women’s groups are so successful; for example other groups visited were also making cocoa jam and cocoa wine but their quality was very variable. It is doubtful there would be a market for such products without major improvements in quality. Clearly there is a need for more knowledge-transfer from successful groups to other groups.

Although various stakeholders such as NGOs and cocoa companies have offered support to women’s groups, it appears there is still considerable scope to develop gender-specific initiatives in the Dominican cocoa sector and to adopt a more coordinated approach.

### 3.3 Educational levels

Some producers and workers interviewed reported being illiterate. 71% of producers had primary education only (38% of whom had lower primary education and 33% had upper primary schooling). Among workers, 60% had primary education, of whom 20% had basic primary and 40% had upper primary schooling. 30% of workers had no formal schooling, compared with 14% of producers. This supports the view that workers are the poorest and most vulnerable group in the DR cocoa industry (see section 5.14). Haitian workers reported that, after the need to obtain the legal right to work and remain in the DR and a general requirement for cash, learning to read and write was their biggest need.

The findings on education levels are consistent with findings from other research. Education levels in the DR are known to be among the lowest in Latin America and the Caribbean region (World Bank 2001). Siegel and Alwang (2004) report that around 25% of heads of households in rural areas have no schooling at all and about 60% have 1–6 years of school. They identify the lack of education and basic reading literacy as a constraint on improving agricultural productivity, although no clear reasons are provided for this. In the present study, there was no clear link between education and productivity (see section 4.6).

### Table 6

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Producers</th>
<th>Spouse</th>
<th>Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No formal schooling</td>
<td>14</td>
<td>13</td>
<td>30</td>
</tr>
<tr>
<td>Pre-primary</td>
<td>3</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Lower Primary</td>
<td>38</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>Upper Primary</td>
<td>33</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Lower Secondary</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Upper Secondary</td>
<td>6</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>University</td>
<td>3</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>101</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey

18 Such groups not only include the wives of farmers but also some female cocoa farmers and other women living in cocoa-producing communities.

### Table 7

<table>
<thead>
<tr>
<th>No. of women according to level of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational level</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>No formal schooling</td>
</tr>
<tr>
<td>Pre-primary</td>
</tr>
<tr>
<td>Lower Primary</td>
</tr>
<tr>
<td>Upper Primary</td>
</tr>
<tr>
<td>Lower Secondary</td>
</tr>
<tr>
<td>Upper Secondary</td>
</tr>
<tr>
<td>University</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: field survey

### 3.4 Household profile

The average household size of the producers interviewed was 4 people. The largest household size in the sample was 11 and the smallest was 1. The average household size of the female producers was 4.8, with a maximum of 11 and a minimum of 2. For male producers, the average household size was 4.1, with a maximum of 9 and a minimum of 1.

The average household size for Haitian workers in the study was 3.8 and for Dominican workers the average household size was 4. For Haitian workers, the maximum household size is 5; for Dominican workers the maximum household size is 9. These figures do not reveal any highly significant variations but are useful for gaining a general picture of household needs and thus the social and economic sustainability of cocoa.
The majority of producers (66%) had been born in the communities in which they currently farmed. Only 7% of the producers had migrated from a non-cocoa producing region.

The number of workers varied depending on the size of the farm in the sample. Small producers hired on average 2 workers, medium producers hired an average of 4 workers, and large producers an average of 6 workers. The majority of workers reported being paid daily (29), followed by weekly (18); only 4 workers reported being paid fortnightly, 2 paid per harvest, and 2 paid monthly, 5 gave no answer.

3.5 Land tenure
Siegel and Alwang (2004) state that land distribution in the DR is highly skewed and that less than 50% of the rural population has access to formally titled land. They also state that about 40% of households with access to land own less than 1.2 ha and about 75% own less than 3.1 ha. According to Lopez (2001) about 200 families in the DR control approximately 50% of the arable land (a total of around 600,000 ha). Furthermore, the largest 700 farmers, which make up 0.3% of all farmers, control more than 15% of the agricultural land (most of these farms being used for livestock).

Batista (2009) reports land issues are a serious problem as many producers do not have official documents proving ownership of land. The lack of land titles is a widely acknowledged problem in rural communities where a high proportion (estimated to be between 50–60%) of land is occupied without proper legal documentation.

As a result, many farmers do not possess clear rights to the land they occupy. Without land titles, producers cannot obtain credit. Owners of large plots of land are more likely to have the necessary documents. However, it was reported that in some cases, even official documents are unhelpful to document ownership as land was incorrectly measured or because documents are unclear about the size of the plot of land in question.

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Table 8
Distribution of household size by farm size and for workers

<table>
<thead>
<tr>
<th>Household size in ranges</th>
<th>1–3</th>
<th>4–6</th>
<th>7–9</th>
<th>&gt;10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small farms (4 hectares)</td>
<td>35</td>
<td>31</td>
<td>13</td>
<td>1</td>
<td>80</td>
</tr>
<tr>
<td>Medium farms (4.1–6.3 ha)</td>
<td>5</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Large farms (6.35ha)</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>40</td>
<td>15</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>Workers</td>
<td>20</td>
<td>15</td>
<td>5</td>
<td>0</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: field survey

Table 9
Distribution of household size by sex

<table>
<thead>
<tr>
<th>Household size in ranges</th>
<th>1–3</th>
<th>4–6</th>
<th>7–9</th>
<th>&gt;10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>39</td>
<td>32</td>
<td>12</td>
<td>0</td>
<td>83</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>40</td>
<td>15</td>
<td>1</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey

The mean age of workers who took part in the study is 36.6 years. The oldest person working in cocoa was 67 years, and the youngest person employed in cocoa was 17.

These statistics are based on the ages given by workers.

On average, workers were 20.3 years of age when they first began to work in cocoa, and 62% of workers were 18 years of age or older when they started cocoa work. Roughly 39% of the worker respondents were under 18 years of age when they began to work in cocoa. Of these, half had undertaken some form of cocoa work as children under 13 years of age, most likely as part of their household chores. In some cases they reported starting being involved in cocoa in a family context from around the age of 9–10. As it is not known whether they were also attending school and what tasks they were performing at that age, it is not possible to determine if this was one of the Worst Forms of Child Labour. Furthermore, as argued in Chapter 6, ideas about child labour, education, women’s rights etc. have changed considerably in recent years. Therefore, any labour issues arising during the childhood of the current workforce are not necessarily representative of current practices.

Siegel and Alwang state that:

Lack of title leads to sub-optimal investment in the agricultural sector, lower productivity and growth, and contributes to the highly skewed income distribution in the sector (since wealthier large scale farmers often have title and access to formal and informal finance). (2004: 14)

3.6 Hired labour profile
The hired workforce in cocoa in the DR is mainly made up of Dominicans, although it also includes some Haitians. In some areas visited, many Haitians were involved in cocoa but in other areas there were very few. Siegel and Alwang report that ‘Migrants are among the country’s poorest workers, but agricultural labourers outside the migrant stream also tend to be poor’ (2004: 13). The hired workforce is distinct from the unpaid workforce, which includes producers, family members and labour exchanges (whereby producers provide labour for each other in times of need). In addition to labour exchanges, because of the seasonal nature of cocoa, many farmers also work as hired labour at different times of year to increase their incomes.

Therefore, the inheritance system did not emerge as an insurmountable problem in cocoa production in the present study.
Cocoa Production in the Dominican Republic

3.7 Background on Haitian labour

In the present study 73% of workers interviewed were of Dominican nationality. This reflects purposive sampling (which deliberately included a certain number of Haitian workers) rather than actual labour practices. It is currently not known how many Haitian workers involved in the Dominican cocoa industry. Obtaining reliable figures on this issue is impossible as many Haitians enter the country without papers and work illegally. They are hereafter referred to as ‘undocumented’ workers as the term ‘illegal’ is contested in Migration Studies. The citizen status of certain workers might not be legal but the work they do is legal and as such they deserve the same level of protection from abuse or exploitation as other workers.

In the present study 73% of workers interviewed were of Dominican nationality. This reflects purposive sampling (which deliberately included a certain number of Haitian workers) rather than actual labour practices. It is currently not known how many Haitian workers are involved in the Dominican cocoa industry. Obtaining reliable figures on this issue is impossible as many Haitians enter the country without papers and work illegally. They are hereafter referred to as ‘undocumented’ workers as the term ‘illegal’ is contested in Migration Studies. The citizen status of certain workers might not be legal but the work they do is legal and as such they deserve the same level of protection from abuse or exploitation as other workers.

More broadly, Haitian migration is a thorny issue in the DR. There is ample evidence that Haitians face considerable discrimination and/or exploitation in the DR (Ferguson 2003, Amnesty International 2007, Smith, 2010) but there are no reliable figures on the total Haitian population in the DR. Estimates from 1999–2001 ranged between 500,000 and 1.5 million (Ferguson 2003). Of these, only 4,000 Haitians possessed legal documentation. Migration to the DR is fuelled by poverty and high unemployment in Haiti. The situation is best summarised by Ferguson, who states:

“Haitians crossing the border know that there will be work for them. Sectors of the Dominican economy are as dependent on cheap Haitian labour as poor Haitians are on working in the Dominican Republic (...) The largest movement of Haitian migrants takes place across the Haiti-Dominican Republic border. This movement is a two-way process involving voluntary and involuntary migration, long- and short-term residence in the Dominican Republic, legal and illegal entry, smuggling, exploitation and a long history of human rights abuses” (2003: 9).

Haitians living in the DR fall into one of three categories: a small group of documented and legal migrants, a large community of individuals born in Haiti but settled in the DR (often with children born in the DR) and a ‘floating’ population of temporary Haitian migrant workers who shuttle between Haiti and the DR making frequent unlawful border crossings. Haitian cocoa workers are individuals from the second and third categories.

As previously stated, Dominican workers averaged 21 years working in the cocoa sector, compared to an average of 14 years in the cocoa sector for Haitian workers (see section 3.7). 48% of worker respondents were already farmers before entering cocoa work and 15% of respondents were already/formerly cocoa farmers. It is not known if these combined cocoa farming with working as hired labour or if they had abandoned production altogether. Further research on this may provide additional insights into the sustainability of cocoa production and future trends.

Most of the workers interviewed were relatives or acquaintances of the cocoa farm owners (68%). Half of the worker respondents were recruited by the cocoa farm owner, and 43% were recruited via a friend or an acquaintance. Among the workers interviewed, 3% (2 people) reported having paid someone to find them work in cocoa. One was Haitian and the other was Dominican. It is unclear why a Dominican would have required assistance and had to pay for it. The Haitian case is described in section 3.9.

In the present study 73% of workers interviewed were of Dominican nationality. This reflects purposive sampling (which deliberately included a certain number of Haitian workers) rather than actual labour practices. It is currently not known how many Haitian workers involved in the Dominican cocoa industry. Obtaining reliable figures on this issue is impossible as many Haitians enter the country without papers and work illegally. They are hereafter referred to as ‘undocumented’ workers as the term ‘illegal’ is contested in Migration Studies. The citizen status of certain workers might not be legal but the work they do is legal and as such they deserve the same level of protection from abuse or exploitation as other workers.

More positively, many farmers treated them better than their Dominican workers because they recognised their difficult situation. Haitians were more likely to be given food in addition to their wages and some of them received food even at times when they were ill and unable to come to work. Some of the workers interviewed were provided with basic accommodation by the farm owners. None of the 16 Haitian worker respondents reported being hired for the spraying of insecticide or the application of fertilizer and/or fungicide which are more hazardous tasks. These findings broadly echo the contention by Murray (2010) that relations between Haitians and Dominicans are in many cases much warmer and more cordial than is often presented in the public arena.

Haitians are clearly providing an important source of labour in cocoa, especially as many producers reported labour shortages because young people were leaving to work in urban areas. Perhaps not surprisingly, the areas with fewest Haitian workers were also the areas where producers complained most of labour shortages. Some key informants argued that labour shortages in cocoa were not a problem as there would always be individuals looking for work and/or some family labour to provide it but this view was not shared by many producers.

As there is currently no reliable data on hired labour in cocoa production – let alone reliable longitudinal data on hired labour in cocoa – it is not possible to document trends over time or the extent to which Haitians are involved or labour shortages are a problem. However, it is clear that labour inputs will need to be increased in order to raise productivity (see chapter 4), and that many producers are too old to be able to do this alone. Therefore, labour sources need to be given careful consideration.

3.8 Haitian labour in DR cocoa

In the present study no enslaved/forced child or adult labour was found in DR cocoa. There have been reports of discrimination towards Haitians in the DR but this has not, to date, been reported in cocoa. On this issue, the study uncovered a mixed picture. There was some evidence of discrimination towards Haitians such as lower wages, as explained in section 5.14, and some producers said they reluctant to hire Haitian labourers to work on their farms. They said this was because of language problems and/or because Haitians did not know enough about cocoa and might damage a tree by not cutting branches or pods properly. For this reason, Haitians, if hired, were slightly more likely to be given tasks which did not require any skill, such as carrying sacks of cocoa. The only person who reported back problems as a result of heavy lifting was Haitian. While Haitians’ experience in cocoa might have contributed to them being assigned more arduous tasks such as carrying, it is also possible they were being assigned these tasks simply because of their origins.

Haitians and the other was Dominican. It is unclear why a Dominican would have required assistance and had to pay for it. The Haitian case is described in section 3.9.

In the present study 73% of workers interviewed were of Dominican nationality. This reflects purposive sampling (which deliberately included a certain number of Haitian workers) rather than actual labour practices. It is currently not known how many Haitian workers are involved in the Dominican cocoa industry. Obtaining reliable figures on this issue is impossible as many Haitians enter the country without papers and work illegally. They are hereafter referred to as ‘undocumented’ workers as the term ‘illegal’ is contested in Migration Studies. The citizen status of certain workers might not be legal but the work they do is legal and as such they deserve the same level of protection from abuse or exploitation as other workers.

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3.9 Labour and human smuggling in DR cocoa

All the temporary Haitian workers interviewed reported coming voluntarily, generally because they needed money for a specific purpose in Haiti, so they had come over to the DR for a few months to earn it and return home. Many of the Haitian workers interviewed came from the same area of Haiti, suggesting that some of them had come together. This raises concerns that labour ‘paths’ could be created from Haiti into certain areas and that poor practices such as trafficking could develop as a result.

The temporary Haitian workers interviewed had all entered the DR willingly, but they had done so without the required documentation and alleged that Dominican border officials had been bribed to provide entry. This supports Murray’s assertion that:

“It is well known that Dominican military personnel on the border play a major role, and collect substantial income, in admitting undocumented Haitians into the country for a fee.” (2010: 9)

In addition to them not being coerced by anyone to come to the DR, their agreement with border officials appeared to end once they had entered the country (with the exception of one case, where there also seemed to have been an agreement for employment to be provided). No cases were found of workers being forced or exploited in employment once in the DR. Therefore, this group of workers can be described as having been smuggled rather than trafficked.” The United Nations Convention Against Transnational Organized Crime defined smuggling as

the procurement, in order to obtain, directly or indirectly, a financial or other material benefit, of the illegal entry of a person into a State Party of which the person is not a national. “Illegal entry” shall mean crossing borders without complying with the necessary requirements for legal entry into the receiving State.21

To be clear, both trafficking and smuggling constitute criminal activity although in some cases the distinction between them can be blurred. Therefore, this group of workers can be described as having been smuggled rather than trafficked.” The United Nations Convention Against Transnational Organized Crime defined trafficking as

“The recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs. The consent of a victim of trafficking in persons to the intended exploitation set forth [above] shall be irrelevant where any of the means set forth [above] have been used.”


Although individuals who have been smuggled have not been deceived and do not remain bound to their agents of entry (and therefore do not fall victim to ongoing exploitation) they remain extremely vulnerable. The Haitian workers interviewed reported being free to leave, frequently travelled back to Haiti, had formed relationships with local women, joined local churches and had mobile phones. They showed no signs of malnutrition, injury or abuse and wore some protective clothing (rubber boots) while on the cocoa farm. However, they also reported being desperate to obtain the legal right to remain in the DR as paying smugglers to travel to and from Haiti was expensive, and they wanted to have bank accounts and other basic rights in the DR.

While they managed to lead a bearable day to day existence, their long-term prospects were very bleak and they were clearly vulnerable and excluded on many levels. While it cannot be said they endured conditions akin to slavery, they perpetually depended on smugglers and they had virtually no prospect of ever taking up employment legally or of their human and labour rights being formally recognized in the DR. Thus they remained confined to the status of second class citizens.

One of the informants in the study was a 23 year old Haitian who reported having paid RD$2,000–3,000 pesos (US$56–84) to get cocoa work. He had been working in cocoa for 14 years (13 of which were spent on the current farm). He came over to the DR with his father who then passed away; the informant stayed on working on the same family farm after this. Although the activities in cocoa he was involved in when he was under the age of 14 remain unclear, this could come under the definition of the Worst Forms of Child Labour and/or Human Trafficking22 although further information would be required in order to determine whether this had been the case. The case does, however, substantiate reports that some Haitian children are ‘adopted’ by Dominican families they work for (US Department of Labour 2009).

Based on a 2002 UNICEF report Ferguson (2003) states that between 2,000 and 3,000 Haitian children are trafficked annually to the DR and set to work in agriculture, construction, street peddling or begging. He states:

“Some are sent by their parents, others against their will, but traffickers allegedly receive around US$80 for each child who enters the country. Dominican border guards receive between RD$20 and RD$50 (US$1.25–3.50) per child whom they let through (...) neither the children nor their parents received any payment for what amounted to a form of slavery” (2003: 17).

There is presently no evidence, save possibly the above example, that trafficked children are working in cocoa in the DR. However, as many of them are in agriculture, this cannot be excluded. The January 2010 earthquake has exacerbated an already desperate situation in Haiti and may result in increased illegal migration (smuggling and/or trafficking) to the DR. Officially, border control has been tightened in order to prevent this. However, given the corruption which is alleged to exist on the Haitian-Dominican border, it is likely these practices will continue, possibly at inflated prices. More migration to the DR creates a climate rife for the creation of ‘disposable people’ and it is important to eliminate any possibility of this developing in cocoa.

20 The United Nations definition of human trafficking is

“The recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs. The consent of a victim of trafficking in persons to the intended exploitation set forth [above] shall be irrelevant where any of the means set forth [above] have been used.”


21 Sections a) and b) of Article 3 of the Protocol against the Smuggling of Migrants by Land, Sea and Air; supplementing the United Nations Convention against Transnational Organized Crime

22 Conventions on Human Trafficking also differ slightly in the case of children. Unlike adult trafficking, child trafficking need not involve violence, deception or coercion. See http://www.antislavery.org/english/slavery_today/trafficking.aspx accessed 24.11.10
In other agricultural sectors in the DR, it is reported that Fairtrade has had a positive impact on the social and legal status of Haitians (Smith, 2010). Funds from the Fairtrade Premium earned from banana sales have been used to process passports and working visas, thus giving Haitians protection from the regular mass expulsions of migrant workers by Dominican authorities. Smith states:

“It also reduced the cost of travelling to and from Haiti, as they no longer had to pay “coyotes” to get them across the border illegally. However, obtaining the right to stay and work in the Dominican Republic did not give automatic rights to workers’ children, as Dominican law required children to have a Dominican birth certificate in order to attend school and access other public services. As a result some Haitians were resorting to paying Dominicans to “adopt” their children so they could obtain a birth certificate and gain full citizenship” (p.50).

Producers in the study showed a commitment to high labour standards, although a small number of producers reported hiring Haitian rather than Dominican labourers in order to reduce labour costs. However, most producers stated that they treated all their workers equally and would not underpay or abuse Haitian workers in any way. One of the farmers said:

“There are a lot of Haitians around. Haitians can be cheaper to hire as you can hire them for RD$300 /day but [here] this is not done. We are committed to treating everyone the same. When there is food on the table I am always the last to eat as I make sure my workers and everyone else is fed first. The reason why we got together in the first place [as a producer association] is so we would no longer get cheated. So we will not cheat others.”

However, it is important to emphasise that even though overall labour standards on DR cocoa farms appeared to be high, within the scope of the present study, not all farms could be visited and not all workers could be interviewed. Abusive labour practices could be present in cocoa production, especially on isolated farms. Therefore, no categorical statements can be made about labour standards on all cocoa farms especially as the situation may change as a result of the precarious economic situation in Haiti.

### 3.10 Tasks performed by workers surveyed

Workers in the study reported predominantly being employed in land clearing (83%), gathering and heaping pods (78%), pod breaking (72%), felling and chopping (72%), weeding (60%) and pruning (60%) (Table 10). These activities were carried out by Dominicans and Haitians (although as previously outlined, some biases based on workers’ origins were found in the study).

<table>
<thead>
<tr>
<th>Cocoa farm activities</th>
<th>Workers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Clearing</td>
<td>83</td>
</tr>
<tr>
<td>Felling &amp; Chopping</td>
<td>72</td>
</tr>
<tr>
<td>Burning</td>
<td>5</td>
</tr>
<tr>
<td>Planting</td>
<td>42</td>
</tr>
<tr>
<td>Preparation of Seedings</td>
<td>7</td>
</tr>
<tr>
<td>Weeding</td>
<td>60</td>
</tr>
<tr>
<td>Spraying Insecticide</td>
<td>3</td>
</tr>
<tr>
<td>Applying Fertilizer</td>
<td>3</td>
</tr>
<tr>
<td>Applying Fungicide/Other Chemicals</td>
<td>3</td>
</tr>
<tr>
<td>Carrying water</td>
<td>23</td>
</tr>
<tr>
<td>Pruning</td>
<td>60</td>
</tr>
<tr>
<td>Plucking of Pods</td>
<td>55</td>
</tr>
<tr>
<td>Gathering &amp; Heaping Pods</td>
<td>78</td>
</tr>
<tr>
<td>Pod Breaking</td>
<td>72</td>
</tr>
<tr>
<td>Taking beans to the buyer</td>
<td>35</td>
</tr>
</tbody>
</table>

Source: field survey.

NB because workers were involved in multiple activities, the total exceeds 100%.

The fact that any workers reported applying chemicals of any sort is surprising given the fact that most of the cocoa in the DR is grown organically. The most likely explanation for this is that workers were working on many different cocoa farms, some of which were organic and others not. It is also possible that these workers were applying organic fertilizers.
3.11 Health and safety

In the questionnaire, 31% of workers reported having experienced health and safety problems while working in cocoa. 18% of workers reported an injury using a tool e.g. a machete cut and 7% reported slipping or falling while on a cocoa farm. Most workers wore rubber boots. One person reported a snake bite, another walking long distances and one Haitian worker complained of heavy lifting.

However, qualitative research activities on the risks associated with cocoa revealed a more complex picture. For example, in a focus group with producers in Castillo (North-East region) producers reported paying more for pruning (500DR pesos/day, i.e. approx US$14/day) than for clearing (300–350DR pesos/day, approx US$8–9/day). They added that the total cost of hiring someone to prune was higher as they also had to provide workers with breakfast and lunch, which added as much as 200DR pesos (US$5.6) per person every day they worked. The higher cost of hiring someone to prune was attributed to the skill required and because pruning is more dangerous than clearing the land. One producer said:

“You have to be careful with the pruning knife (...) It is more dangerous [than clearing land] because things fall on you while your arms are up. The cocoa shells, the pods. Also insects fall in your eyes – ants, wasps, etc.”

It is interesting to note that insects were not reported in the questionnaires as a hazard by the workers but they were identified as a significant problem by producers and their families in other research activities (see Chapter 6). During the course of follow-up qualitative work, producers reported higher rates of injury than in the questionnaires. The researchers noted a tendency to underreport health-related issues in the questionnaires for cultural/gender reasons. This illustrates the importance of combining qualitative and quantitative approaches in research in order to overcome such issues and gain a more complete picture of informants’ experiences.

Many producers had injured themselves with a machete at some point while on the cocoa farm, and many of them reported having problems obtaining medical help in emergencies. As explained in the following chapter, only 46% of producers and 40% of workers sampled reported having access to a hospital or clinic in their communities. However, the problem was not necessarily a lack of clinics but rather transport problems. For example, a producer reported accidently lacerating his hand with a machete while on his farm. He was able to find help to bandage his hand but the road leading to the clinic was flooded and impassable. Branches had to be cut down to create a makeshift bridge, by which time he was very unwell because he had lost a significant amount of blood. Cuts with machetes raise the risk of tetanus and producers who were asked reported not having had the necessary inoculation. More broadly, as explained in Chapter 4, transport difficulties and the poor state of roads strongly contribute to the poor image of rural areas.

3.12 Housing

The data on housing provides a vivid illustration that producers and workers are very vulnerable to environmental adversity of the sort which is extremely common in the DR and in the Caribbean more generally. Housing made out of wood with zinc or cane roofing is not adequate to protect individuals from heavy rain, high winds, hurricanes, cyclones etc and this is the sort of housing in which a majority of producers and workers live.

96% of producers reported living in homes with zinc roofing. Another 3% have concrete roofing, and only 1% had a home with concrete and zinc roofing. With respect to wall construction, 26% live in wood constructions, 32% in wood and cement block constructions, and 41% live in cement block constructions.

During follow-up research carried out in December 2009 housing was mentioned by many producers as a very serious problem. Some producers had tried to strengthen and/or better insulate their houses, or were trying to build houses with cement blocks but in every case, they reported that their efforts were hindered by lack of funds.

Some producers reported being reluctant to use hurricane shelters during environmental emergencies because of the fear of looting from their homes. Making their homes more secure may reduce this fear and encourage them to use hurricane shelters or even reduce the need for shelters.

The majority of workers live in homes with zinc roofing (83%). Another 13% have concrete roofing, while 2% have wood roofing and 2% had a home with concrete roofing. With respect to wall construction, 62% live in wooden constructions; 32% in wood and cement block constructions, and only 7% live in cement block constructions.

Among Haitian workers, 81% live in homes of wood construction, and 19% live in homes of wood and cement block construction. With respect to roofing, 81% of Haitian workers have zinc roofing, and 19% have concrete roofing. Two Haitian workers (13% of Haitian respondents) reported living in homes of wood construction and cane roofing. This is unlikely to provide adequate protection in extreme weather conditions.

As regards living arrangements, the workers reported the following:

Table 11

<table>
<thead>
<tr>
<th>Living arrangements among worker respondents</th>
<th>Workers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own home</td>
<td>43</td>
</tr>
<tr>
<td>Family home</td>
<td>12</td>
</tr>
<tr>
<td>On loan</td>
<td>19</td>
</tr>
<tr>
<td>Living in the farmer’s house</td>
<td>12</td>
</tr>
<tr>
<td>Rented</td>
<td>12</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: field survey
3.13 Concluding remarks

Among the possible areas for intervention, the area of social development appears to warrant particular attention, especially as regards education, health and housing. In view of the low levels of education among producers and workers, interventions to support literacy, such as for example the provision of free adult literacy classes for interested individuals involved in cocoa (growers, workers, spouses) may prove very worthwhile.

The research also suggested that producers would benefit from interventions in the area of health and safety as they were not always easily able to obtain medical help when needed. Because the challenges relating to healthcare facilities in cocoa-producing areas are broad, they require a combination of approaches involving a variety of stakeholders to tackle them. In a practical sense, the research suggested there were opportunities for interventions in the form of awareness-raising or training which could be explored. For example, health campaigns to provide free tetanus injections in rural areas would reduce the risk of infection following an injury. Training key staff at cocoa delivery sites in first aid and having first aid facilities in place at cocoa delivery sites could reduce the distance some farmers have to travel in an emergency. Giving cocoa technicians first aid training, and technicians carrying first aid equipment when visiting cocoa farms, might also prove invaluable in the event of an emergency. More fundamentally, the provision or heavy subsidisation of health insurance for producers, long-term workers and spouses/children would significantly enhance the attractiveness of the cocoa industry.

In view of the fact that the DR is vulnerable to extreme weather conditions, but much of the housing does not provide adequate protection, producer and worker housing is another area requiring urgent attention.

As the age profile of producers is relatively high, an obvious area for intervention is promotion/awareness-raising of cocoa production among young people although as chapter 6 will show, this should be considered alongside initiatives in other areas, such as income regularisation. The promotion of cocoa production could include a variety of stakeholders and for example include scholarships, workshops and/or internships for young people, to name a few.

While the number of Haitian workers in cocoa is relatively small relative to other crops, in view of the difficult situation in Haiti, and of the general importance of maintaining high labour standards in cocoa, ongoing sensitisation or monitoring of labour standards is recommended.

Some of the issues raised are complex challenges which cannot be addressed only on the basis of the data presented here. For example, while it is important that the issue of lack of land titles is addressed, it is not clear how best to approach this without a more detailed understanding of the subject. Further investigation is required to clarify this. Similarly, further research could be carried out to determine ‘drop-out’ rates in the cocoa industry and the specific reasons why farmers abandon production. However, it is likely that findings would reiterate many of the results of the present study, therefore this is not a strong recommendation for follow-up research.

Among the possible areas for intervention, the area of social development appears to warrant particular attention, especially as regards education, health and housing.

As regards gender, further research documenting whether (and/or to what extent) women cocoa farmers in the DR are more receptive to production advice and agricultural extension activities, more likely to take up new farming methods, make better farm managers etc. could yield valuable insights for future programmes of action. However, in a more immediate sense, the data from the study has indicated a need for some intervention in the area of gender to enhance the representation and visibility of women in what is arguably a male-dominated environment. This could be achieved in a variety of ways such as appointing representatives at various echelons within the cocoa industry e.g. in the community, at cocoa-buying sites, within cocoa companies or developing women’s groups for women farmers. These could organise events to promote greater recognition of the contribution of women in cocoa and run programmes to attract women to become cocoa farmers.

Another suggestion is for cocoa companies to develop a clear and explicit vision for supporting women in cocoa, both for women farmers and income-generating activities for the wives of farmers and other women in cocoa-producing communities. In practical terms, this could include a commitment to provide education on loan management, market identification, advice on quality, organisation of knowledge-transfer activities etc. to maximise the chance of income-generating activities being successful.
Chapter 4: Cocoa production in the DR

4.1 Background

The main cocoa season in the DR is from March to July and there is a smaller season between October and January. All cocoa is shade-grown. The land area planted with cocoa has increased from 65,000 ha in 1971 to 152,261 ha in 2009. As previously stated, smallholder farms dominate production, although there is a trend towards larger cocoa landholdings. In 1980, 84% of cocoa farms were 5 ha or less. By 1998, only 68% of producers were reported to have up to 5 ha of land.\(^{23}\)

The cocoa-growing areas in the Dominican Republic are demarcated into five regions which are not the same as the administrative regions of the DR nor shared with any agricultural or other sector in the DR. The five regions are the Central, North, East, North-Central, and North-East.

Figure 2
Dominican coffee and cocoa growing regions

Figure 3
Regional breakdown of cocoa production areas

Figure 4
Regional cocoa production figures

\(^{23}\) These figures are drawn from various sources including Batista (2009), Siegel and Alwang (2004) and the DR Cocoa Department in the Ministry of Agriculture.
4.2 Transparency and data collection

Before reviewing productivity figures, some caveats are in order. The production and land size figures reported by the producers in the questionnaires showed some discrepancy with the statistics held by the cocoa companies purchasing from them. Many producers could not/did not give answers on their productivity or land size; interviewees tended to be vague and hesitant to state exactly how much they produced or how large their landholdings are. There are many possible reasons of this.

Focus group subjects explained that producers tend to view these questions as somewhat personal, and are deliberately vague or inaccurate because they fear that they will be levied taxes or that land could be confiscated. As previously discussed (section 3.5) many of them do not have proper land titles. Furthermore, although most taxes on cocoa have been abolished, they are not easily forgotten and rumours of government intentions to restate them abound in rural areas. Producers could be selling to more than one company, which in some cases would be in breach of their agreement with cocoa companies, but would explain the discrepancy.

The producers’ reticence to be forthcoming where production and land holdings are concerned may also be a carry-over from the time of the Trujillo dictatorship. The Trujillo era (1930–1961) is still very much ingrained in the memory of many producers who lived through that period of Dominican history. Land was often expropriated during the dictatorship, and producers have retained the suspicion that their land could be taken away.

Some technicians reported that the process of organic certification had helped to change the producers’ mindset. Producers realized that if they estimated their landholdings downward, for example claiming they owned only 40 tareas (2.5 ha), then only 40 tareas would be certified organic so many of them now see a greater incentive in being more accurate in their responses. Now when they buy new land, they report it for organic cocoa certification, which suggests they have more confidence in the purposes for which the information is sought.

In some cases, producers do not have an exact measure, so the figures they report are an approximation. Illiteracy and a lack of record keeping are likely to be contributing factors to this. One of the cocoa companies was trying to get farmers to keep accurate, written records of production, expenses etc. but reported that this initiative had not been successful until now. Although organic certification is resulting in some changes as regards reporting the size of land, any initiative to get farmers to keep production records may be hindered by the high level of suspicion which is clearly still evident among the farmers. This is symptomatic of the DR cocoa industry more broadly, many farmers and key informants reported that there was little trust between producers and institutions in the DR cocoa industry. However, the Conacado producer associations, which producers believed them to have some ownership and control of, appeared to be an exception to this.

The reasons why some producers did not give answers for the age of their trees are also varied. In some cases, they were renting land which was already planted with cocoa, therefore they simply did not know how old the trees were.

A high proportion of farms contained trees over 35 years old, which is problematic because it means the trees have already reached the peak of their productive capacity.

4.3 Traditional and hybrid trees

Batista (2009) reports that 30% of cocoa trees in the DR are of traditional varieties and that the rest are hybrids. In some cases, hybridization showed some discordancy: the statistics held by the cocoa companies purchasing from them. Many producers could not/did not give answers on their productivity or land size; interviewees tended to be vague and hesitant to state exactly how much they produced or how large their landholdings are. There are many possible reasons of this.

As with many things relating to the DR cocoa industry, estimates for the proportions of hybrid/traditional trees vary and there is no consensus as to the percentages of overall production they respectively make up. Batista (2009) and Batista (2009b) appear reliable and well-researched, but must be considered alongside other sources in order to gain a complete picture. However, all key informants agreed that a high proportion of farms contained trees over 35 years old, which is problematic because it means the trees have already reached the peak of their productive capacity.

The percentage of hybrids reported by the producers ranged from as low as 4% of trees to 100% of trees, and averaged 66% of trees. The range varies enormously by size of producer, with small producers having, on average, the fewest percent of hybrid trees at 63%, and medium producers having the largest percentage of hybrid trees at 81%.

<table>
<thead>
<tr>
<th>Type of landholding</th>
<th>Average proportion of hybrid trees (%)</th>
<th>Minimum proportion of hybrid trees reported (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small landholdings (4 hectares)</td>
<td>63</td>
<td>5</td>
</tr>
<tr>
<td>Medium landholdings (4.1–6.3 hectares)</td>
<td>81</td>
<td>4</td>
</tr>
<tr>
<td>Large landholdings (6.35 hectares)</td>
<td>67</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Field survey

The higher-yielding potential of good quality hybrid trees is well-documented. However, it emerged during qualitative research activities that (aside from the costs associated with replanting) many farmers preferred traditional trees to hybrid varieties because they believed them to be of better quality. This was exemplified by one producer who said he preferred his 180 year old trees (which were planted by his grandfather) to the younger hybrids he had planted in the last 50 years (he was 75). He said:

“...The hybrid trees I have been using (...) only last 50 years or so but the native trees are good forever and will continue to produce forever (...) The old traditional trees produce an oilier and better quality cocoa. My 180 year old trees are still yielding cocoa. These types of trees stay the same size and continue to produce cocoa.

Although many farmers have been told and know they should replant more, they do not do it for reasons of cost and because they retain an attachment to traditional trees. Their preference for traditional trees is because they associate replanting with extra costs, poorer quality trees, lower yields and the need for more frequent replanting and further effort and cost. Some of them also believed that pods from hybrid trees had thinner skin...
and were more vulnerable to being eaten by rats. The challenge is therefore not only to make replanting affordable but also to address some of the producers’ problematic beliefs about hybrid trees. More specifically, it should be explained to farmers that their negative experiences with newer types of trees are due to the fact they were poor quality hybrids rather than simply because they were hybrids.

Going back further, it is necessary to question why poor quality hybrids have been so widely distributed. At producer level, their widespread adoption has been governed by cost. Dominican cocoa farmers are in a very precarious financial situation; as a result they buy the cheapest materials they need. At country level, under-investment in the cocoa sector and a lack of strategizing have contributed to the spread of poor quality planting material. One key informant reported that the government research centre had focused on having a wide range of plants rather than on quality planting material. He added that seedlings ‘had got mixed up at the research station. As a result, farmers got a complete mixture of plants’, some of which were good and some of which were not. This does little to boost farmer confidence. He added that the government nurseries currently contained no plants and had been in a very poor state for over 20 years. This does not facilitate research into best varieties or the promotion of better quality planting material, quality being defined as high yielding and with a sound taste profile. When advocating the use of higher yielding varieties, caution must of course be exercised to ensure that yield is not privileged at the expense of flavour.

Some changes were reported to be taking place to remedy the situation with planting material. It was reported that new legislation stipulated that only certified nurseries (the government and 2 private operators) could now produce planting material to be distributed to farmers. This information could not be confirmed during fieldwork but it is hoped this will help to address some of the issues described here.

In the long-term, focusing on good quality planting material would facilitate keeping accurate records of the types of trees which make up the DR cocoa industry. Properly documenting production and building up a consistent and attractive flavour profile would send positive signals to the global cocoa industry that the DR is modernizing its cocoa sector and running it on the basis of a clear strategic vision.

4.4 Units of measurement

The production figures in Table 13 are averages of the figures provided by the farmers surveyed. The farmers gave figures for dry beans measured in quintales. The figures have been converted into kilos (based on 1 quintal = 50kg).

In most countries, 1 quintal = 100 kilos. However, in the DR different informants gave different weight equivalents for the quintal. These ranged from 1 quintal being equal to 125lb (which is 56.82 kilos), 1 quintal = 100lb (which is 45.4kg) to 1 quintal = 50kg. Written sources referring to quintals rarely specify kilo equivalents therefore it is not known what they regard 1 quintal as being equivalent to, although as 50kg is the standard measure used by exporters, this is most likely to be the equivalent weight.

Sources also do not specify whether cocoa is wet or dry, or which conversion rate is being used. At international level, cocoa is always exported dry so figures are dry bean weights. However, at production level, this cannot be guaranteed as producers mostly sell wet beans. This issue is further complicated by the fact that producers bring cocoa to delivery sites in all types of containers and at different stages of drying (it was reported that cocoa could be delivered at any stage of wet, aired or dry, and sometimes with water added to maintain weight). Therefore, it is often difficult to be sure of quantities produced/delivered/sold and this may have affected the accuracy of figures in the present chapter.

4.5 Production figures for producers sampled

Cocoa farms in the DR currently produce between 250–1,500kg/hectare. Key informants about hybrid trees. More specifically, it should be explained to farmers that their negative experiences with newer types of trees are due to the fact they were poor quality hybrids rather than simply because they were hybrids.

By region, the Central region had the highest average production level, followed by the East and the North-East, as shown in Table 15. The figures in Table 16 are average production figures for small, medium and large cocoa production units; inevitably, this data masks the disparity in proportionate production figures. These are presented in Table 17.

Table 13

Average dry cocoa bean outputs of farmers surveyed according to region in kg for 2005/6–2007/8, based on questionnaire answers given in quintals (taken to be quintals of 50kg)

<table>
<thead>
<tr>
<th>Region</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>3.915</td>
<td>3.475</td>
<td>2.670</td>
<td>3.353.3</td>
</tr>
<tr>
<td>North East</td>
<td>2.070</td>
<td>2.315</td>
<td>2.265</td>
<td>2.216.6</td>
</tr>
<tr>
<td>East</td>
<td>2.895</td>
<td>2.785</td>
<td>2.880</td>
<td>2.853.3</td>
</tr>
</tbody>
</table>

According to the data gathered in the sample, large farms registered about 8 times the cocoa output of small farms, and 3 times that of medium farms.

Table 14

Dry cocoa bean output of farmers surveyed according to farm size in kg for 2005/6–2007/8, based on questionnaire answers given in quintals (taken to be quintals of 50kg)

<table>
<thead>
<tr>
<th>Size</th>
<th>2005/06</th>
<th>2006/07</th>
<th>2007/08</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (4ha)</td>
<td>1.200</td>
<td>1.415</td>
<td>1.420</td>
<td>1.345</td>
</tr>
<tr>
<td>Medium (6–9ha)</td>
<td>3.665</td>
<td>3.875</td>
<td>3.440</td>
<td>3.660</td>
</tr>
<tr>
<td>Large (9.5ha)</td>
<td>10.585</td>
<td>11.645</td>
<td>12.020</td>
<td>11.415</td>
</tr>
</tbody>
</table>

As shown in Table 15, cocoa productivity (kg/ha) is highest among small producers (who on average produced 747.4kg per hectare in 2006–2007 and 2007–2008) compared to medium producers (680.7kg per hectare) and large producers (557.2kg per hectare). By cocoa region, productivity was found to be slightly higher in the East (662.2kg per hectare) but there were no major differences.

Disaggregating by farm size and region we find that productivity was on average highest among small producers in the East (848.7kg/hectare), followed by medium producers in the Central (790.7kg/hectare) and large producers in the North-East (770.9kg/hectare).
Cocoa Production in the Dominican Republic

As previously explained (section 4.1), the trend is towards larger cocoa landholdings (only 68% of producers had 5ha of land or less in 1998, compared to 84% in 1980). As productivity is higher on small farms, this is not a positive development for overall cocoa productivity in the DR.

Table 15
Cocoa land productivity of farmers surveyed according to region and farm size (measured in kilos harvested per hectare per annum) for 2006/2007 and 2007/2008 seasons (other seasons not available at time of research)

<table>
<thead>
<tr>
<th>Cocoa production per hectare in kilos</th>
<th>Size of landholding</th>
<th>2006/07</th>
<th>2007/08</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>Large</td>
<td>486.7</td>
<td>627.6</td>
<td>557.2</td>
</tr>
<tr>
<td>North-East</td>
<td>Medium</td>
<td>700.5</td>
<td>660.9</td>
<td>680.7</td>
</tr>
<tr>
<td>East</td>
<td>Small</td>
<td>757.3</td>
<td>738.8</td>
<td>747.4</td>
</tr>
<tr>
<td>By region</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East</td>
<td></td>
<td>578.2</td>
<td>747.4</td>
<td>662.2</td>
</tr>
<tr>
<td>Smal</td>
<td></td>
<td>837.4</td>
<td>824</td>
<td>848.7</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>622.6</td>
<td>743.7</td>
<td>683.2</td>
</tr>
<tr>
<td>Large</td>
<td></td>
<td>238.4</td>
<td>673.3</td>
<td>455.8</td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td>707.9</td>
<td>615.2</td>
<td>660.9</td>
</tr>
<tr>
<td>North-East</td>
<td>Medium</td>
<td>767.2</td>
<td>731.4</td>
<td>748.7</td>
</tr>
<tr>
<td>East</td>
<td>Large</td>
<td>913</td>
<td>668.4</td>
<td>790.7</td>
</tr>
<tr>
<td>South-East</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South-East</td>
<td>Medium</td>
<td>444.7</td>
<td>444.7</td>
<td>444.7</td>
</tr>
<tr>
<td>North-East</td>
<td>Small</td>
<td>658.5</td>
<td>664.6</td>
<td>660.9</td>
</tr>
<tr>
<td>East</td>
<td>Medium</td>
<td>632.5</td>
<td>658.5</td>
<td>646.1</td>
</tr>
<tr>
<td>South-East</td>
<td>Large</td>
<td>565.5</td>
<td>569.5</td>
<td>567</td>
</tr>
<tr>
<td>North-East</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North-East</td>
<td>Large</td>
<td>777.1</td>
<td>764.7</td>
<td>770.9</td>
</tr>
</tbody>
</table>

Source: field survey

These figures indicate a higher productivity than in certain other countries such as Ghana (Barrientos et al 2008). However, overall, these figures indicate relatively low levels of productivity relative to the strong potential of DR cocoa. In some areas, productivity could be doubled, and this would have a significant impact on incomes.

The yields presented here are based on production figures given by the farmers who took part in the study. These figures are not always consistent with the data given in other sources. There are different possible explanations for this. Many sources rely on official statistics, not all of which are based on reliable field investigations. Some of the figures quoted by key informants may also not have been reliable. Another possible explanation is that the data presented in Table 15 only reflects the information given by the farmers who were able and willing to provide figures for their cocoa production and for their land area under cocoa (and thus provided figures on their cocoa productivity). As a result, this data may show a bias towards more engaged or more ‘efficient’ cocoa farmers who are more likely to have a higher yield than the less skilled/motivated producers who do not know their farm size or production figures.

In some areas, productivity could be doubled, and this would have a significant impact on incomes.

Table 16
Cocoa land area and production 1990/1–2000/1

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Land area (000 ha)</td>
<td>121</td>
<td>121</td>
<td>127</td>
<td>137</td>
<td>142</td>
<td>153</td>
<td>109</td>
<td>139</td>
<td>126</td>
<td>125</td>
</tr>
<tr>
<td>Production (MT)</td>
<td>43,157</td>
<td>51,210</td>
<td>63,960</td>
<td>61,937</td>
<td>52,442</td>
<td>69,727</td>
<td>25,861</td>
<td>37,107</td>
<td>44,908</td>
<td>45,468</td>
</tr>
<tr>
<td>Avg. Yield/ha</td>
<td>0.28</td>
<td>0.42</td>
<td>0.50</td>
<td>0.45</td>
<td>0.37</td>
<td>0.46</td>
<td>0.24</td>
<td>0.27</td>
<td>0.36</td>
<td>0.36</td>
</tr>
</tbody>
</table>

Source: Cocoa Department of the Ministry of Agriculture, cited in Siegel and Alwang 2004, p53

4.6 Links between productivity and experience, age and education

By age of producer, those aged between 30–39 reported the highest productivity, followed by those aged 50–59 and those aged 70–79. The least productive were producers aged 40–49, and those aged 80–85 (Table 17). The higher productivity of 70–79 year olds is likely to reflect the time when their adult sons or daughters took over the farm (the records of the cocoa companies are unlikely to have been amended to reflect this and it would explain increased productivity).

Although the quantitative data on age and productivity is somewhat inconclusive, age is still very likely to be a contributing factor to low productivity. Some elderly producers showed signs of age-related health problems or strain following long-term injuries. Living in damp housing may also have a negative long-term effect on their health. Such factors are likely to affect their strength/energy and therefore their ability to work on the farm and their productivity.

Table 17
Land productivity by age of producer in kg of cocoa beans harvested per hectare

<table>
<thead>
<tr>
<th>Age range of producers</th>
<th>Productivity in kg/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>30–39</td>
<td>926.6</td>
</tr>
<tr>
<td>40–49</td>
<td>593</td>
</tr>
<tr>
<td>50–59</td>
<td>815.4</td>
</tr>
<tr>
<td>60–69</td>
<td>654.8</td>
</tr>
<tr>
<td>70–79</td>
<td>704.2</td>
</tr>
<tr>
<td>80–85</td>
<td>617.7</td>
</tr>
</tbody>
</table>

Source: field survey
Table 18 suggests that there is a link between productivity and the number of years spent in cocoa, with producers with 20–29 years spent in cocoa registering the second-highest productivity after those who had spent less than 4 years in cocoa, who presumably had newer farms and younger trees.

Table 18
Land productivity by years spent in cocoa against kg of cocoa beans harvested per hectare (average of 2007/08–2008/09 seasons)

<table>
<thead>
<tr>
<th>Years spent in cocoa</th>
<th>Productivity in kg/hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–4</td>
<td>914.2</td>
</tr>
<tr>
<td>5–9</td>
<td>764.2</td>
</tr>
<tr>
<td>10–20</td>
<td>766</td>
</tr>
<tr>
<td>20–29</td>
<td>840.1</td>
</tr>
<tr>
<td>30–39</td>
<td>741.3</td>
</tr>
<tr>
<td>40–49</td>
<td>444.7</td>
</tr>
<tr>
<td>50–59</td>
<td>420</td>
</tr>
</tbody>
</table>

Source: field survey

The data shown in Table 19 suggest that there is not a strong link between producers’ level of education and productivity. In fact, producers with no formal schooling were nearly as productive as those who had reached upper secondary schooling, and were more productive than those with basic secondary schooling. The least productive were those with university education.

4.7 Causes of low productivity
In no particular order, the main problems undermining productivity in the DR are: animal pests, Phytophthora palmivora (Black Pod disease), excessive shade, lack of sanitary pruning, low number of trees per hectare, poor planting material (as previously discussed), lack of funds leading to underinvestment in farm maintenance, a need for more technical support and environmental disasters. They will all be examined in the present chapter; some are more crucial than others in raising productivity. One of the key informants argued that simply controlling rats and Black Pod and good pruning/weeding would be enough to increase cocoa productivity considerably in some areas without having to plant new land not currently planted with cocoa.

The producers sampled reported being affected by these problems as follows:

Table 20
% of producers who reported being affected by diseases, pests, and natural disasters

<table>
<thead>
<tr>
<th>Pest/disease/natural disaster</th>
<th>Producers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rats</td>
<td>72</td>
</tr>
<tr>
<td>Bats</td>
<td>12</td>
</tr>
<tr>
<td>Woodpeckers</td>
<td>65</td>
</tr>
<tr>
<td>Insects</td>
<td>23</td>
</tr>
<tr>
<td>Phytophthora (Black Pod)</td>
<td>2</td>
</tr>
<tr>
<td>Cyclones/hurricanes/tropical storms</td>
<td>78</td>
</tr>
</tbody>
</table>

Source: field survey

However, it is important to note that these problems vary according to regions and some producers may not have been aware of the full extent of the damage these factors caused to production due to lack of awareness, as explained in the following sections.
Cocoa Production in the Dominican Republic

Pests

Batista (2009) states that 25% of the cocoa crop (14,350.48MT) is lost annually to tree diseases, rats, and woodpeckers. The most serious pests for producers are woodpeckers and rats. The majority of producers surveyed (72%) reported losses as a result of rats and 65% reported losses due to woodpeckers. Some producers believed rats prefer hybrid cocoa pods because their husks are thinner than those of traditional cocoa pods.

The methods used for controlling rats and woodpeckers were very basic. They included mixing coconut with salt (as rats eat this and it kills them), shooting woodpeckers and/or hanging white plastic bags or mirrors on the trees to scare them away. Because of organic certification, no chemical pesticides can be used which limits the ways in which producers can control these problems.

Because some farmers do not tend to their farms enough and/or because some of them are illiterate, it is possible they have underreported or inaccurately quantified the full damage caused by pests. Technicians were also consulted on this issue. The estimated losses they reported as a result of rats and woodpeckers varied significantly by region.

The technicians for one cocoa company estimated production losses due to rats and woodpeckers to be between 10% and 25%, depending on the region. Technicians from the other company reported that the damage from rats in the East region now accounts for less than 5% of production losses following training with workers and producers. If these figures are accurate, they provide a strong indication of the value of technical support and of the need to maintain education on pest control as damage caused by rats appeared to be considerably reduced following training. Frequent and regular harvesting could also significantly reduce losses from pests as well as from Black Pod disease (see below).

Black Pod disease

Only 2% of producers reported losses as a result of Black Pod (Table 20). Black Pod is a fungus and its effect depends on rainfall and the timing of pod production. It can ultimately reduce the quality of the cocoa beans. It affects all agricultural production, not only cocoa, but some 25–30% of cocoa production is affected by it mainly the East, North, and North-East. Once a cocoa tree is infected, the infected pods need to be removed, the trees need to be pruned and shade and moisture management are required.

It is surprising that so few producers reported production losses as a result of Black Pod because evidence of Black Pod was seen on many of the farms visited during the study. It is unlikely that it only affected 2% of producers interviewed. This finding may indicate they did not understand the question in the way it was asked or could indicate the need for more education on this issue.

Interaction with technicians reinforced the latter possibility and suggested there may even be a need for technicians to receive further training on the control of Black Pod. In conversations with them, they tended to emphasise that Black Pod was caused by rainfall and was therefore inevitable, rather than to focus on controlling it. As this observation is based on a small number of conversations with technicians, it is not generalisable. However, the evidence would tend to suggest that further training is necessary in this area and that the quality of advice that the farmers receive on Black Pod control is variable.

Productivity and shade

As previously stated, all Dominican cocoa is grown under shade, although the degree of shade varies according to how well-maintained the farm is. When asked about shade, key informants explained that cocoa was grown under the natural shade canopy present in the DR. They also explained that they did not have the technical skill or irrigation systems that other countries have to grow cocoa in full sunlight (which is anyway a rare practise). A full list of trees growing with cocoa is included in Appendix 1.

Some varieties of cocoa trees were reported to be more susceptible to shade than others and shade management was said to be especially critical when there is heavy rainfall. Many technicians reported that producers did not do enough to reduce shade levels on their cocoa farm and that excessive shade is a considerable problem. Some of the farms visited during the study were very over-shaded, sometimes to the extent that visibility was poor under the canopy.

Heavily shaded cocoa trees (Neil la Croix)
Before producers could trim or remove shade trees (also referred to as renovation pruning), they had to seek approval from the Ministry of the Environment and the Department of Agriculture. The process of securing approval was reported by technicians as being straightforward and taking approximately one week. It entails requesting that a technician inspect the property to evaluate shade and to determine which trees should be removed. The technician writes up a report and the producer is then given permission by FORESTA to remove only the designated trees. If the technician removes other trees, they can be imprisoned or subject to a large fine. Once the technician has given their authorisation the producer can remove the designated trees even before official permission is given from the Ministry of the Environment. The process is swifter if the technician is accompanied to the field by agents of the Cocoa Department. Approval costs RD$100 (US$2.8) per large tree. For the removal of bushes or shrubs, the cost is calculated on a per tarea basis. It was reported that procedures for renovation pruning used to be much more complicated but many farmers do not know they have been simplified. This may be a contributing factor to the general lack of renovation pruning.

Importantly, many producers explained during focus groups that they felt they received sufficient technical support and that they knew they were supposed to trim or remove trees. They explained that this was not done because they lacked the funds to do so and needed more financial support. While they may feel that they knew enough on this subject, additional training on this subject is still recommended in order to ensure that this process is properly understood. For example, it was reported some farmers believed that shade was good for cocoa; they may not have realised that shade, however necessary, could also be excessive.

**Weeding and sanitary pruning**

In addition to the issues above, there was an evident lack of sanitary pruning i.e. the removal of dead branches, dead pods, chupons (offshoots of the plants that emerge from the trunk of the cocoa tree) and excessive branches from cocoa trees and weeds on many farms. Weeding and pruning do not require permission, but they are expensive if contracted out and were reportedly the highest cost to producers. Focus group participants noted that while producers might be able to secure loans from their buyers for the harvest, they are unable to secure loans for sanitary pruning or weed control. The fact that farmers would wish to borrow money in order to hire labour to weed is concerning as it indicates a perceived need to incur debt in order to cover the costs of production (see chapter 5).

Some people develop a reputation for specialising in tree pruning, and these are highly sought after by producers, charging as much as RD$700–$800 pesos (US$19.5 – US$22.8) per day, depending on the quality and expertise of the specialist, the type of pruning required and the region. The high cost of pruning and weeding was cited as the primary reason why these were not carried out frequently enough. However, a number of important secondary issues also emerged at farm level.

Firstly, the fact that pruning has to incur labour costs is questionable. Producers believed that they could not carry out sanitary pruning themselves as it had to be done by an expert in order to avoid damaging the tree. This belief was backed up, rather than challenged, by informants in the cocoa companies who also felt pruning needed to be carried out by an expert. However, discussions with technical experts in the DR and in the UK do not support the belief that sanitary or structural pruning can only be done by hired specialists. Clearly, there is still involved and this requires some training. However, this can be done by farmers and does not require paying high fees to an outsider. Therefore, sensitisation on this issue for farmers and technicians is strongly recommended as farmers appear to be incurring high costs unnecessarily and/or under-investing on their farms as a result of erroneous beliefs.

Some farmers also reported that ‘experts’ were also required for other basic tasks such as harvesting. Training should be carried out on these issues in order to ensure that incorrect beliefs do not take hold/spread further.

Secondly, farmers tended to emphasise the damage that could result from bad pruning. However, in a discussion with a female farmer about whether pruning needed to be carried out by an expert, she said she would be happy to do her own pruning if she could be taught. She added that she had heard that there were plans to set up a model farm near her plot of land. She said she was curious to see the effects of pruning, weeding etc. and would take these up if they were shown to work well. On the basis of one conversation, no conclusions can be drawn about gender-based differences on the uptake of farming advice. However, this is something which should be investigated further.

Thirdly, there was a general tendency among farmers to want to farm ‘naturally’ 24 This is in keeping with the organic ethos but could undermine good farm management. More specifically, farmers appeared reluctant to prune trees and there were many reasons for this. For example, it did not seem natural to them that pruning a tree could benefit it. Having more branches seemed desirable as it may mean having more pods and trees would still produce if they were not pruned (thereby reinforcing the view that it was unnatural for them to be pruned). It was also reported that some farmers did not like pruning cocoa trees because they thought more shade would result in more cocoa.

Finally, it was reported that during the Trujillo dictatorship, agricultural extension services were virtually non-existent and bad habits (such as lack of sanitary pruning) crept in, which may in part explain some of the production challenges identified here.

The main lesson to take from the data presented in this chapter is that the reasons why farmers do not reduce forest shade or carry out sanitary pruning – aside from high but often unnecessary costs – are numerous and varied. Some possible areas of intervention are discussed in section 4.11.

Worryingly, some communities were starting to report that ‘experts’ were also required for other basic tasks such as harvesting.

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24 Reynolds (2008) argues that low-input forms of cultivation and reliance on natural farming methods (both of which have made the transition to organic certification relatively straightforward) have well-established historical antecedents in agricultural production in the DR.
Cocoa production in the Dominican Republic

School children with cocoa pods (Clara Molden/Telegraph)
Low tree density

Another factor behind low yields is the relatively low number of cocoa trees on farms and the spacing between them. A key informant reported that native cocoa trees were originally planted on a plan of 4 x 4 metres. Years later, following hurricanes etc., they are now up to 8–10 metres apart. He also believed that there were rarely more than 50 cocoa trees on each tarea of land (i.e. fewer than 800 trees/ha) and most farms only had 30 cocoa trees per each tarea of land (approx 480 tareas). The DR Ministry of Agriculture currently recommends 70 trees per tarea of land (1,120 trees/ha) and recommends that cocoa trees should be planted on a 3m x 3m spacing.

Not surprisingly, a low number of cocoa trees per hectare does not provide high yields, especially when combined with the other factors already outlined such as age of trees, poor planting material, excessive shade etc. This indicates that there is scope for planting more trees within existing cocoa fields. This would increase production without incurring the expense of buying land. It also shows that the extent of the land planted to cocoa does not reflect the number of plants and this must be taken into account when calculating productivity. However, above all, it illustrates a fundamental need for replanting and the general rehabilitation of cocoa farms.

Provision of technical and other support

46% of producers reported relying on their membership of an association (e.g. Fuparoca or the Bloque) for various forms of support. The most frequently mentioned benefits were technical assistance and training, and financing and loans. Overall, there was a perception from producers that they did not receive enough support. When asked how they would spend disposable income if they had any, producers also said that their preference would be to buy more land to increase their production (rather than to improve farm maintenance to increase their productivity). Given the increasing value of land, this is a rational response. Unfortunately, in the minds of many producers the belief that acquiring more land will increase production and constitute a good investment obscures the need to increase productivity in the short-term to raise incomes.

Promoting the idea that increasing productivity will be more effective in poverty reduction than trying to acquire more land is likely to be a challenging process. The wives of farmers (but not female farmers) did not share the producers’ desire to acquire more land. In focus groups with them, their priority was to secure land control, Black Pod disease and shade reduction, hiring more technicians, as well as giving more training to present ones, is advisable. In view of the challenges identified in the present chapter, there is scope to at least double the numbers of technicians employed to support cocoa farmers.

As regards financial or other support for farm preparation or maintenance from governmental institutions and/or ministries, only 11% of small producers reported receiving this type of aid, compared to 33% of medium producers, and 25% of large producers. The belief that giving particular answers may have brought them benefits may have affected some of the answers given. The results also vary enormously by region, with producers in the East reporting the greatest access or recourse to official aid, followed by those in the North-East. This suggests more support is given to some regions than others but this could not be verified during the research.

4.8 Other factors affecting productivity

Planting cocoa plants of better genetic material is a way of improving production. Producers pay around RD$50 (US$1.4) for 8 cocoa pods, which would yield 250 seeds (better plant varieties are more expensive). Grafting is often considered a better and quicker option than planting new trees to improve productivity because it can produce a significant yield in 1–2 years, as opposed to having to wait at least 5–6 years for new trees to grow and come into production.

However, there are practical difficulties associated with grafting. Firstly, basal chupon grafting is expensive. The market cost of a budstick for grafting is roughly RD$75–$100 (US$2–2.8) although some companies provide subsidies. For example, Conacado subsidises this cost to members, which costs them RD$30 (US$0.8) per tree. Secondly, the grafting process requires well-trained personnel. Focus group interviewees noted that aged producers are not very good at grafting because it requires a steady hand. One producer explained that because he was old and his hands were no longer as steady, if he grafted ten trees, perhaps one would take. Tirek technicians reported having a team that teaches and coordinates the training of producers in grafting.

Although grafting is more expensive and requires considerable skill, on many farms it would make a considerable (and relatively rapid) difference to productivity and thus should be encouraged. However, because many cocoa farms in the DR have a relatively low tree count, basal chupon grafting may not be enough to make them financially worthwhile. Therefore, a better approach to regenerating farms may be to combine grafting on existing trees and planting new seedling stock (of good quality hybrids) in any gaps.

Worm fertilizers would help provide organic fertilizer but at a cost of RD$5,000 to $10,000 pesos (US$139.7–279.4); it is prohibitively high. Other recommendations raised by the producers include cutting chupons, planting of natural ‘living’ barriers such as pineapples, ginger, patchouli (which are also used as repellent for pests) and forest trees to provide barriers against hurricanes and winds. The decomposing cocoa pods, branches, and leaves are also used by producers as fertilizer.

Theft is estimated to make up approximately 10% of production losses. It is typically restricted to a few kilos because stealing more cocoa carries a greater risk of exposure. In addition to the benefits already outlined, better farm maintenance may help to stem theft, since farms that are neglected are more likely to be targeted by thieves.

There is scope to at least double the numbers of technicians employed to support cocoa farmers.
4.9 Natural disasters
There was a widespread feeling of resignation with respect to methods of protection against natural disasters such as hurricanes. Some producers took pre-emptive action to maximize production by harvesting whatever cocoa was ready (10%) or by minimizing damage to the cocoa trees by pruning and trimming trees (10%). The most common response was that there was little recourse to an act of God but prayer (13%). Small producers in the East and all producers in the North-East reported the greatest losses.

Table 21
Average estimated losses from natural disasters reported by producers in US$ by farm size and region

<table>
<thead>
<tr>
<th>Farm size and region</th>
<th>Average estimated losses from natural disasters (in US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small producers</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>n/a</td>
</tr>
<tr>
<td>East</td>
<td>1,800</td>
</tr>
<tr>
<td>North-East</td>
<td>542</td>
</tr>
<tr>
<td>Medium producers</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>n/a</td>
</tr>
<tr>
<td>East</td>
<td>n/a</td>
</tr>
<tr>
<td>North-East</td>
<td>1,862</td>
</tr>
<tr>
<td>Large producers</td>
<td></td>
</tr>
<tr>
<td>Central</td>
<td>n/a</td>
</tr>
<tr>
<td>East</td>
<td>n/a</td>
</tr>
<tr>
<td>North-East</td>
<td>2,863</td>
</tr>
</tbody>
</table>

Source: Field survey

The worst environmental disaster in living memory to have affected cocoa production was Hurricane Georges in 1998, which wiped out almost two-thirds of the subsequent season’s cocoa production in 24 hours (Table 16 showed figures on the resulting reduction in area and production of cocoa). Its trajectory—a lot of which went through cocoa regions—is reproduced below. Unfortunately, it was followed by Hurricane Jeanne in 2004 which, although less powerful, also caused some damage to cocoa production.

4.10 Impact of other activities on productivity
Producers’ engagement in other economic activities does not appear to negatively affect their productivity in cocoa. The 63% of producers supplementing income through other work produced more cocoa per hectare (85.2 kilos more per hectare) than those involved exclusively in cocoa production. In absolute values, this was equivalent to 276kg of beans by the former, compared with 241.5kg of beans for the latter.

There are several possible explanations for what may seem like a counter-intuitive finding. The most likely explanation for this is that farmers with other farm-related income-generating activities are more likely to tend and maintain their farms than those who rely on passive cocoa farming (‘harvesticulture’ rather than agriculture), because they need to tend to all their food crops. Many plant complimentary crops alongside cocoa and consume or sell the produce. At the same time farmers with non-farm income-generating activities may be more productive because they have the disposable income to employ and pay for weeding, shade management, etc., which are costly but also productivity-enhancing. Overall, this is a positive finding as it suggests that cocoa production would not suffer if sources of household income were diversified. Given current low incomes (see Chapter 5) greater diversification of household income is desirable.
4.11 Concluding remarks

Since the research was completed, it is reported that cocoa is increasingly perceived as attractive relative to other crops due to recent high prices and that there is increased interest in cocoa cultivation by traditional producers and non-producers in the DR. Higher cocoa prices are also said to be attracting new farmers who are keen to do things ‘properly’ and are planting with good quality material, which is a positive development for the industry.

However, from a social perspective, a producer population whose average age is 58, where over 70% of members have primary education only and whose incomes are generally low, is not one which young people are going to be keen to join. The relatively high average ages may also mean that producers are less receptive to taking up new farming techniques, replanting trees or simply increasing the frequency of pruning and/or weeding.

The fact that productivity is higher among small producers is further evidence of the problems associated with a move away from small landholdings which seems to be the current trend in DR cocoa. As Chapter 5 will show, other problems include low incomes for workers, lack of long-term security and high vulnerability to poverty. Therefore, it is strongly recommended that further investments are made to support current and future producers in order to ensure that they do not abandon cocoa production.

During the study, in focus groups with cocoa technicians and with producers, the general consensus was the need to redouble efforts to raise producer incomes by increasing productivity. Making this a reality may not be as straightforward as many producers retain the idea that land can just be ‘left’ to produce and in most cases their priority is to acquire more land rather than to increase their productivity.

Given the importance of minimum production to ensure a decent living, farmers improving their productivity would be highly beneficial. Raising production levels can be achieved by either making existing landholdings more productive or by increasing the size of landholdings. The following chapter argues that farmers would need to produce at least 54.14 quintals (2,707kg) a year at 2009 prices to clear the threshold of moderate poverty (not taking into account other possible sources of incomes and costs of production). Small farmers would need to double the size of their landholdings from 2.02 ha (approximately 32.4 tareas) to 4.14 ha (66.2 tareas) to produce 2,707kg a year – assuming a productivity of land of 654kg per ha (the average for small, medium, and large landholdings). Given the high cost of land, this would entail a very large financial burden, especially for small farmers.

If small producers were to raise production levels by making their existing landholdings more productive (average of 2.02 ha) more productive, they would have to raise the productivity of land from an average of 747.4kg per ha to 1,340.1kg per ha (or from 14.9 quintals per ha to 26.8 quintals per ha) to produce 2,707kg a year. However, it should be noted that this level of production only just clears the threshold of moderate poverty (and does not include costs of production). Batista (2009b) argued that for a new cocoa farm to be attractive and financially sustainable the minimum size should be 18.75ha (300 tareas).

A comprehensive set of practical recommendations on how to improve productivity in Dominican cocoa has been submitted to the Cocoa Partnership, now Cocoa Life. However, as it is too detailed and lengthy to be included in full here, some of the main recommendations on boosting productivity are listed here:

- The data suggests a need to move away from simply telling farmers to replant and a need for greater recognition of the farmers’ negative experiences with poor quality hybrids. In order to overcome this, they should be educated about the significant advantages of replanting with good quality material and this should be distributed freely or at very highly subsidized prices. Without this, it is highly unlikely farmers will replant.
- Model farms should also be set up/expanding to illustrate the value of pruning and weeding and the productivity and other advantages of good quality hybrids.
- Private and governmental nurseries should focus on promoting a small number of good quality hybrids to farmers. Focusing production according to particular clones would also improve the consistency of the flavour characteristics of Dominican cocoa.
- With investment and support from government, the government nurseries should be rehabilitated and better organized and have a better quality control system for the material. A wide range of plants of varied genetic make-ups/quality should be kept by the government for research purposes only.
- For accuracy and transparency it is recommended that units of measurements in the cocoa industry are clarified and/or standardised.
- Producers should also be given more training on the benefits of reducing shade, which is likely to require more technicians to be employed/given further training.
- Workshops e.g. on pruning should be run to educate farmers. The advice given should be practical and accessible. It should be geared towards addressing the specific concerns and beliefs held by the farmers (as outlined in the present chapter) rather than provide a generic education on cocoa. Farmers who regularly carry out weeding and pruning should be invited to take part to talk about their experiences (and high yields). The maths of how pruning will result in higher incomes should be explained in terms which are easy for illiterate farmers to comprehend.
- As recommended in section 3.2, research should be undertaken to determine whether there are clear differences in receptiveness to farming advice based on gender. If there are, this should be taken into consideration in initiatives to increase productivity.
- Grafting and replanting should be promoted through education and the provision of free or highly subsidised high-quality cocoa plants and grafting support.
- Farmers should be encouraged to rehabilitate farms by educating them about the need to increase the number of cocoa trees and educating them about the ideal plant spacing for both cocoa and shade trees.
- Producers should also be educated about the value of increasing productivity rather than land area, or at least sensitised to the fact that in order to be able to buy more land, they will need to increase productivity.
- Companies should employ more technicians to support farmers and current technicians should be provided with additional training.

Ideally, in order to be able to address the challenges outlined here, a major programme of support to the DR cocoa industry should be put in place bringing together key stakeholders including cocoa companies, chocolate manufacturers, government, NGOs, research institutes and others. To achieve this, the DR cocoa industry would benefit from there being greater trust between key stakeholders, and more openness and transparency should be encouraged.
Chapter 5: Incomes

5.1 Background on the National Cocoa Commission

The DR National Cocoa Commission (NCC) was set up in 1976 to formulate policy relating to cocoa in the DR, including policies which impact the prices paid to farmers. It is a semi-public organisation working in collaboration with the Cocoa Department of the Ministry of Agriculture (from which it originated following a decentralisation initiative). The NCC is the DR’s representative in the International Cocoa Organisation (ICCO). According to Siegel and Alwang, the NCC is also tasked with maintaining the quality of exported cocoa and runs a free quality control lab for this process. It approves exports of Dominican cocoa and grants export licenses (2004: 68).

The NCC board of directors is made up of 8 exporters and processors (e.g. Rizek, Roig, Munne) who represent the export sector and who have 1 vote as a group. It is therefore important for them to align their interests and be able to reach a consensus to present their vote. The producers are represented by two cooperatives (Conacado and Aprocaci) and 6 independent producers. The independent producers are appointed according to whether they are leaders in their zones (although it was not clear how leadership is defined). For example, if you represent Puerto Plata, you must be a leader in that zone. As a group, producers have 1 vote. The government is at the centre of the NCC. It is represented by the Ministry of Agriculture and also has 1 vote.

The NCC’s operating budget comes from a RD$50 (US$1.39) contribution levied on every kilo of cocoa exported (with some smaller revenues from other cocoa-based exports). In 2008-2009, this amounted to a total of RD$ 45,427,074.69 (US$1,269,267.2).25 Frustratingly for certain key informants, the NCC also retains a portion of export revenues to repay a loan which was given to help rebuild the cocoa sector following Hurricane Georges. This issue is unfortunately too complex, and there was insufficient reliable information on it, to be able to go into any detail here.

5.2 Price setting

The prices farmers in the DR receive for their cocoa is set daily by the companies in the private sector (which includes producer cooperatives). Exporters set based on the New York price which is also the basis for the local producer price. One key informant reported that their company set the producer price in the following way: the NY price (which is in metric tonnes) is converted to 50kg and the price is then converted from US$ to RD$ at the current rate of exchange. The company then deducts RD$800 for every 50kg as this is the cost of preparing the cocoa for export (fermentation, bags etc).26 In contrast, a key informant in a different company reported that their company policy was to keep RD$100 for every bag (70kg) of cocoa exported in order to cover administrative costs, operational costs, services etc.

Historically, exporters (or their intermediaries) have not paid different prices for different quality beans (Siegel and Alwang 2004). This means that there has been no financial incentive in the past for farmers to produce beans which are either lower quality Sanchez beans or can be turned into high-quality Hispaniola beans. However, it was reported that in the past different companies had at times paid very different prices for the same type of bean. As a result, better communication networks had been put in place within the industry to check for any ‘abnormal’ price situations because there was a wide agreement in the private sector that producer prices should be the same. As the NY price fluctuates there is also a well-developed communication network with field-based sales agents to ensure they are kept informed of price changes.

The NCC obtains prices from the cocoa exporters and releases daily averages which become the reference producer price. Exporters voluntarily follow this price to protect against price abnormalities but are free to give additional quantity/quality bonuses to farmers. While prices are set freely based on NY prices, the reference price issued by the NCC (based on prices set mainly by private export firms) steers the local market.

5.3 Producer and export prices

As with many issues relating to Dominican cocoa, there are many discrepancies in the data available on producer and export prices. This creates considerable difficulty in analysing the data. For example, the export price varies depending on the type of cocoa which the exporter is selling. However, official government figures and figures provided by other sources (often based on government sources) are not always broken down into different categories (Sanchez conventional/Hispaniola conventional/Sanchez organic/Hispaniola organic) and figures are often significantly rounded off, which can lead to inaccuracy.

25 Source: División de Comercialización of the Cocoa Department of the DR Ministry of Agriculture (SEA).
26 A bonus is then added for organic. See section 5.6.
These concerns notwithstanding, some key trends emerge from the data available. Figures cited by Batista (2009) indicate that both export and production prices have risen over the period 1997–2007.

### Table 22

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (MT)</th>
<th>Internal consumption (MT)</th>
<th>Export (MT)</th>
<th>NY market (US$/qq)</th>
<th>Export price (US$/qq)</th>
<th>Producer price (RD$/qq)</th>
<th>Export earnings (US$/qq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>97/98</td>
<td>69.729.80</td>
<td>2.936.00</td>
<td>59.291.50</td>
<td>73.02</td>
<td>65.70</td>
<td>871.17</td>
<td>92.598.126.70</td>
</tr>
<tr>
<td>98/99</td>
<td>25.861.40</td>
<td>3.870.40</td>
<td>21.990.60</td>
<td>54.30</td>
<td>46.30</td>
<td>661.03</td>
<td>26.961.079.64</td>
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<tr>
<td>99/00</td>
<td>37.107.10</td>
<td>4.840.10</td>
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<td>374.52</td>
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<tr>
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<td>44.908.02</td>
<td>3.435.25</td>
<td>39.035.38</td>
<td>42.17</td>
<td>34.38</td>
<td>381.72</td>
<td>38.812.332.91</td>
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<tr>
<td>01/02</td>
<td>45.468.15</td>
<td>2.150.00</td>
<td>44.409.92</td>
<td>68.45</td>
<td>60.54</td>
<td>761.85</td>
<td>65.675.039.27</td>
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<td>75.87</td>
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<td>59.266.103.95</td>
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<td>60.05</td>
<td>1.211.48</td>
<td>41.850.430.20</td>
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<tr>
<td>05/06</td>
<td>45.912.24</td>
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<td>40.615.66</td>
<td>67.04</td>
<td>59.04</td>
<td>1.325.18</td>
<td>61.955.841.23</td>
</tr>
<tr>
<td>06/07</td>
<td>42.154.33</td>
<td>2.448.53</td>
<td>42.340.29</td>
<td>61.64</td>
<td>70.05</td>
<td>1.624.48</td>
<td>86.440.042.29</td>
</tr>
<tr>
<td>Average</td>
<td>43.651.74</td>
<td>2.936.85</td>
<td>39.516.19</td>
<td>64.56</td>
<td>56.69</td>
<td>1.026.07</td>
<td>57.651.809.56</td>
</tr>
</tbody>
</table>

Source: Batista (2009: 35)

### Table 23

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (MT)</th>
<th>Internal consumption (MT)</th>
<th>Export (MT)</th>
<th>NY market (US$/MT)</th>
<th>Export price (US$/MT)</th>
<th>Producer price (US$/MT)</th>
<th>Export earnings (US$/MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>97/98</td>
<td>69.729.80</td>
<td>2.936.00</td>
<td>59.291.50</td>
<td>1,460.40</td>
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<td>4.840.10</td>
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<td>597.2</td>
<td>481.8</td>
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<td>687.6</td>
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<td>44.409.92</td>
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<td>42.381.95</td>
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<td>1,191.60</td>
<td>805.49</td>
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<td>47.317.55</td>
<td>2.026.00</td>
<td>44.403.15</td>
<td>1,357.20</td>
<td>1,210.80</td>
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<tr>
<td>04/05</td>
<td>31.361.14</td>
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<td>28.426.07</td>
<td>67.04</td>
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<td>1,325.18</td>
<td>61,955,841.23</td>
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<td>05/06</td>
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<td>40.615.66</td>
<td>67.04</td>
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<tr>
<td>06/07</td>
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<td>1,624.48</td>
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<tr>
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<td>43.651.74</td>
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<td>39.516.19</td>
<td>64.56</td>
<td>56.69</td>
<td>1,026.07</td>
<td>57,651,809.56</td>
</tr>
</tbody>
</table>

Source: based on Table 22

Table 23 provides the same information converting RD$ into US$ and the quintal into MT in order to facilitate understanding for readers unfamiliar with RD$ and the quintal (based on 1 quintal = 50kg).

### Graph 5

Trends in DR cocoa market 1997/98–2006/07

As previously stated, this shows that NY, export and production prices have all risen over the period. However, within the overall trend of increasing prices, there are some disparities between producer and NY/export prices. While export prices have closely mirrored the NY price, the producer price has risen, but at a lower rate, and is not so reflective of price spikes in 2002–2003 or in 2006–2007.

On this issue, different sources discussing trends in DR cocoa can be difficult to reconcile. For example, the internal memo on cocoa produced by the cocoa department for 2006–2007 reports that cocoa has enjoyed relative stability in export prices in the last 6 harvests, and it reports that 2006–2007 was one of the best, registering an average of US$75.59 for 50kg (= US$1,511.8/MT). It also states that ‘this price has been transferred in the same way to producers’. While it is true that higher NY prices are reflected in higher producer prices, it overlooks the fact that price rises are not necessarily proportionate to the NY price changes. According to Table 24 and Graph 6 below, it also overlooks the fact that the overall proportion of the export price which is paid to producers is declining over time. Graph 6 shows that the percentage of the export price passed onto the producers has fallen over the period 1998/99–2006/07 while the percentage of the NY market price retained by the exporters has risen over the same period.
Table 24

<table>
<thead>
<tr>
<th>Cocoa season</th>
<th>% of NY price paid to producers</th>
<th>% of export price paid to producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-1998</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>1998-1999</td>
<td>76.7%</td>
<td>90.0%</td>
</tr>
<tr>
<td>1999-2000</td>
<td>61.3%</td>
<td>77.7%</td>
</tr>
<tr>
<td>2000-2001</td>
<td>56.8%</td>
<td>70.1%</td>
</tr>
<tr>
<td>2001-2002</td>
<td>65.4%</td>
<td>73.9%</td>
</tr>
<tr>
<td>2002-2003</td>
<td>49.4%</td>
<td>54.6%</td>
</tr>
<tr>
<td>2003-2004</td>
<td>59.3%</td>
<td>67.6%</td>
</tr>
<tr>
<td>2004-2005</td>
<td>62.3%</td>
<td>71.8%</td>
</tr>
<tr>
<td>2005-2006</td>
<td>60.6%</td>
<td>68.8%</td>
</tr>
<tr>
<td>2006-2007</td>
<td>59.9%</td>
<td>64.7%</td>
</tr>
</tbody>
</table>

Source: Based on the figures in Table 23

Graph 6

Relationship between NY price, export price and producer price 1998–2007

Table 25

<table>
<thead>
<tr>
<th>International price $/kg</th>
<th>Exchange RD$/</th>
<th>Producer price* RD$/50kg</th>
<th>Producer price* $/kg</th>
<th>Producer price% of international price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct 03 1.54</td>
<td>35.07</td>
<td>1,609</td>
<td>0.92</td>
<td>60%</td>
</tr>
<tr>
<td>Nov 03 1.44</td>
<td>39.99</td>
<td>1,773</td>
<td>0.89</td>
<td>62%</td>
</tr>
<tr>
<td>Dec 03 1.50</td>
<td>37.63</td>
<td>1,694</td>
<td>0.89</td>
<td>60%</td>
</tr>
<tr>
<td>Jan 04 1.63</td>
<td>46.36</td>
<td>1,940</td>
<td>0.84</td>
<td>51%</td>
</tr>
<tr>
<td>Feb 04 1.57</td>
<td>49.84</td>
<td>1,904</td>
<td>0.76</td>
<td>49%</td>
</tr>
<tr>
<td>Mar 04 1.50</td>
<td>46.85</td>
<td>1,724</td>
<td>0.74</td>
<td>49%</td>
</tr>
<tr>
<td>Apr 04 1.44</td>
<td>44.58</td>
<td>1,503</td>
<td>0.67</td>
<td>47%</td>
</tr>
<tr>
<td>May 04 1.42</td>
<td>47.30</td>
<td>1,575</td>
<td>0.67</td>
<td>47%</td>
</tr>
<tr>
<td>Jun 04 1.34</td>
<td>48.40</td>
<td>1,681</td>
<td>0.69</td>
<td>52%</td>
</tr>
<tr>
<td>July 04 1.65</td>
<td>45.20</td>
<td>1,889</td>
<td>0.84</td>
<td>51%</td>
</tr>
<tr>
<td>Aug 04 1.68</td>
<td>41.68</td>
<td>1,926</td>
<td>0.92</td>
<td>55%</td>
</tr>
<tr>
<td>Sept 04 1.45</td>
<td>37.28</td>
<td>1,488</td>
<td>0.80</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: Based on Table 23

Table 26 shows the official government price and production figures throughout 2008–2009. Crucially, it distinguishes between Sánchez and Hispaniola cocoa. However, this data is problematic for a number of reasons. Firstly, many figures appear to have been rounded off significantly (c.f. column #1) thereby raising questions about their accuracy. Secondly, it is not stated whether these figures are for organic or conventional, or whether they are inclusive of bonuses. This limits how far the data can be analysed in relation to the data in section 5.5.

Columns #7 and #8 indicate an automatic RD$200 (US$5.5) difference between the average price of Hispaniola and Sánchez for every 50kg of dry beans sold which contradicts the information provided by key informants. They asserted that they paid an identical daily base price for Hispaniola and Sánchez based on NY prices and monitored by the NCC and then paid bonuses based on either a) whether cocoa was organic or conventional or b) based on sales volumes in different categories. Therefore, there did not appear to be a fixed price differential across all companies and the figures in Table 26 require some clarification.

Source: Based on Table 23

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All the different units of measurement, by facilitating mistakes and misunderstandings, may increase the risk that vulnerable parties in the cocoa value chain, namely small producers and their households, could be cheated by unscrupulous intermediaries, as has been documented in other countries. However, the farmers’ claims about unfavourable terms when selling wet cocoa could not be verified during fieldwork so it is not known if these perceptions are accurate or not. It is however clear that the present system is made much more opaque by such complexities which both hinder research and transparency in the DR cocoa sector. As a result, it is not surprising that the DR cocoa industry is characterised by a lack of trust, as described in section 4.2.

5.5 Producer incomes

This section and the following sections provide insights into cocoa incomes in the DR but it must be emphasised that they are not a comprehensive assessment of the economic sustainability of cocoa production. This would have required a full survey of household incomes which was beyond the scope of the present study. Furthermore, as will be discussed, discrepancies in the data, and variations in bonus payments and reported costs of production have undermined the data analysis. It is also important to remember that the results presented here are based on figures from 2009 which are now out of date.

Table 27 shows the prices paid in RD$ per 50kg of dry cocoa at buyers’ facilities in 2006–2009 by cocoa companies to producers. The price paid to producers on the first working day in June was picked for comparison purposes. As the table indicates, 2008 was a bumper year for cocoa producers, who saw prices rise by 2.5 times their value in 2006.

5.4 Units of measurement used in DR cocoa

The subject of incomes for cocoa farmers in the DR is highly problematic and it has proven difficult to research. On a general level, informants were reluctant to discuss the topic of producer incomes or release figures on this. Additionally, there is a poor culture of record-keeping which has resulted in key statistics not being available.

Another fundamental problem was the variety of units of measurements used at various stages of the value chain and the lack of clarity/congruity relating to these. Land is measured in tareas, although some informants use hectares and/or acres, informants use varying definitions of what constitutes a small, medium or large landholding. Cocoa is either sold as wet or dry, which influences weight and price, and it can be measured in bags (of 70kg), kgos, MT or quintales, which different informants gave conflicting definitions of. Prices are cited by some sources in US$ and by others in RDS (this means changing exchange rates and inflation also have to be taken into consideration). It is also not stated whether prices are inclusive of bonuses for organic and/or quality, which farmers may or may not get depending on who they sell to, and which are highly variable. As previously identified, figures are often incomplete and sources often fail to specify units of measurement and/or their equivalences and they often do not distinguish between wet/dry/organic/conventional etc. This creates considerable difficulties in analysing the figures.

The wet/dry conversion ratio used by cocoa companies varies depending on the season, weather conditions and other factors. Typically, it ranges between 39% and 43%. However, the processes involved appeared unclear to some producers and their families who complained that they lost out when selling wet beans due to unfavourable conversion ratios. As a result, some of them said it was better to sell dry cocoa (which they said they were at least paid for in full) than wet cocoa on which they lost out.

### Table 26

<table>
<thead>
<tr>
<th>Month</th>
<th>Production (MT)</th>
<th>Export (MT)</th>
<th>Value (US$)</th>
<th>Avg export prices/MT (US$)</th>
<th>US$/50kg</th>
<th>RDS$/50kg (Stabilised)</th>
<th>RDS$/50kg (Hispamasa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>October</td>
<td>1,560</td>
<td>1,379.04</td>
<td>4,517,758.29</td>
<td>1,276.02</td>
<td>113.48</td>
<td>2,423.26</td>
<td>2,623.26</td>
</tr>
<tr>
<td>November</td>
<td>2,200</td>
<td>1,989.36</td>
<td>5,947,376.59</td>
<td>2,987.59</td>
<td>105.19</td>
<td>2,300.98</td>
<td>2,500.98</td>
</tr>
<tr>
<td>December</td>
<td>2,800</td>
<td>2,377.65</td>
<td>9,507,437.25</td>
<td>2,516.29</td>
<td>125.40</td>
<td>2,216.25</td>
<td>2,416.25</td>
</tr>
<tr>
<td>January</td>
<td>3,100</td>
<td>2,319.78</td>
<td>6,130,000.52</td>
<td>2,642.49</td>
<td>133.60</td>
<td>2,303.87</td>
<td>2,503.87</td>
</tr>
<tr>
<td>February</td>
<td>3,600</td>
<td>2,829.65</td>
<td>7,253,393.20</td>
<td>2,563.35</td>
<td>134.78</td>
<td>2,353.95</td>
<td>2,553.95</td>
</tr>
<tr>
<td>March</td>
<td>5,200</td>
<td>3,981.71</td>
<td>7,682,163.87</td>
<td>1,929.38</td>
<td>124.86</td>
<td>2,003.79</td>
<td>2,203.79</td>
</tr>
<tr>
<td>April</td>
<td>9,800</td>
<td>7,310.12</td>
<td>18,296,151.76</td>
<td>2,496.02</td>
<td>128.11</td>
<td>2,271.17</td>
<td>2,471.17</td>
</tr>
<tr>
<td>May</td>
<td>8,300</td>
<td>7,832.69</td>
<td>19,203,671.68</td>
<td>2,451.73</td>
<td>124.13</td>
<td>2,468.42</td>
<td>2,668.42</td>
</tr>
<tr>
<td>June</td>
<td>6,790</td>
<td>9,780.51</td>
<td>25,122,997.04</td>
<td>2,568.68</td>
<td>134.11</td>
<td>2,827.77</td>
<td>3,027.77</td>
</tr>
<tr>
<td>July</td>
<td>5,100</td>
<td>9,247.29</td>
<td>23,832,346.42</td>
<td>2,577.22</td>
<td>140.03</td>
<td>3,007.58</td>
<td>3,207.58</td>
</tr>
<tr>
<td>August</td>
<td>3,550</td>
<td>6,068.72</td>
<td>16,800,692.77</td>
<td>2,768.41</td>
<td>147.51</td>
<td>3,338.65</td>
<td>3,538.65</td>
</tr>
<tr>
<td>September</td>
<td>2,794.44</td>
<td>5,747.65</td>
<td>18,053,717.57</td>
<td>3,087.35</td>
<td>156.78</td>
<td>3,687.91</td>
<td>3,887.91</td>
</tr>
<tr>
<td>Total</td>
<td>54,994.44</td>
<td>62,285.13</td>
<td>162,347,706.96</td>
<td>2,398.08</td>
<td>130.75</td>
<td>2,600.30</td>
<td>2,800.30</td>
</tr>
</tbody>
</table>

Source: DR government (2009)

<table>
<thead>
<tr>
<th>Price paid at farm level</th>
<th>In RD$ per 50kg of dry cocoa</th>
<th>Equivalent in US$ per 50kg of dry cocoa</th>
<th>Equivalent in US$ per MT</th>
<th>RDS$/US$ exchange rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 1st 2006</td>
<td>1,308</td>
<td>41</td>
<td>812</td>
<td>32.20</td>
</tr>
<tr>
<td>June 1st 2007</td>
<td>1,623</td>
<td>50</td>
<td>1,006</td>
<td>32.35</td>
</tr>
<tr>
<td>June 2nd 2008</td>
<td>2,366</td>
<td>96</td>
<td>1,916</td>
<td>34.10</td>
</tr>
<tr>
<td>June 1st 2009</td>
<td>2,756</td>
<td>77</td>
<td>1,537</td>
<td>36.00</td>
</tr>
</tbody>
</table>

Source: Conacado and Cocoa Dept

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Incomes

Cocoa Production in the Dominican Republic

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Cocoa Production in the Dominican Republic

Incomes

Table 28 estimates daily equivalent income of producers from production statistics reported by the producers themselves in the field surveys and the cocoa price paid to producers on the first working day in June.

Table 28
Total average cocoa production reported by producers and daily equivalent income by producer size (assuming 365 days per annum)

NB Figures in the table below are converted using 1 quintal = 50kg and using the RD$/US$ exchange rates of the dates listed in Table 27.

<table>
<thead>
<tr>
<th>Year</th>
<th>Small producers</th>
<th>Medium producers</th>
<th>Large producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>1,200</td>
<td>3,665</td>
<td>10,585</td>
</tr>
<tr>
<td>2006-07</td>
<td>1,415</td>
<td>3,875</td>
<td>11,645</td>
</tr>
<tr>
<td>2007-08</td>
<td>1,420</td>
<td>3,440</td>
<td>12,020</td>
</tr>
</tbody>
</table>

Daily equivalent income (RD$)

<table>
<thead>
<tr>
<th>Year</th>
<th>Small producers</th>
<th>Medium producers</th>
<th>Large producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>86.0</td>
<td>262.7</td>
<td>758.6</td>
</tr>
<tr>
<td>2006-07</td>
<td>125.8</td>
<td>344.6</td>
<td>1,035.6</td>
</tr>
<tr>
<td>2007-08</td>
<td>254.1</td>
<td>615.6</td>
<td>2,151.1</td>
</tr>
</tbody>
</table>

Daily equivalent income (US$)

<table>
<thead>
<tr>
<th>Year</th>
<th>Small producers</th>
<th>Medium producers</th>
<th>Large producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>2.7</td>
<td>8.2</td>
<td>23.6</td>
</tr>
<tr>
<td>2006-07</td>
<td>3.9</td>
<td>10.7</td>
<td>32.0</td>
</tr>
<tr>
<td>2007-08</td>
<td>7.5</td>
<td>18.1</td>
<td>63.1</td>
</tr>
</tbody>
</table>

5.6 Cocoa bonuses

There is no agreed policy on bonuses between different cocoa exporters in the DR. As Rizek and Conacado have different structures and policies on bonuses they are discussed separately here.

In the case of Rizek, growers of organic cocoa sold wet were reported to receive an extra RD$200 (US$5.5) for every (dry equivalent) quintal of cocoa sold to Rizek. Producers selling dry beans receive the normal market price and then receive RD$200 for every quintal at the end of the season between October and November. Producers selling wet beans receive greater bonuses. For every 117kg of wet beans sold (which Rizek take to be equivalent to 50kg of dry beans and therefore they only pay for 50kg) a producer receives the market price + RD$200 for every 117kg and then another RD$200 per dry weight quintal at the end of the season.

Conacado, as previously explained, is a producer-owned cooperative. In order to maximise the power it gives to producers, it is highly decentralised. Individual Bloques, made up of many smaller producer associations, are able to run their affairs as they see fit. In keeping with this structure, each Bloque makes a decision at the end of the season as to what investments they wish/need to make, how much profit they have made, and how much of this value came from individual producers. It is on this basis that bonuses are returned to members.

For example, if a particular Bloque had sold more conventional than organic cocoa (irrespective of whether it was produced organically) they would receive a larger conventional bonus based on the larger volume of sales. Producers interviewed near Castillo reported that their end of season bonus the previous year was RD$1,000/quintal (US$27.9) for organic and RD$500/quintal (US$13.9) for conventional but in years when they had sold more conventional cocoa to their international clients, bonuses for conventional cocoa had been higher. Therefore, because the bonuses allocated are a lump-sum at the end of the financial year based on production levels, sales values and investment in the Bloque, they are highly variable.
Incomes
Cocoa Production in the Dominican Republic

However, although bonuses in both companies should be included in any assessment of the cocoa farmers' incomes, it is important that these calculations do not overshadow wider problems associated with low earnings and financial management. Most producers were not able to state how much they had earned in bonuses in recent cocoa seasons and explained that they had already spent the bonus they were expecting one year in advance.

The fact that bonuses were spent well before the cash was ‘in hand’ suggests not only that producers are in a precarious financial situation but also raises questions about their ability to manage money, especially if the bonus is spent on non-essential household items. However, it does not mean that producers necessarily prefer bonus payments as a lump sum. At any rate, such social patterns fuel a tendency to spend cash quickly rather than plan household finances.

Producers also reported borrowing in expectation of the bonus, to supplement their incomes until the bonus arrives, at which point they repay the moneylenders. The timing of the bonuses was deemed very important. Bonuses are given soon before Christmas which helps the producers to finance these expenses and makes the timing of the bonuses attractive to them.

The fundamental relevance of the data on bonuses is that it illustrates that reducing poverty levels among producer households will not simply be a matter of paying producers more. More specifically, this means that:

– Higher and/or additional payments must be passed onto households in a manner which builds positive saving practices rather than fuels greater spending and expectation. Single payments are more likely to be spent quickly, therefore they should not be encouraged.

– Raising living standards is a challenge affecting all members of the household and therefore research on this subject must consider the views of spouses and not just the heads of household.

5.7 Costs of production

Table 30 reports average costs of production as reported by producers. Please note these are absolute reported costs.

<table>
<thead>
<tr>
<th>Size</th>
<th>RD$</th>
<th>US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>32,500</td>
<td>908</td>
</tr>
<tr>
<td>Medium</td>
<td>66,667</td>
<td>1,863</td>
</tr>
<tr>
<td>Large</td>
<td>102,500</td>
<td>2,864</td>
</tr>
</tbody>
</table>

Unfortunately, costs of production figures provided by other sources were out of date so this information could not be triangulated. It was also difficult to obtain accurate figures on renovation costs during the study.

According to producers, their biggest expense is the pruning of trees, which should be undertaken once a year and they said required a specialist, followed by weed control. Many producers said they were ‘getting on’ in years and that they were physically unable to carry on doing this kind of work. Producers reported that they can sometimes secure loans for harvest, but not for weed control, which can adversely affect productivity if not carried out effectively.

As previously explained, the fact that producers feel a specialist is required to do pruning explains why they do not do it themselves and the high expense attached to this explains why it is not done frequently enough. Pruning specialists can expect to be paid RD$500 pesos per day (approx US$14/day), and, depending on the quality and expertise of the specialist and the type of pruning required, some specialists can charge RD$700 (US$19.5/day) or RD$800 per day (US$22/day), depending on the region. The specialist typically leads a team of workers, who are paid around RD$360 pesos per day (US$10/day), also depending on the region. Weed control and clearing costs RD$300–$350 pesos per day (US$9–10/day) and it is not considered a specialist activity.

Producers reported that regenerating a farm was the greatest possible farm expense. Replanting with new hybrids costs approximately RD$5,000 (US$139.7) per tarea (1/16 of a hectare).

Finally, it is important to note that some individuals may be deterred from entering cocoa production because a new farm only begins to give profit from the 8th year (Batista 2009). Subsidies and financial assistance to new farmers would help to overcome this difficulty.
5.8 Poverty levels

Poverty levels are difficult to measure in the context of the DR. According to the Dominican Republic Poverty Assessment Report produced by the World Bank, poverty in the DR has proved stubbornly difficult to reduce and hard to measure accurately (2006: 1). The report also states that “the DR stands out as having one of the weakest systems to track living conditions in the region (faring behind many lower income countries)” (p.4) and that “the DR lacks a commonly accepted methodology, data and institutional source for poverty monitoring. This has resulted in a proliferation of wide-ranging poverty estimates and often inconsistent trends” (Ibid.).

At the time of research (2009), poverty line estimates (Table 32) were already outdated because they dated back to April 2006. However, because these were the most recent estimates available at the time of writing, they form the basis of the present analysis and are compared with daily equivalent incomes from cocoa reported in Table 28 and Table 29.

As bonuses were highly variable and figures could not be obtained for individual producers, they could not be included in the present calculations. It must also be emphasised again that the figures analysed in this section in relation to poverty lines. The daily cocoa incomes (based on the production statistics provided by the cocoa companies) calculated for small and medium producers (which did not even take into account production costs) indicate that they were unable to cover even their basic calorific requirements for most of the period under study, with the average small and medium producers earning well below RD$181 per day until 2007–08.

Table 29.

Table 32

Poverty lines, Dominican Republic, April 2006

<table>
<thead>
<tr>
<th>April 2006</th>
<th>Cost per person per month (RD$)</th>
<th>Cost per person per month (US$)</th>
<th>Cost per person per day (RD$)</th>
<th>Cost per person per day (US$)</th>
<th>Cost per day for family of four (RD$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum subsistence food basket</td>
<td>1,374</td>
<td>42.80</td>
<td>45.17</td>
<td>1.40</td>
<td>180.68</td>
</tr>
<tr>
<td>Basic consumer basket (moderate poverty line)</td>
<td>2,820</td>
<td>87.82</td>
<td>92.71</td>
<td>2.89</td>
<td>370.84</td>
</tr>
</tbody>
</table>

Source: World Bank 2006

NB: The minimum subsistence food basket estimates the cost of a basic food basket that guarantees a minimum calorific intake of 2,167 calories. The basic consumer basket includes minimum non-food needs.

As previously explained, there is a discrepancy between the production figures reported by buyers and producers and these affect calculations on income relative to poverty lines. The daily cocoa incomes (based on the production statistics provided by the cocoa companies) calculated for small and medium producers (which did not even take into account production costs) indicate that they were unable to cover even their basic calorific requirements for most of the period under study, with the average small and medium producers earning well below RD$181 per day until 2007–08.

The daily cocoa incomes based on the information provided by farmers show the same trend in relation to small producers as they reveal that until 2007–08, small producers fell below the minimum subsistence threshold of RD$181/day. However, unlike the buyers’ figures, the producers’ figures suggest that medium producers have consistently earned above RD$181/day since 2005 (RD$263/day in 2005–06 and RD$135/day in 2006–07).

The basic consumer basket for a family of four in 2006 was RD$371 per day, which only large producers could afford in 2005–06 from their cocoa earnings alone (according to both the producer figures in Table 28 and the buyer figures in Table 29). Even with the sharp increase in cocoa prices in 2007–08, small producers were still well below the cost of the basic consumer basket according to both producer and company figures. Based on both data sets, medium producers were below the moderate poverty line until 2007–08. However, according to company records, they just met the cost (RD$371.3) in 2007–08, although according to the figures reported by the producers, medium producers comfortably exceeded this threshold (RD$615.6) that year. According to both sources, large producers have consistently been above the extreme and moderate poverty lines during all the years under study.

Based on cocoa incomes alone, these findings suggest that small producers are typically below the extreme poverty line and therefore that they are extremely dependant on other sources of income and on their own production of staple foods. Of course, the figures presented only present a partial picture as they assume a single household income from cocoa alone and do not take into consideration costs of production.

5.9 Debt and cocoa production

Key informants agreed that debt issues are a problem among cocoa producers and most producers have debts. In the study, approximately 73% of small farmers reported sometimes or always taking out a loan, as did 83% of medium farmers and 88% of large farmers. Of these, 66% of small farmers, 50% of medium farmers, and 80% of large farmers reported taking out a loan every year. As this is a sensitive subject, some underreporting may have occurred and it is possible that true figures were higher.

High levels of debt were corroborated in the focus groups, with the subjects reporting that everyone is always borrowing. The explanation given was that during the low season, cocoa production is nil and producers have no savings, so they depend on borrowing. When they sell their harvest, most of their cash goes to repay the lenders. This leaves little for investment in the farm or household. Only 38% and 33% of small and medium producers have debts. In the study, approximately 73% of small farmers reported that farmers are living in poverty is also substantiated by other evidence, such as very basic housing (Chapter 7) and high levels of debt as discussed in the following sections. Focusing on annual incomes may also be problematic because it masks the seasonality of cocoa incomes, which also has implications for producers and their families.

Based on these figures, in order to meet the threshold of the basic consumer basket for a family of four – assuming cocoa prices remain around RD$2,500 (US$70) – small and medium producers would have to produce at least 54.14 quintales of 50 kg a year or 2,707 kg per annum.

Some key informants in cocoa companies argued that the challenge in Dominican cocoa is the prevalence of small cocoa holdings, which maintain small producers below the poverty line despite rising cocoa prices. Again, this assumes that the size of land, rather than low productivity, is the problem.

According to the Bank, these values specify expenditures required to afford minimum food calories and non-food needs according to the typical consumption pattern and the cost of the consumption basket of the specified reference group (2005: 6).
The bulk of the loans taken out by producers surveyed were allocated toward farm preparations (48%), followed by food (28%), other expenditures (14%), and health (10%). The fact that producers were borrowing to pay for food suggests that incomes are too low and raises questions about the economic sustainability of cocoa. However, it is necessary to contextualise this data and to interpret it cautiously.

One of the key informants in one of the cocoa companies argued that farmers were not indebted to the company; they were benefiting from 'pre-harvest financing'. His rationale was that the seasonality of cocoa incomes naturally resulted in farmers not having cash at certain periods. This is an intrinsic part of cocoa production. Therefore, rather than seeing debt as a problem he argued debt was normal because the lack of funds outside the harvest season was an integral part of cocoa farming; producers need seasonal credit.

There is ample evidence that cocoa-producing communities – not just in the DR – have long relied on debt to remain in production (see Hill 1963). In Ghana, debt is not perceived by producers as a problem; colonial and more recent attempts to sort out the issue of debt and to provide farmers with 'pre-harvest financing' have created more problems than they have solved (see Berlan 2008; Hill 1986). These pieces of research suggest that in such cases, the issue of debt or 'pre-harvest financing' might best have been ignored.

In the case of current cocoa producers in the DR, some intervention in this area is recommended for two reasons. Firstly, the fact that debt is an intrinsic part of cocoa production is a strong deterrent to young people to enter the cocoa industry (see section 6.3). Secondly, as some farmers in the DR are locked into debt they are unable to sell to another cocoa company. Debt can result in them losing their land, and they are dependent on borrowing money to pay for healthcare etc. This indicates that the issue of debt is a problem, rather than simply a neutral and intrinsic part of cocoa production. Unless such issues are remedied, the cocoa sector cannot be described as economically sustainable or attractive to future generations.

5.10 Agricultural banks

Agricultural banks are presently underused by producers. Only 4% of them said they had obtained financial support from them. Farmers did not appear distrustful of agricultural banks or report bad experiences using their services. When asked about banks, some farmers reported not using them while others said 'We have an account, but hardly have any money in it, so it barely seems worth mentioning'.

In one of the focus groups, one producer had an account in Banco de Reservas, through which he received a government pension. Two producers had a credit card, and some relied on their adult children's credit card; others used their account only to receive money from children living abroad. All the other participants did not use banks at all. There is therefore scope to develop the use of banking services to help farmers manage money better, although it of course requires farmers to have available funds.

Official state-owned banks like the Banco Agricola were said to offer very favourable interest rates similar to those of the producer associations (2%–2.5%), but growers in focus groups reported having limited access to formal finance because the loans are made to clients on the basis of conventional credit rating criteria, which means that small producers are often not eligible for loans. Many producers would not be regarded as 'safe' clients (especially if they cannot properly document ownership of land) so they would not be able to obtain loans from banks.

5.11 Level of household reliance on cocoa

Because cocoa only provides a cash income at certain times of year and is grown alongside other crops, many producers practice ‘harvestculture’. It is clear that cocoa is in most cases only one of many sources of income. It is also subject to inter-household and regional variations. Unfortunately, key informants were only able to provide very rough estimates on the household level of reliance on cocoa. The most recent available literature on this subject is at the time of research, which is discussed below, also only provides limited information.

According to the questionnaire responses, 28% of producers offered their labour in addition to working on their own cocoa farms. However, this may not be truly representative of labour practices as many of them work to help other producers on a reciprocity basis and do not receive an income for their labour. 63% of producers supplemented their income through other activities, namely animal husbandry and the production of other agricultural crops (Table 33).

Table 33

<table>
<thead>
<tr>
<th>Economic activities other than cocoa production reported by producers surveyed (NB some producers were involved in more than one activity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic activities</td>
</tr>
<tr>
<td>--------------------------------------</td>
</tr>
<tr>
<td>Agriculture (other than cocoa)</td>
</tr>
<tr>
<td>Animal husbandry (poultry, cattle, and pigs)</td>
</tr>
<tr>
<td>Shop or business</td>
</tr>
<tr>
<td>Transport</td>
</tr>
<tr>
<td>Security</td>
</tr>
<tr>
<td>Mining</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Civil servant</td>
</tr>
<tr>
<td>Day labourer</td>
</tr>
</tbody>
</table>

Source: Field survey

On the issue of household incomes and diversification, Siegel and Alwang state:

“The degree of diversification is important for household decisions on labor and capital allocation to different enterprises and also affects self-financing and management of price and yield risks. Following the cocoa price declines of the 1990s and Hurricane Georges, many small-scale producers moved their families near urban centers in search of more remunerative economic prospects. Some returned to their farms following rehabilitation efforts and the subsequent spike in world prices, but many still live outside the areas of production and manage their farms on an irregular basis.” (2004: 60)
They also cite the Commodity Risk Management Group (CRMG) survey (carried out in 2002) of the World Bank in which:

“over 50% of cocoa producers [in the DR] indicated they received 50% or more of their on-farm income from cocoa sales, while 44% of the producers received 50% or more of total household income from on-farm activities. This indicates a fairly high degree of income diversification. The survey indicates that smaller cocoa producers are likely to receive about 50% of their income from the farm, with the larger and the very smallest producers being less diversified and receiving higher shares of income from cocoa” (Ibid.)

Siegel and Awanig report that these figures are comparable to the results of a study carried out by Rizek in 2002 based on a survey of 107 of their producers with an average farm size of 5.7ha (Table 34).

Table 34
Rizek producer income sources

<table>
<thead>
<tr>
<th>Income source</th>
<th>RD$</th>
<th>Average % of gross household income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cocoa sales</td>
<td>25,629</td>
<td>38.6</td>
</tr>
<tr>
<td>Other Crops</td>
<td>12,959</td>
<td>19.5</td>
</tr>
<tr>
<td>Livestock</td>
<td>3,471</td>
<td>5.2</td>
</tr>
<tr>
<td>Remittances</td>
<td>6,035</td>
<td>9.1</td>
</tr>
<tr>
<td>Petty Trading</td>
<td>2,647</td>
<td>4.0</td>
</tr>
<tr>
<td>Moto-Tax</td>
<td>1,059</td>
<td>1.6</td>
</tr>
<tr>
<td>Salaries/Labor Income</td>
<td>3,706</td>
<td>5.6</td>
</tr>
<tr>
<td>Cash in Bank or Coop</td>
<td>2,029</td>
<td>3.1</td>
</tr>
<tr>
<td>Money Owed[29]</td>
<td>6,529</td>
<td>9.8</td>
</tr>
<tr>
<td>Other</td>
<td>2,412</td>
<td>3.6</td>
</tr>
<tr>
<td>Total</td>
<td>66,476</td>
<td>100%</td>
</tr>
</tbody>
</table>


These results are very different from the results of the present study where no producers were found to have savings or base part of their income on lending to others. This suggests that some of the producers in the Rizek study were cocoa intermediaries as well as being farmers, therefore not representative of the wider farmer population.

5.12 Income diversification initiatives

Both cocoa companies had put in place income diversification activities for farmers, their wives and communities. As Conacado has a more established programme of social action and is certified Fairtrade, their activities in this area were well-developed. Many Conacado-affiliated producers and their wives are involved in income-generating activities other than cocoa through their association or Bloque. Initiatives are organised by individual Bloques and because very little information was held centrally on them it is difficult to provide comprehensive data on these. Within Bloques, income-diversification initiatives depended on individual producer associations. The fact that initiatives were not coordinated centrally reflects Conacado’s broad commitment to build capacity at grass-roots level rather than operate using a top-down approach. Some of their income-diversifying activities (already discussed in section 3.2) appeared very successful in building social capital in rural areas and increasing incomes. This is a good example of the powerful role that rural producer organisations can play (IFAD 2011).

Rizek had initiated a number of activities including the production of calendars, orchid cultivation and ‘Pooddy’. Orchids and calendars were very recent, therefore little data was available on these. Pooddy is a soft toy in the shape of a cocoa pod produced for sale to visitors to the DR. It is now the mascot of the Fuparoca programme and an ‘adopt a Pooddy’ scheme has been put in place to help finance community projects. The Pooddy project currently benefits 19 people (7 seamstresses, 7 carpenters, 2 fillers, 2 upholsterers, 1 ‘eye and smile’ maker). A Pooddy costs US$20, of which US$3 goes towards paying the wages of the 19 staff, US$5 pays for materials and US$12 goes towards community projects, such as a planned Pooddy community centre.

Aside from the activities of individual companies, farmers and key informants reported needing more guidance on income-generating projects. There was widespread acceptance of the fact that farmers needed to diversify their incomes and that income-generating projects needed more support and ‘fresh’ thinking. For example, in one area, producers reported being very concerned that other producers could be abandoning cocoa in favour of cattle. Yet, when asked what income-generating activities they could suggest, they mentioned cattle as they could not think of anything else that would be attractive to farmers.

There is strong evidence from other geographical regions that income-diversification activities can benefit farmers a lot. For example, Smith (2010) reports that cocoa farmers in Ecuador who have diversified into Fairtrade bananas now make on average US$498/month from bananas (for an average 30 boxes per week), in addition to the US$78/month they make from cocoa. Therefore, support for income-generating activities is strongly recommended.

However, in order to ensure that alternative income sources do not become more attractive than cocoa, it is important that they are highly compatible with cocoa. Many producers complained of bee stings while working on their cocoa farm but there were no schemes in place for honey extraction. This could be investigated as an additional source of income compatible with cocoa, especially given the current global shortage/high price of honey and the fact that bees help to pollinate avocado and other crops on which the farmers depend.
5.13 Impact of Fairtrade on incomes

The Fairtrade Labelling Organisation announced in October 2010 that the Fairtrade minimum price for conventional cocoa would be increased from US$1,600/MT to US$2,000/MT and that the Fairtrade premium would be increased from US$150/MT to US$200/MT, with effect from 1st January 2011. The Fairtrade Minimum Price for organic cocoa was also subsequently increased and currently stands at US$2,300/MT with an additional premium of US$200 (also with effect from 1st Jan 2011).

However, the new Fairtrade minimum price is not immediately relevant, as cocoa prices are well above it. At times when the world price is above the minimum price, the higher of the two is paid to producer groups. Therefore, Fairtrade cocoa co-operatives currently receive the same price as other companies. The incomes received by farmers affiliated to Fairtrade are therefore as described in section 5.5 and 5.6 and not affected by the minimum price. Farmer cooperatives affiliated to Fairtrade receive the additional premium for community development which distinguishes Fairtrade from other forms of trade but this is not given to individual producers. At producer level, both Fairtrade and non-Fairtrade buyers offer bonus incentives, as explained in section 5.6.

While the research was underway in 2009, key informants in the DR reported that if the world market price fell beneath the Fairtrade minimum price (which was US$1,600/MT at the time) the Fairtrade minimum price would be inadequate. Because the Fairtrade minimum price had not been reviewed since 1993, it could not be said to accurately reflect costs of living or production. According to Trading Visions, “The new standards for cocoa prices are long overdue. The last review took place thirteen years ago. It is a fairly predictable and conservative increase though, roughly corresponding to inflation. $1,600 in 1997 would be worth $2,176 now.”

In addition to this, given the sharp increases in the cost of building materials which many community projects require, a social premium of US$150/MT could not fund the same number of projects in 2009 as it did in 1993 when it was first instituted, so the review of the social premium can also be said to have been long overdue.

Since the research was completed, Fairtrade International have set a three year cycle as a guideline for price reviews. This is a reference point rather than an obligation; as the three year mark approaches, a price and/or premium review will only be carried out if there appears to be a need for it. Similarly, if elements of the pricing standard appear to be in need of review before the three year timeframe has elapsed, they can be reviewed sooner. Therefore, provisions have been made for regular reviews but they will only be carried out if it is necessary to do so.

“...”

5.14 Worker incomes

Most workers (68.3% of respondents) were heads of household. Incomes ranged between RD$250/day (US$6.9) to RD$500/day (US$13.9), depending on the tasks being performed. Receiving RD$500/day (US$13.9) was rare; the vast majority of workers were paid RD$300/day (US$8.3). Some were also given one or two meals. There were regional variations in incomes, producers in the Central region in almost every case reported paying daily labourers RD$300/day whereas many producers in the North East region reported paying RD$350–400/day (US$9.7 – 11.1).

Problematically, the workers who it was reported earned less than RD$300 pesos were in many cases Haitian, which suggests that discrimination occurs. A small number of producers reported paying Haitian labourers less than Dominican workers (although this may have been supplemented by food donations).

On a daily salary of RD$300/day (US$8.3), a worker with a household of 4 (which was the average household size of workers in the study) is theoretically above the extreme poverty line. However, it is below the DR moderate poverty line according to the World Bank’s poverty line estimates from 2008, which did not take into account recent food price increases. It assumes a worker is able to work every day, which is unlikely and assumes a single income, which on such low wages, does not appear possible.

The researchers who carried out the fieldwork reported that many workers appeared to be living in extreme poverty and overall, the researchers reported that the workers were significantly worse off than the producers. The vulnerable economic situation of workers is also evident in the fact that many of them are employed as daily or weekly workers for years and therefore they have no long-term security. Low worker incomes are a serious problem. As previously explained, production trends indicate a move towards large land-holdings and away from smallholder production. Unless the issue of worker incomes is addressed, this would signify an increasing gap between rich and poor as large land-owners increase their holdings and recruit more low-paid workers.

5.15 Concluding remarks

Overcoming the problems identified in this chapter will require transparency and collaboration in the DR cocoa industry, as well as extensive consultation and strategising on how to ensure greater rewards for producers and workers. The key findings, and some of the main recommendations, are summarised here.

In the general haze surrounding the issue of incomes of cocoa farmers in the DR, some basic facts have emerged:

– Clarifying and standardising units of measurements in the DR cocoa industry, as well as releasing accurate and comprehensive national statistics on the DR cocoa sector would facilitate research and help promote its image internationally.
– Higher NY prices result in higher, but not necessarily proportionate, producer prices.
– On the basis of data obtained, it is clear that small producers and some medium producers cannot depend only on their cocoa incomes to meet their basic household needs. As a result, it is no surprise that younger generations are not attracted to cocoa.
– Difficulties associated with the low returns the farmers receive are compounded by the fact that incomes and bonuses are given seasonally, and this is not easy to manage. While some interventions are necessary to address this, formulating what this would mean in practical terms is extremely difficult.
The overall economic sustainability of the DR cocoa industry requires some urgent consideration. The research found that farmers do not produce enough to meet basic costs and this fuels a vicious circle of underinvestment, low productivity and low returns. A key informant reported (based on research commissioned by his organisation) that if cost structures remained at similar levels to those of 2000–01 to 2004/05, Dominican cocoa growers were not expected to meet their total costs between 2005/6 and 2014/15. This would severely threaten the long-term future of the DR cocoa industry.

The report has already made a number of recommendations on productivity (Chapter 4) to help address low incomes. In addition to this, some support is recommended for the development of income-generating activities compatible with cocoa, such as honey production. The adoption of new income-diversification activities would not only reduce levels of poverty by increasing incomes, but also regularise incomes which would reduce the problematic farmer dependency on debt.

In order to achieve this, greater support should be provided to help producers identify and develop additional income streams. Attention also needs to be paid to developing quality/consistency and identifying markets. Income-generating activities are presently small-scale and fragmented geographically and strategically. In the first instance it is recommended that further advice is sought on this issue from experts in livelihood diversification strategies.

As in other chapters, the research suggested gender could be an important consideration. Women were reported by key informants to be better at managing money, although this could not be researched and confirmed within the scope of the present study. Initiatives to empower them (such as the recommendations outlined in Chapter 3) may have positive long-term effects on household financial management and poverty reduction.

From an international perspective, the fact that the Fairtrade premium and the minimum price for organic and non-organic cocoa are to be renewed more regularly is to be welcomed. However, while Fairtrade has enabled a local confederation of producer associations, Conacado, to provide valuable support to small-scale farmers and delivered considerable organisational and community support, it cannot address all the issues raised in the present report. As previously discussed, a major programme of action is recommended in order to make cocoa attractive to the next generation of farmers.

Finally, any intervention in the area of incomes must also include the incomes of workers as they presently make up the poorest segment of the DR cocoa industry. The workers would benefit from initiatives to enhance the broader economic sustainability of DR cocoa, as well as from specific initiatives to boost their incomes and to encourage the use of contracts to provide greater security to them and ensure they are not hired on a daily basis for years.

The research found that farmers do not produce enough to meet basic costs and this fuels a vicious circle of underinvestment, low productivity and low returns.
When asked to list good things about cocoa, young people gave an extensive range of answers. In no particular order, these included:

- cocoa enables you to earn money
- it makes chocolate
- it generates employment
- it grows with plantain, mangoes, oranges, bananas, avocados, etc.
- being a member of an association is good
- the best thing about cocoa is selling it
- getting on well with other producers in your association is good
- it is good to have credit with those buying your cocoa
- our cocoa is organic
- our cocoa is good quality
- cocoa can help with many things and help to maintain families
- cocoa generates money in case of urgent need
- sometimes the harvest is very good
- sometimes the price of cocoa is very high so we make a profit
- cocoa helps fight deforestation
- cocoa is very important for the community
- it is a good income for the DR
- it’s nutritious
- with the sales from cocoa we can buy the things we need for school

These answers indicate that young people have numerous and varied positive associations with cocoa, although their attitude towards it becomes increasingly dismissive as they get older (see section 6.3).

More positively, young people in the DR have a basic understanding of the upstream uses of cocoa because they regularly consume and enjoy cocoa-based products, although the research also showed that they had little understanding of anything beyond the local market. When asked what happened to cocoa after it was sold to cocoa companies or the Bloque, young people surveyed could not give any answers. However, they all wanted to know more and this indicates there is scope for awareness-raising in this area. Their fondness for chocolate and cocoa products is also an important factor in stimulating their enthusiasm, and one which can be used in promoting cocoa production to them.

6.2 Impact of producer organisations

It is interesting to note that many young people talked about Bloques and producer associations affiliated to Conacado. In their eyes, these were clearly an integral part of cocoa production and they were very positive about them. This suggests that the Conacado model, with its grassroots associations, helps to enhance the attractiveness of cocoa for younger generations.

The evidence suggests that producer associations have a positive impact which filters down to young people and can positively influence their perception of cocoa. Therefore, supporting and expanding these structures (which are common in Fairtrade) may help to enhance the long-term social sustainability of the DR cocoa industry. However, building up strong producer associations is not a rapid solution; they typically require long-term training and nurturing but their impact is significant (c.f. Befan, 2008).

In the Central region, only a very small number of young people showed any interest in becoming cocoa farmers. These were all boys whose families were working in cocoa and who involved them in non-hazardous aspects of cocoa farming and/or who were involved in light duties in the local Bloque at weekends. This illustrates that young people’s interest in cocoa is enhanced by being exposed to cocoa production, involved in non-hazardous activities, not just on the farm but also in an organisation. This helps to build an image in young people’s mind of cocoa farming as a profession.

In other regions such as the North-East and North-Central, almost all young people said they wanted to become cocoa farmers. However, focus groups with young adults suggested that children lose their initial enthusiasm towards cocoa as they get older because of low and irregular incomes (see below). This therefore needs to be addressed.
6.3 Negative associations with cocoa
When asked to list the bad things in cocoa, young people gave an extensive and equally varied range of answers. These included:

- animals and biting insects (listed in section 6.1)
- not being allowed to use chemicals
- the price is bad. One young informant said 'I want the price to go up so we can be less poor'
- sometimes the cocoa is damaged by rats & woodpeckers
- too much rain damages cocoa
- the roads are bad
- the work involved can be hard. For example 'you have to cut branches very carefully so you don’t damage the tree'
- there is work involved in preparing the ground
- cocoa is a lot of work overall
- farms are not maintained well enough
- some people argue over pruning/farm maintenance, how to do it and whether it is necessary
- not liking being on the cocoa farm as you get wet when it rains
- sometimes there is a lot of cocoa and the containers are very full and there is nowhere to store it
- sometimes they don’t want to buy the cocoa
- sometimes we know we are supposed to help our parents but we’re lazy and just sit down and don’t do it
- it makes young people feel ill when they eat it
- weeding.

The focus groups with young adults (18–24 years old) were insightful in gaining a better understanding of why younger generations do not want to go into cocoa farming. The young adults who took part were children and grandchildren of cocoa farmers (whose farms ranged between 3 and 200 tareas/0.19 and 12.5 ha) but only one of them had remained in cocoa and was working with his father. The others had gone to work in urban construction, tourism, one ran a small provision store, two were at home unemployed (and not involved in any unpaid agricultural work) and one was a motorbike ('motoconcho') driver.

None of them saw a long-term future in cocoa farming. Their long-term aspirations were to join the military, continue with their present occupation or undertake further study. They talked positively about rural areas as these were perceived to be safer and have more of a community spirit than urban areas. However, they also associated rural areas with cocoa and said they saw no future in cocoa because of the poor prices given to producers. They did not believe one could make a living out of cocoa and the need to raise producer prices was repeated throughout.

This was linked to the notion that cocoa land could just be ‘left’ to produce. Faced with low prices, some young adults argued that there was little point in working on the land and even less point in paying a labourer to clear the land or do other work to boost production. There was a sense that the land would produce whatever amount of cocoa it produces and that would be good enough. This attitude mirrored the attitude of many of the farmers and was identified by cocoa technicians as a key problem.

It was explained to them that this would naturally result in low yields which would inevitably mean low cocoa incomes and the young adults were asked if they knew of ways to boost productivity. They all answered that weeding and clearing land were the answer, some of them adding that litter should also be removed but they could not think of other strategies. When asked if they had ever seen their parents or grandparents removing branches or reducing shade, they answered they hadn’t and were unaware this could increase productivity. The low level of involvement of young people in cocoa production in some areas means that they are unaware of key issues relating to cocoa production.

This has two key practical implications:

- It shows that important knowledge is either not being passed down through generations or that young people are picking up negative farming practices from older generations
- It shows that future generations wishing to take up cocoa farming will be almost entirely dependent on technicians for guidance on managing their farms. It is therefore especially important to ensure that a comprehensive, consistent and good-quality programme of technical advice is put in place to ensure they receive the necessary support.

Another significant problem was the irregularity and infrequency of incomes. Young adults complained that cocoa production involved waiting for the harvest, selling and finally getting cash, which can represent a yearly or six-monthly income. This is not compatible with requirements such as paying rent, school fees etc regularly. Non-agricultural work, or even other crops, provide a more regular income and therefore they are more attractive than cocoa. This means that even if young adults can be persuaded into agricultural work, they probably will not choose to grow cocoa.

6.4 Child labour: background
No documentation on child labour in the Dominican cocoa sector was identified through literature searches or key person interviews. There is a wealth of knowledge and published literature on child labour in other sectors of the DR, but it would seem there is none on child labour in cocoa. For example, the US Department of Labor’s 2008 report of findings on the Worst Forms of Child Labour (published in 2009) only states that children work in the production of coffee, rice, sugarcane, tomatoes, potatoes and garlic. It identifies migrants from Haiti, including children, as working in agriculture but focuses on the sugarcane sector, where labour violations are well-known and already documented.

The lack of literature on child labour in cocoa is partly because levels of hazardous child labour in this sector (as defined according to the legislations/conventions detailed below) are low compared to certain other sectors therefore it has not been brought to the attention of policymakers, and partly because cocoa has not traditionally been one of the high-profile crops in the Dominican Republic.

There was a sense that the land would produce whatever amount of cocoa it produces and that would be good enough.
6.5 Child labour in the DR
As regards child labour in the DR more broadly, the ILO/IPEC 2007 DR Child Labour Country Brief identifies the National Child Labour Survey (NCLS), which was conducted by the US Department of Labor in 2000, as containing key child labour indicators. The NCLS was an independent survey carried out within the framework of the Statistical Information and Monitoring Programme (SIMPOC) of the ILO’s International Programme on the Elimination of Child Labour (IPEC). The primary aim of this survey was to collect information on school, domestic, economic, and recreational activities of boys and girls ages 5 to 17 years and their households (ILO/IPEC DR Child Labour Country Brief 2007).

The survey found that:

~14.5% (280,213) of all children ages 5–14 work; this is 21.6% (209,832) of boys and 7.4% (70,381) of girls in that age group.

About 0.9% (17,076) of children in the above age group participate in the labour force without attending school. The percentage is more than two times higher for boys than for girls (1.3 vs. 0.5%).

Children in urban and rural areas are found in similar proportions working without attending school (0.9% in urban areas vs. 0.8% in rural).

The gender gap between working children who do not attend school is higher in rural areas (1.1 percentage points, i.e. boys: 1.4 vs. girls: 0.3 per cent) than in urban neighbourhoods (0.6 percentage points, i.e. boys: 1.2 vs. girls: 0.6 per cent) (Ibid.).

6.6 Child labour legislative framework
In the DR, the ratified conventions relating to child labour are as follows:

Table 35
Child rights conventions and dates of ratification and entry into force

<table>
<thead>
<tr>
<th>Convention</th>
<th>Ratification</th>
<th>Entry into force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Age Convention (No. 138) (Minimum age specified: 14 years)</td>
<td>15.06.1999</td>
<td>05.06.2000</td>
</tr>
<tr>
<td>Worst Forms of Child Labour Convention (No. 182)</td>
<td>15.11.2000</td>
<td>15.11.2001</td>
</tr>
</tbody>
</table>

The relevant national legislations include:

- Constitución de la República Dominicana de 14 de Agosto de 1994
- Ley No. 16–92 de 29 de Mayo de 1992, por la que se promulga el Código de Trabajo de la República Dominicana (reformada en 1998);
- Ley No. 130–01 de 7 Agosto de 2003, por la que se dicta el Código de Protección de los Derechos de los Niños, Niñas y Adolescentes;
- Resolución No. 52–2004 de 13 de Agosto de 2004, sobre Trabajos Peligrosos e Insalubres para Personas Menores de 18 Años;
- Resolución No. 29–93, que define los trabajos ligeros de recolección en el campo;
- Minor’s Act (1994), 8 years of compulsory education.

Finally, the work regulations for individuals under the age of 18 are as follows:

Table 36
Work regulations, relevant minimum ages and legislation

<table>
<thead>
<tr>
<th>Regulation of work for persons below 18 years</th>
<th>Age</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>General minimum age for admission to employment or work</td>
<td>14 years</td>
<td>Section 245 (1) of the Labour Code; Section 40 of the Code on the protection of Children’s and Adolescents’ rights</td>
</tr>
<tr>
<td>Admission to light work activities</td>
<td>Not specified</td>
<td>Resolution No. 29/93 of 9 November 1993 defines light harvesting work in the field, but the minimum age of 14 years applies</td>
</tr>
<tr>
<td>Admission to hazardous work</td>
<td>16 years under the Labour Code</td>
<td>Section 231 of the Labour Code (which prohibits hazardous work by under–16)</td>
</tr>
<tr>
<td>18 years under Resolution No. 52–2004</td>
<td>Types of hazardous work determined Sections 2 of Resolution No. 52–2004</td>
<td></td>
</tr>
</tbody>
</table>

Source: ILO/IPEC 2007 DR Child Labour Country Brief

6.7 Family labour in cocoa
As stated in 6.1, the level of involvement of young people in cocoa varied depending on the region. When asked what they did outside school, most young people in the Central region explained their after-school activities were mainly swimming in the river, washing dishes at home or riding their bike. Even though they came from cocoa households, they were not involved in cocoa. There were some exceptions as a small number of boys occasionally went to the farm to be involved in light duties. However, this was only rarely reported in the Central region. This finding is in keeping with the 2000 National Child Labour Survey which found that 78.5% of children in rural areas do not work and that girls participate less in agriculture than boys. When asked why they did not go to the farm, some informants answered the farm was too far, that they were not interested in farming or that girls were not expected to work in cocoa.

In the North-East and North-Central regions, the majority of children reported being involved in cocoa regularly after school. In all regions, the children who went to the cocoa farm after school or during week-ends or holidays, reported that their main activities were playing on the farm, picking fruit or that they were only involved in light duties such as gathering pods, holding things, removing beans from pods, taking care of the hones/ mules taking the cocoa to the roadside, fetching water, bringing food to workers and/or washing the dishes from food preparation.

It is hard to quantify exactly what proportion of respondents were involved or not involved in cocoa as most of them had been involved to some extent at various times. Furthermore, some of the tasks they were involved in, such as taking food to workers, could be categorised both as a cocoa and a household task.
For the informants who said they were involved in cocoa, this was very much a family affair and their activities must be placed in the context of family relations and rural life. Interestingly, some of them specified that the farm they helped on was their grandparents’ not their parents, suggesting that their parents were not farmers (Table 37).

As the average age of producers is 58 it is highly likely that the sons/daughters they rely on to help on the farm are adults. The fact that 25% report relying on their grandchildren does not necessarily imply that these are involved in hazardous activities (see section below). It does however reinforce the view that cocoa farming in the DR is to a large extent a family activity. Family-based smallholder agriculture tends to be representative of all children in cocoa, although school enrolment rates are very high so they are at least representative of the vast majority. Unlike in Ghana, young people did not appear to be suffering from health problems or injury as a result of farm work. Many children in Ghana showed signs of exhaustion as a result of doing farm work and attending school (Berlan, 2005); this was not the case in the DR. However, as shown in the following sections, there is evidence that some young people in the DR use cutting tools when working in cocoa, and this can be defined as hazardous.

The questionnaire asked producers which household members worked in cocoa. A large number of producer households rely on own children (80%), own grandchildren (25%), and nephew/nieces (7%) in cocoa farming (Table 37). 42% reported that children (defined as under the age of 18, not defined according to labour legislation) helped in cocoa farming (see Table 38 on tasks and age distribution).

### Table 37

Which household members work in cocoa farming?

(Number of producer households as a percent of total producer households)

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Producer households (%) *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spouse</td>
<td>32</td>
</tr>
<tr>
<td>Son/Daughter</td>
<td>80</td>
</tr>
<tr>
<td>Grandchild</td>
<td>25</td>
</tr>
<tr>
<td>Nephew/Niece</td>
<td>7</td>
</tr>
<tr>
<td>Cousin</td>
<td>2</td>
</tr>
<tr>
<td>Son-in-law/Daughter-in-law</td>
<td>3</td>
</tr>
<tr>
<td>Sibling</td>
<td>3</td>
</tr>
<tr>
<td>Friend</td>
<td>2</td>
</tr>
</tbody>
</table>

*Source: field survey. *Note: Multiple household members may help in cocoa; the total exceeds 100%.

As the average age of producers is 58 it is highly likely that the sons/daughters they rely on to help on the farm are adults. The fact that 25% report relying on their grandchildren does not necessarily imply that these are involved in hazardous activities (see section below). It does however reinforce the view that cocoa farming in the DR is to a large extent a family activity. Family-based smallholder agriculture tends not to rely on forced labour, but unfortunately it does not exclude the possibility of child labour being hazardous. In some areas, producers reported having to rely on their family due to labour shortages.

It is clear that cocoa farming – on smaller farms at least – relies on child/family labour to a certain extent and this is not something which is frowned upon. As explained in the following sections, the fact that child labour is used does not mean that children are used indiscriminately or exploitatively. However, their participation still needs careful consideration and intervention if it involves children using hazardous tools.

### 6.8 Use of cutting tools

When young people drew the tasks they carried out on the farm, some of them drew themselves using machetes or long-handled blades to cut cocoa pods down. Some of them also explained that they used small sharp knives to open pods and empty out the beans. Among the tasks involved in cocoa production globally which have been labelled hazardous, the use of machetes has been the most high profile and has been identified as needing to be eradicated.

Although long-handled blades are not commonly included as hazardous tools in debates about the dangers associated with cocoa, they are included in the present discussion as they are clearly no less hazardous than machetes (see life story in section 6.9). Young people using them are not only at risk of cutting themselves but also of sustaining serious injury if a pod that has just been cut down falls on them.

The small sharp knives commonly used to open pods have also received less international attention than machetes. As these are smaller than machetes, they are thought of locally as being less dangerous and better suited to children. For the purpose of the present study they are regarded as a hazardous tool as they are very sharp.

During the research, every effort was made to elicit as much information as possible from young informants in a manner that was appropriate and could lead to a better understanding of what specific tasks they were involved in. When a child (of any age) reported cutting down cocoa and/or opening a cocoa pod, they were asked what implement was used. If the answer was a machete/blade the child was asked to confirm exactly who was holding the machete or blade. Careful phrasing of the question was important in order to avoid any misunderstandings.

Some children under the age of 14 reported that they were involved in cutting cocoa with a machete. However, when asked specifically who was holding the machete they answered it was their father and that their task was just to pick up the pods. Therefore, although some minors felt involved in the task of cutting cocoa pods with a machete, they were not actually carrying out a task that put them at risk. Therefore, their involvement cannot be described as hazardous. This example shows the need for very careful questioning in research on child labour in order to avoid misrepresentations.

Young people who stated that they were the ones holding the machete/blade were asked to describe how cocoa was cut. Any young person who was able to give detailed information on this obviously based on experience, and who was under the age of 14, was deemed to be involved in hazardous tasks. Some young people forgot to write their ages on their drawings and this was not picked up by the researchers in the discussion with the child, and as a result their ages were not known. However, as the children in some classes were all under the age of 14, any of these who reliably reported using certain tools was categorised as being involved in a hazardous labour activity even if they had not written their age down. Cases where the age was not clear or could not be ascertained using other factors were not included as involvement in a hazardous activity.

When carrying out child-focused participatory activities, researchers were also mindful of the fact that children do not always give reliable information. Data which was not deemed reliable is not included in the present synopsis of findings. For example, a twelve year old girl claimed to have been working alone on a cocoa farm and used her machete to kill a snake on that day. Given that girls are less likely to work in cocoa, that few children have machetes and that they are never left alone on a farm, especially not as such a young age, and that there were other inconsistencies in her account, her story was not deemed credible. Such stories are not included in the present analysis. Child-focused participatory research methods involve children as informants and recognise their capacity to make valuable contributions to research. However, it also involves some ‘filtering’ and triangulation of the information offered by the children, as reflected in the table overleaf.
Because cutting pods with a machete was the task seen as most skilled and many young people were not allowed to use machetes, which was demarcated as an adult activity, this task was regarded as the most high-status among the young people. As a result, this was the task they most wanted to do and there was a tendency to over-report machete usage.

The questionnaires with adult producers reinforced the notion that young people under the age of 14 were involved in hazardous tasks. The answers they gave to the question of the number of household members involved in cocoa and their typical tasks are as follows:

Table 38
Number of household members in the study under 18 years of age working in cocoa and typical tasks assigned by age

<table>
<thead>
<tr>
<th>Age</th>
<th>Number</th>
<th>Typical tasks assigned by age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>4</td>
<td>Household chores and errands</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>Household chores and errands; collect cocoa pods</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
<td>Household chores and errands</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>Loading mules/horses with cocoa; feed them to the roadside</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>Household chores and errands</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>Cut and collect cocoa pods; break pods</td>
</tr>
<tr>
<td>14</td>
<td>6</td>
<td>Cut and collect cocoa pods; break pods</td>
</tr>
<tr>
<td>15</td>
<td>6</td>
<td>Cut and collect cocoa pods; break pods</td>
</tr>
<tr>
<td>16</td>
<td>6</td>
<td>Break pods; removal of moss from the bark</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>Break pods; removal of moss from the bark</td>
</tr>
</tbody>
</table>

Source: Field survey.

NB Some producers reported young people under the age of 14 were involved in cocoa but did not specify what tasks they carried out.

While producers did not state what implement was used to cut down or open pods, it is likely to be a machete, long-handled blade or small knife. It is unlikely that producers would describe a child as cutting the pods if adults were the ones holding the machete but this is possible. Some producers reported that their children climbed trees to guide them and help them locate cocoa pods which could be deemed a hazardous activity.

During the fieldwork, one of the researchers observed that teenage boys (age unconfirmed) delivered cocoa on motorbikes and took payment for it. As carrying heavy loads on bikes on bad roads could result in an accident, and a teenage boy carrying significant amounts of cash is an appealing target for a robbery, such practices should be discouraged.

6.9 Luis – Life story

The following life story was obtained from a participant in the research. As it illustrates a number of important points relating to the research, extracts from it are retold here:

Luis is currently 25 years old and lives in Santo Domingo. He was born in Bonao but grew up in Yamasá where his father is a cocoa farmer. He has three sisters who now live close to Santo Domingo.

The family moved from Bonao to Yamasá when he was very young because of economic difficulties and in order to be closer to his mother’s family. In Bonao his father worked as a day labourer on a farm (not cocoa); his mother was not working. When the family moved to Yamasá, his father carried on working as a day labourer but also started renting land. Someone asked him if he would take over their land and he accepted. As the land already had cocoa on it he de facto became a cocoa farmer.

Luis’ mother secured a job as a cook near Santo Domingo shortly before they moved from Bonao so she became the main breadwinner. The 4 children were involved in cocoa from approx 10 years old in a variety of tasks ranging from cooking and bringing food to workers to cutting and collecting pods. However, Luis’ sisters were more academic and therefore were encouraged to stay in school, which was paid for using their mother’s income. Luis has some form of learning difficulty which means he is unable to understand numbers (possibly some form of dyslexia?) so he was encouraged to help his father and go into cocoa even though he was not keen on this.

Luis did not make a distinction between machete and knives. In his experience, children started using machetes for various things from approx 10 years old and used them in cocoa only to open pods (i.e. for weeding etc.). He did not regard using a machete as very dangerous because the pod is only tapped with the blade gently and carefully in order to open it and not damage the beans inside. He added that blades on long handles were more dangerous as cocoa pods could fall on someone and cause very serious injury.

33 Name changed to protect anonymity.

This story is illustrative of some of the wider problems in cocoa for two reasons. Firstly, if cocoa is produced by an individual with little education he or she is less likely to keep records of production and less able to engage with agricultural extension advice in printed form. Secondly, this new producer is taking over someone else’s land and therefore may not know the age of trees etc. or have any experience of cocoa. This means the only knowledge on good practices such an individual is likely to obtain is from technicians, which further indicates the importance of boosting these services in the DR.

Luis’ accident illustrates that i) long-handled blades are dangerous ii) they should not be handled by minors iii) it is not recommended they are used when a worker or farmer is alone unless they have considerable experience. Farmers rightly regard them as being more dangerous than machetes.

Luis being encouraged to enter farming because he was not doing well academically is not exceptional. As explained in section 6.11 other producers reported that if they had a child who was not doing well at school or who suffered from any kind of disability, they involved them in cocoa work rather than encouraged them to receive an education.
6.10 Producer perspectives on child labour

In focus groups with producers, participants were asked to list the tasks involved in cocoa farming and to state what tasks were appropriate for 13 year olds and for 17 year olds. It was argued that 13 and 17 year olds were able to carry out the same tasks, with the exception of carrying 70kg sacks of cocoa which they felt was a task unsuited to 13 year old who would not be strong enough. Many producers had well-defined ideas about the risks attached to producing cocoa. Cutting pods open (even using a machete) was considered less dangerous than knocking pods down from the tree (presumably using the long-handed blade), and was open to young people (and women). Small sharp knives were considered less dangerous and therefore well-suited to young people, especially as they were closely supervised during these tasks.

Similarly, in focus groups with the wives of cocoa farmers, participants were asked to list the tasks involved in cocoa farming and to state what tasks were appropriate for 13 year olds and for 17 year olds. The most common answer was that there was no difference between what a 13 and a 17 year old could do so long as they had the appropriate strength, fitness and were not being harmed by this. While such a response may seem reasonable, it clashes with conventions and legislations which define appropriateness on the basis of biological age. More positively, this activity was a useful learning exercise as it enabled a discussion of whether there should be a difference in what participants expected of a 13 and a 17 year old.

This illustrates that producers and their wives are not blind to the dangers involved in cocoa production. They understand the risks involved and organise their labour force accordingly by not allowing young people to take part in certain activities until they feel they can be performed safely. The problem does not stem from a lack of education or understanding of risk but from the fact that their particular understandings are not in keeping with the ILO Conventions. One type of thinking is experience, culture and context-based, while the other categorises behaviour on the basis of definitional criteria. While it is important to respect local beliefs, the ILO Conventions are enshrined in national legislation and must be adhered to therefore some sensitisation work on age-appropriate tasks and child labour is recommended.

It is recommended that a programme of intervention on child labour aiming to facilitate the acceptance of external standards must work on the basis of existing beliefs rather than try to challenge producers on concepts such as risk etc about which they already have established ideas. Any future awareness-raising should focus on re-categorising tools and their perceptions as hazardous/non-hazardous, and adopting age as a criteria to exclude children from certain tasks. However, it is also important to emphasise that these practices are taking place in the family context, although the evidence presented suggests there is scope for some improvements, these labour practices cannot be labelled as child exploitation in the same sense as other practices which have been uncovered in cocoa in other countries.

6.11 Child labour and social change

Patterns of child labour in smallholder agriculture in the DR have changed considerably in the last decade. For example, some workers interviewed (even workers as young as 22) reported that they had been working in cocoa since the age of 9. Many informants also reported that in former times there was much more child labour and fewer children in school. It appears that involving young people in cocoa is now less common and school enrolment rates are much higher.

Many informants attributed these developments to the changing role of women in society, and specifically to the fact that it was now easier for women to find employment and earn money. This has facilitated women being able to make choices for themselves and their children independently of men who tended to want children to be working on the farm rather than in school. Although evident power asymmetries between the sexes remain, improved recognition for women’s rights has had a discernable impact on the use of child labour in a rapid space of time.

Modernity has also meant that more parents (of both sexes) want their children to study and become professionals rather than struggle with farm work as they have done. As a result, they are less likely to insist that young people help with farm work or to put pressure on them to become cocoa farmers in later life.

Similarly, young people have been empowered by education and socio-economic changes. They can now choose not to be involved in cocoa or even agriculture; there is less pressure for them to do so as they have more choices available to them. Improvements in the rights of women have resulted in more children attending school; improvements in children’s rights have resulted in them being able to opt out of farming activities more easily outside school hours and at weekends. Many young people reported that they felt they were supposed to help their parents but said sometimes they just did not feel like it so they did not get involved. While this is now acceptable, it is doubtful previous generations of cocoa producers would have tolerated this. The children who participated in cocoa were enthusiastic about this and participated very willingly.

This shows some necessary social changes are taking place and reinforces the view that young people in the DR cocoa industry are not coerced into working. However, some of the positive aspects of earlier models of childhood are being eroded in favour of a more Western-style approach. Problematically for the future of cocoa, this model of childhood fuels the aspiration that economic productivity is based on having a career. In such a worldview, entering agricultural work is a disappointing prospect. Such beliefs raise questions as to who will grow cocoa in future as agricultural work appears increasingly unattractive.
Social trends are often borne out by their exceptions and the exceptions to the present case are also significant. Having acknowledged the concept of childhood is changing in Dominican society, it is also important to note that not all young people are benefiting from such developments. In spite of the social changes identified above, young people from extremely poor households may still end up working in cocoa farming (either on the family farm or as hired labour) too early and could become involved in hazardous tasks. Furthermore, the researchers noted that any young person who had any disability did not do well in school experienced significant parental pressure to take up cocoa farming as they were not ‘capable’ of doing anything else (as illustrated by the story of Luis in section 6.9). Therefore, it is clear that in some cases, young people’s right not to be involved in cocoa can be eroded by other factors and they may be pushed into cocoa farming. The tendency to push less academically able or physically impaired young people into cocoa both fuels and sustains the negative idea that farming is for individuals who are not able to do ‘better’ things. This is not helpful in promoting cocoa to younger generations.

6.12 Underage hired labour

4% of producers in the study reported a young person under the age of 18 from their family not being enrolled in school and being involved in cocoa. The ages of these young people ranged between 15 and 17 and the reasons for them not being enrolled in school included having learning disabilities, their father losing their job, the school being too far away and the young person simply not wanting to go to school. As these young people were aged between 15 and 17 this could, but does not necessarily, mean that such children had been, were exposed to one of the ILO defined Worst Forms of Child Labour, depending on when they dropped out of school, whether they were ever enrolled, what tasks they have been involved in and whether they have been encouraged to leave school to be involved in cocoa prior to turning 15.

An additional 3% of producers in the study reported hiring 14 year olds to work as labourers on their farms. Follow-up research with these farmers revealed that this was either pocket money for family labour or very poor children in the community being given small amounts of cash to do light tasks outside school to raise money to help their families. A further 3% of producers hired young people aged 16-17 to work on their farms. While this is legal under the Minimum Age Convention ILO 138, it is a worrying tendency. Some of these younger workers were interviewed. They claimed to have been working in cocoa for many years but their stories were not always consistent and this information could not be verified.

6.13 Child trafficking

The research uncovered no evidence of children being trafficked to work in cocoa. However, on the basis of a small sample of workers, it cannot be said with absolute certainty there is no underage trafficked labour into the DR cocoa industry. Furthermore, this is an area which is open to abuse and therefore could become a problem. Aside from cases already cited, one of the Haitian workers interviewed was only 17 years old. While the researchers’ interpretation of the labour legislation is that this is in keeping with the Labour Code, it still represents undocumented labour (as he had entered the country without the necessary papers) and this case raises concerns.

There are stiff penalties in place for child trafficking in the DR. The Law against Trafficking in Persons and Alien Smuggling stipulates fines and a penalty of 15 to 20 years of imprisonment for trafficking minors (US Department of Labor 2008 report on the Worst Forms of Child Labour published in 2009). Furthermore, the Protection of Children and Adolescents Law establishes punishments of 20 to 30 years for the transfer of a child to someone else for the purpose of forced labour, or any other degrading activity in exchange for compensation (Ibid.). Finally, a fine and a sentence of up to 10 years’ imprisonment can be given to anyone giving their son or daughter to another person in exchange for compensation and involvement in the trafficking of a child to a foreigner is punishable by a fine and 4 to 6 years’ imprisonment (Ibid.). Unfortunately, the US Department of Labor report also states that:

“According to USDOS [US Department of State], the Dominican Republic lacks effective trafficking law enforcement and victim protection programs” (2009: 112)

6.14 Concluding remarks

The data presented in this chapter indicates that the involvement of young people in cocoa is mainly on family farms and varies depending on the region. Among the young people who are involved in cocoa, a small number are involved in hazardous activities. Such involvement, however limited, requires investigation and careful consideration, especially given the chocolate industry’s commitment to eliminating the Worst Forms of Child Labour in cocoa farming. Furthermore, the research has illustrated the need for sensitive and careful questioning on child labour using appropriate methods. Children reported being involved in cutting cocoa with a machete/long-polled blade but it emerged in some cases that their fathers were the ones actually handling the machete and therefore they were not involved in a hazardous activity.

As the situation in Haiti remains extremely unstable, the types of labour used in cocoa should be carefully monitored to ensure that poor practices do not develop. Encouragingly, although some undocumented Haitian workers were relatively young (17 years) no evidence was found of any endemic exploitation of young people in the DR cocoa industry.

Aside from labour-related issues, the study has shown a need for fresh thinking in the area of social regeneration as cocoa is perceived as unattractive by younger generations for a number of reasons. In order to overcome this, educating young people about the cocoa supply chain and helping them to understand the place of the DR cocoa sector in the global arena would help raise its profile and stimulate the interest of younger generations who presently do not see its broader value. Providing opportunities for young people to be involved in cocoa at farm and organisational level, for example through internships, may also help stimulate their interest.

More fundamentally, it appeared that young people were influenced by the wider state of the DR cocoa industry. Therefore, any initiatives in this sector to help families and communities to enjoy a more secure livelihood would send a very positive message to younger generations.

In order to enhance the attractiveness of the cocoa industry to present and future generations, investments in cocoa areas and the development of policies to support farmers and their communities are necessary. The following chapter outlines some of the key community needs and puts forward a number of possible areas for intervention.
Chapter 7: Community needs

In order to enhance the attractiveness of the cocoa industry to present and future generations, investments in cocoa areas and the development of policies to support farmers and their communities are necessary. This chapter outlines some of the key community needs and puts forward a number of possible areas for intervention.

7.1 Environmental adversity

The limited capacity of some communities to protect themselves against environmental adversity threatens their livelihoods and may in part also account for their under-investment in cocoa production. More specifically, the human and material cost of hurricanes in the Caribbean cannot be overstated. The 1988 Hurricane Gilbert is estimated to have generated losses of 65% of the GDP in Jamaica, while Hurricane Hugo caused damage equivalent to twice the GDP in Montserrat (Barrington 2004). In the DR Hurricane Georges (1998) resulted in hundreds of deaths, thousands of evacuations and caused an estimated $1 billion worth of damage. It reduced cocoa production by two thirds that year.

Barrington (2004) reports that ‘On average, one hurricane and several tropical storms cross the region every year, leaving behind destruction of human life and livelihoods’. This also includes storms and flooding; the 1988 flood in the Dominican Republic is reported to have affected almost 1.2 million people. Major hurricanes struck the DR in 1979, 1987 and 1998. Environmental hazards are particularly damaging to poorer households. Rural communities would most especially benefit from assistance in mitigating the effects of environmental disasters.

Producers were specifically asked about their strategies for managing hurricanes and other environmental disasters. There was a widespread feeling of resignation and the producers’ methods for coping with such events in their communities were limited. This involved taking animals to higher ground so that they do not drown or untying them and leaving them to fend for themselves; tying down zinc roofing and putting weights on the roof to keep it from being blown off and pruning trees around the house to minimize the risk of uprooted trees falling onto the house.

When a hurricane is expected, people in solid home constructions tend to hunker down in their own homes; otherwise friends or civil defence workers take people to public schools, rural clinics, churches, communal centres, and other safe buildings. Family members with more solid homes take in relatives. The government has contingency plans via official organizations such as the Centro de Operaciones de Emergencia de la República Dominicana (COE). The Ministry of Agriculture has recourse to civil defence vehicles and offices nationwide, and their personnel are available to assist producers.

In order to enhance the attractiveness of the cocoa industry to present and future generations, investments in cocoa areas and the development of policies to support farmers and their communities are necessary. However, hurricanes still cause considerable damage. As explained in chapter 3, the majority of producers do not live in houses which can withstand natural disasters or even the seasonal heavy rainfall which characterizes the areas in which cocoa production is situated. While a small number lived in houses made with cement blocks, many of them live in wooden houses and virtually all of them have zinc roofs. Most workers also live in wooden houses with zinc roofs and some of them have cane roofing. Given the building materials used, it is clear that many of these houses would not withstand a major hurricane. Informants complained that even if their house was not destroyed in hurricanes, all their belongings got drenched due to poor waterproofing/misulation and it made their living environment extremely unpleasant until their homes were dry again.

Because of the risk of flooding and damage to producers’ homes, they seek shelter in approved shelters (such as churches, schools or even the buildings usually used by cocoa companies for storing cocoa). However, interviewees reported that their communities often do not have enough shelters. Some schools also reported that they could not reopen until people who had taken shelter during a hurricane had left, and the people had nowhere to go as their houses were too damaged to return to immediately. As explained in 3.12, some producers also feared looting so it is important that a dual approach is used: housing improvements and provision of shelters.

It was reported that the strategic planting of certain woods trees would help to provide barriers against hurricanes and winds although various informants gave conflicting reports of how much had been achieved on this issue. Some of the advice given by technicians (such as the recommendation that farmers erect three levels of tree barriers using trees with strong trunks and adapted to that zone) seemed quite impractical and were not to be widely implemented by producers.

Many informants reported that environmental disasters could result in problems relating to food security both in the short and long term. Some producers reported that food availability was a significant problem in the immediate aftermath of a hurricane and that they had to work as day labourers to ensure they could get enough cash to buy food. There was also a longer-term impact of hurricanes on food availability. Some farmers argued that they produced passion fruit, grapefruit and oranges before the hurricane, but lost a lot of citrus trees because the hurricane removed the top soil and “now if you plant citrus, it dies”.

Hurricanes appeared to have an impact on the long-term future of production in the DR. One of the key informants said that hurricanes destroy many cocoa trees and growers either replant with poorer quality seedlings, which are all they can afford, or they do not replant and thus disappear from the cocoa sector because the cocoa trade is not seen as attractive.

Finally, it should be noted that there have been repeated calls for the improvement of disaster preparedness in the DR, the reduction of vulnerability to risk and the setting up of a hurricane insurance fund (Siegel and Alwang 2004, Lopez 2001, World Bank 1998 and 1999). However, there is no evidence that these have been put in place in the cocoa sector.
7.2 Roads and flooding
The poor state of the road infrastructure in rural areas, which is characterised by cracks, potholes, lack of paving/tarring, and lack of/poor maintenance of bridges etc., was reported to be a major problem. Aside from the slowness, inconvenience, discomfort and potential hazards caused by the poor state of roads, it frequently combined with localised flooding (which is common as soon as the rainy season starts) to cause a variety of problems. Some of the problems reported included:

– Hindering access to medical help (as shown in section 3.11).
– Making it more difficult to sell cocoa. In many areas, farmers had to depend on the cocoa company tracks to come and pick up their cocoa as they had no other means of reaching the sales point due to the state of the roads. This can be problematic for producers selling wet beans as there is time pressure for producers to get the beans to the sales point or get it picked up before the cocoa starts drying out and they lose its full value.
– Not being able to send children to school. Parents complained in some communities that children were often kept away from school because the roads were flooded and there were no bridges or the bridges were inadequate.

Many of the roads used during the research were found to be in poor condition. For example, in some areas, even in places where rainfall had not been excessive, all the points where the road crossed the river were under water. While some Fairtrade funds have been invested to fix roads, there was clearly a need for further support. Flooding and poor roads caused feelings of anger, frustration and helplessness in many communities. They contributed strongly to the poor image of rural areas and should be considered a key area for intervention. However, due to the cost and scale of intervention needed, this requires a long-term strategy and the involvement of multiple stakeholders.

Flooding was also reported to lead to communities getting ‘muddied up’ which can result in landslides in certain areas. Some cocoa technicians said that they knew enough about flooding and water management to help local communities to manage these problems. As many communities still suffer from chronic mudding up and flooding in their living areas, and appeared deeply dissatisfied with their situation, the technicians’ efforts and/or knowledge do not appear to be sufficient therefore there is scope for more support.

7.3 Access to basic services
While there is a high degree of electrification (84% of producers), only 54% of producers sampled have access to potable water in the home, and fewer still (46%) have easy access to a hospital or clinic within their communities. For sampled workers, 86% live in areas of electrification, 64% have access to potable water at home, and only 40% have access to a hospital or clinic in their communities. Although they undoubtedly contribute to the poor image of rural areas, these issues were reported to be less of a problem than the poor state of the roads, lack of bridges and chronic flooding.

7.4 Needs of young people
The information on community needs contained in this section and in section 7.5 refers to the views expressed by young people only. These are intended to supplement the views of the adult informants which are already outlined in this chapter. The reason why the views of young informants were sought on community needs was to better understand how they view their communities and whether or why they would wish to leave rural areas.

The problem most frequently cited by young people was roads. Just like their parents, young people complained they were full of potholes and/or frequently impassable because of mud and flooding. Some young people explicitly commented on how this made the lives of cocoa producers more difficult: ‘We can’t sell our cocoa if the road is flooded’, ‘the trucks which come to pick up the cocoa can’t get close’, ‘it’s difficult to take our cocoa to sell it’.
As previously outlined, road renovation is a key intervention which would help rural communities to thrive and help to support a sustainable cocoa chain. It would also make rural areas more attractive to young people and help farmers by facilitating the transport/sale of cocoa.

Somewhat unexpectedly, delinquency/petty crime was cited alongside roads as the thing young people most wanted to change in their communities. Many of them complained that there was too much delinquency in their communities,14 which linked them to the lack of after-school activities, unemployment and lack of amenities in rural areas. When asked to list good things about cocoa, some young people answered that if there was no cocoa, there would be even more crime as people would not have any proper occupation.

Overall, there were very few sports/community/recreational facilities in rural areas (with the exception of some baseball pitches) and this contributed to the poor image of rural areas, and by extension of the cocoa sector. Therefore, investment and support for school activities and recreational facilities would significantly enhance the attractiveness of rural areas.

7.5 School facilities
The schoolchildren involved in the research did not report needing books or other basic items, and they did not experience problems such as teacher absenteeism or being required to do farm work as was the case in Ghana (Berlan, 2009). Furthermore, they benefited from some important interventions to help their learning, such as the provision of a free breakfast and treatment for parasitic worm infections.35 These may help to benefit from some important interventions to help their learning, such as the provision of a free breakfast and treatment for parasitic worm infections. These may help to account for high school enrolment rates.

However, depending on the community, a common complaint voiced by young people was the need for school improvements. This covered a wide range of practical needs, including some of the following: lack of adequate classrooms, lack of desks, inadequate and/or damaged roofing material, lack of toilets, lack of or broken windows, need to repair fencing or gates around the school, and general need for renovation, painting and other improvements, all of which had a direct or indirect impact on the pupils and their education. For example, their complaint about inadequate roofing was linked to the fact that some classrooms were covered only by sheets of corrugated iron. The deathly noise caused by rainfall on iron sheets made teaching virtually impossible as soon as it started to rain. Furthermore, these sheets did not appear to be durable; many of them had holes and failed to protect the pupils and their books from the rain.

One of the schools visited had only one toilet for 325 pupils. It was not suited for all ages and teachers reported that this resulted in the younger pupils unintentionally making the facilities unusable for others or refusing to use the toilet facilities and soiling themselves. There was no toilet paper or any hand-washing facilities available. In spite of apparent efforts to keep the bathroom area as clean as possible, a strong and nauseating smell permeated the facilities. In the event of this school having to provide shelter during and after a hurricane, it is hard to imagine such sanitation facilities would be adequate.

UNICEF, based on data from the school health programme of the Secretariat of State of Public Health and Social Assistance, identifies respiratory problems, gastrointestinal illnesses, parasites and anaemia as being some of the key health problems affecting schoolchildren in the DR.15 Having visited some of the bathroom facilities in the schools, it is easy to see how gastrointestinal illnesses could spread.

One of the teachers interviewed commented that a nearby school had recently been forced to close temporarily as a stomach infection had spread around the school. In view of the poor facilities and lack of hand-washing facilities, the school described here is also vulnerable to such problems.

Research in other countries has shown that the provision of adequate toilet facilities can have a positive impact on girls’ education (Colclough et al, 2003). However, in the present study, girls did not appear to be particularly disadvantaged compared to boys; both sexes were affected by the poor bathroom facilities. This did not appear to result in children dropping out of school but it made school a much less pleasant, and possibly even unhealthy, environment to be in.

Some of the communities visited during the research were clearly committed to addressing local problems. In one of the communities visited, the local PTA association had lobbied the government until they built a new school with good teaching, bathroom and kitchen facilities to replace the previous failing facilities. In another school visited, extra classrooms had been built through the initiative of the local community. Although they were infested with mosquitoes due to the proximity to vegetation, they provided much-needed classroom space. In the same school, the local Bloque had built part of two small classrooms in the school but these were unfinished as funds had run out. The local community was keen to continue this project and were enlisting the help of local builders but still needed building materials.

This illustrates that there is scope to build on and consolidate local capacity to deliver sustainable development. Community associations of various kinds (cocoa farmers’ associations, women’s associations, PTAs etc.) are very common in rural areas in the DR and represent a crucial source of social capital which enables socio-economic development to take place.

The challenge is that such associations are not homogeneous in nature. Different communities have different associations which are effective; it is therefore a case of identifying the goals to be met and which associations in which communities will best be able to meet these. This requires a flexible approach based on the priority needs and respective capacities of individual communities.

In follow-up research carried out in December 2009, it emerged that a law had recently been passed in the DR committing the government to providing IT1 facilities in every school. As it was acknowledged that many schools (especially in rural areas) lacked facilities to accommodate this, a school renovation programme appeared to be underway. Therefore, a school renovation/building programme does not appear to be a priority area for intervention, although there may be scope for stakeholders to support the government investment on this issue, and community support in other areas is still strongly recommended.

Other problems raised by young people but cited less frequently were (depending on the communities): lack of electricity, litter, deforestation, lack of piped water, lack of support for education, the need to build better houses and to reduce unemployment.

7.6 Concluding remarks
Some key informants reported that the risk of hurricanes represented a deterrent for foreign chocolate companies to become reliant on using Dominican cocoa. As the quality and reputation of Dominican cocoa are increasing (and global supply is falling) it would be regrettable for hurricanes to prevent the DR from becoming a major player in the global cocoa market. Interventions in the area of disaster preparedness and post-disaster management are therefore recommended.

At the time of writing, there was no formal natural disaster insurance in the DR or any insurance for cocoa farmers against drought or floods or yield losses due to pests or diseases. Producers continue to face exposure to hurricanes which can destroy both their homes and their production. The DR government has given post-emergency assistance
in the past to cocoa farmers. However, going beyond short-term responses and putting in place coordinated public policies for funds and resources to help farmers to rebuild their farms following an environmental disaster would provide a significant boost to the industry. In order to achieve this, a multi-stakeholder task force bringing together cocoa companies, government, NGOs and other stakeholders could be set up to investigate ways in which to improve long-term disaster preparedness, reduce vulnerability to risk and establish a hurricane insurance fund for cocoa farmers.

The research also indicated that there were opportunities for intervention at the farm level in the area of awareness raising/education and environmental protection. It is clear that producers would benefit from further advice on how they could protect their farms and homes, and that such advice should be clear, consistent and accessible. This relates to the training of technicians already discussed in Chapter 4.

The accounts provided by farmers and their families of their experiences illustrate that, aside from needing help to deal with the enduring and long-term problems connected with environmental vulnerability, they would also benefit from interventions to help them deal with the immediate aftermath of hurricanes. Therefore, it is recommended that opportunities for practical post-disaster support are investigated. Such practical support could for example include ensuring that farmers, their families and other community members have enough safe buildings to shelter in and that these buildings have the necessary facilities (e.g. have a stock of blankets, candles, adequate toilet and shower facilities, access to clean water, first aid kits, basic cooking facilities etc.). It could also include the development of a coordinated programme for food assistance in order to ensure that producers are able to focus on rebuilding their farms and livelihoods in the immediate aftermath of a hurricane rather than have to work as labourers to help their families. As regards cocoa specifically, the provision of subsidies on the cost of high quality plants (discussed in chapter 4) may also encourage post-hurricane replanting.

Aside from disaster preparedness and relief, communities are also environmentally vulnerable because of flooding/water management problems so this is another possible area for intervention. The research revealed that in this respect, some areas were worse affected than others. However, a full investigation of this problem was beyond the scope of the present study. The identification of appropriate interventions in this area requires a Water & Sanitation engineer with the relevant technical expertise to inspect the topography in the worst affected communities and make recommendations as to what would be most effective (e.g. digging trenches/drainage channels, building bridges, raising river beds, planting more trees, widening a river in certain places etc.).

Many of the community needs identified had a direct or indirect impact on the long-term sustainability of cocoa. The lack of key facilities for young people such as sports/community/recreational facilities/after school activities, as well as the poor basic infrastructure, both undermined the quality of life in rural areas and made cocoa and the wider agricultural sector less appealing. The poor quality roads hindered the transport of cocoa, especially wet cocoa. Therefore, the provision of social facilities (including road improvement) should be considered as an area for intervention by stakeholders including government, cocoa companies, chocolate companies, NGOs and any other relevant stakeholders. Involving Western chocolate companies as stakeholders in setting-up after-school activities, sports facilities and/or community centres would also send a clear message to cocoa communities that they ‘matter’ on a national and international level. This is necessary as they presently do not feel their work is valued and have little understanding of their place in the supply chain.

Chapter 8: Concluding remarks on the future of the DR cocoa industry

The DR cocoa sector faces opportunities and challenges in equal measure. From an international perspective, it offers a source of high-quality, organic and Fairtrade beans which can fetch high prices and for which there is a significant demand. However, major investments and changes are required at farm level in order to ensure the long-term sustainability of the DR cocoa sector.

Current levels of productivity are approximately half of what they could be and tackling this will require input from multiple stakeholders. Developing agricultural extension services is necessary to engage producers more and to tackle low productivity. However, a coordinated strategy may be hard to implement in view of the competition and lack of trust between some stakeholders.

At the time of research, incomes from cocoa were low and fuelled a vicious cycle of underinvestment in the farm, low yields and low returns. In order to break this cycle, producers need to be supported and incentivised to carry out regular farm maintenance, amongst other things. The study has also revealed a need to think carefully about incomes in cocoa communities in the DR and beyond. Calculating average daily incomes offers some insights into levels of poverty but can also be misleading because it masks the seasonality of incomes. This often results in farmers experiencing great hardship at particular times of year and can impair how effectively they manage their incomes during relatively more affluent periods because of the debt it compels them to take on.

Issues such as poor roads, the lack of rural amenities, and insufficient recognition of cocoa producers’ work, all contribute to the poor image of the cocoa sector. While little can be done to prevent environmental disasters, the study has found that this is another area where producers and their communities could receive much greater support. Some of the findings of the present study such as the need for greater disaster preparedness or disaster insurance reiterate earlier recommendations made to key stakeholders in the DR cocoa industry which have not yet been acted on.

As many young people are not involved in cocoa and do not see it as a viable activity, it is very unlikely that they will become producers without some promotion work being done to raise the profile of cocoa. On a more positive note, it is significant that while some knew more than others, many young people and young adults had some exposure to cocoa and a basic awareness of issues connected with land preparation, farm maintenance and the sale of cocoa (e.g. price, oversupply, etc.). This means that there is some basis for developing their interest.

The data suggests that cocoa farming per se is not the biggest problem in recruiting younger generations to work in cocoa. It is often assumed that young people disengage with cocoa farming because it cannot compete with the relative glamour associated with jobs in tourism or living in an urban area. However, this is not truly representative of their views. The young adults who took part in the research did not aspire to great things; some preferred driving a motoconcho or being a builder to being a cocoa farmer. Although neither of these are highly paid or high-status they at least offer a regular and more frequent income than cocoa. Some even preferred temporary unemployment, presumably while they waited for better opportunities to come up.

More broadly, the discourses of young people in relation to cocoa reflected what they had heard their parents talking about. They talked about too much rain, problems caused by pests, lack of farm maintenance etc. Therefore, it is clear that any interventions which have a positive impact on farmers are likely to filter down and positively influence the perceptions of young people who pick up and reproduce what their parents/grandparents say about cocoa.
Of course, it will be beneficial to implement interventions specifically targeting young people (such as agricultural scholarships or workshops on cocoa) but an equal focus must be on the producers. Reviving producers’ enthusiasm for cocoa would send the right messages to young people. Producers who are enthusiastic about producer organisations pass that enthusiasm onto their children. This is key to shaping their interest in becoming cocoa producers.

It is unlikely that cocoa production will die out even if young people do not take up cocoa farming. It is more likely that the dualistic nature of DR agriculture will be exacerbated. Land will increasingly be sold to large land-owners and the labour force will then predominantly be made up of workers rather than producers. As workers presently have the lowest incomes and are the most vulnerable socio-economically, this is not desirable. This would also raise the possibility of labour abuses, especially as the political situation in Haiti fuels the provision of cheap and undocumented labour. In the short-term, labour issues require careful monitoring in order to ensure that vulnerable groups such as young people or Haitians are not exposed to negative practices. Current incomes from cocoa are more likely to encourage farmers to cut corners in terms of labour standards. This could result in the greater use of underage or undocumented labour, or simply result in them not using any labour and just letting the land produce low yields.

At present, there is little integration of many of the key actors in the Dominican cocoa value chain. The report has highlighted a number of issues which offer opportunities for key actors to get involved. The farmers, their communities, the government, and cocoa companies all have a role to play in addressing these issues and supporting the sustainability of the DR cocoa industry.

Siegel and Alwang argued that

“While policies and programs can help bolster the economic viability of both commodity sectors, their ultimate sustainability depends on the mosaic of linkages between households and their economic, social and environmental context. And there are still important gaps to fully understanding and appreciating this complex mosaic, and for identifying the appropriate roles for Government, the private sector, international development agencies, and non-governmental organizations.” (2004:7)

The present study supports this conclusion and hopes to have remedied some of the knowledge gaps in the Dominican cocoa sector. The aim of the recommendations and suggested areas for intervention in each chapter is to stimulate ideas and guide possible interventions to enhance the long-term sustainability of the Dominican cocoa sector. However, these recommendations are not exhaustive or prescriptive; it is hoped that they will guide interventions but also stimulate further ideas and debates on future strategies to ensure the economic and social sustainability of the cocoa sector.

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Cocoa Production in the Dominican Republic