SUGAR FROM NICARAGUA

Prof. dr. Paul Hoebink
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Centre for International Development
Issues Nijmegen
(CIDIN)
Radboud University Nijmegen
SUGAR FROM NICARAGUA
Some people work to live,
But here, people work to die

Esteban Félix,
Winner of the Gabriel García Márquez
International Journalism Award 2013

A Report for Fairfood International

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Centre for International Development
Issues Nijmegen
(CIDIN)
Radboud University Nijmegen
Postbus 9104
6500 HE Nijmegen
tel. 024 – 361 30 58
e-mail: p.hoebink@maw.ru.nl
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Summary

1. This study is primarily a critical review of the literature on sugar production and trade, specifically on sugar production in Nicaragua, on working conditions and occupational health hazards in the Nicaraguan sugar sector and on Chronic Kidney Disease (CKD). The secondary aim of this report is to present the results of a survey conducted in 2013. Survey and datasets were controlled and triangulated with other literature and reports.

2. The history of sugar production is deeply intertwined with, at times extreme, exploitation. The transatlantic slave trade, which spanned from the period from the 16th to the 19th century, clearly demonstrates that. The abolition of slavery in many parts of the world put an end to these most extreme forms of exploitation of human labour, but did not abolish all forms of mal- and mistreatment (like child labour and forced labour) suffered by sugar-workers up to the present day. Sugar deserves a decent-work agenda to enable it to be considered a fair food production.

3. The international sugar market has been dominated by protectionism, subsidies for domestic producers and for a long time quota systems, with consumers in the biggest markets and some producers in developing countries paying the price, while other developing countries profited from special sugar arrangements. Today in several Central American countries, the export of sugar is closely connected with quota systems under the Central America Free Trade Association and WTO regulations.

4. Sugar production in Nicaragua dates back to the 16th century, but has long been produced for the local market only. The first sugar factory, San Antonio, was installed only at the end of the 19th century. Nicaragua’s sugar exports suffered from the economic crisis of the 1930s and in the 1980s from the American boycott. They recovered slowly in the 1990s, moving into third place behind coffee and meat in the list of agricultural export products with a total value of USD 209 million in 2012, representing half of the value of coffee exports. If we include molasses, ethyl alcohol and alcoholic beverages, the value of all exports derived from sugar production might amount to a sum close to USD 250 million.

5. Four sugar factories-cum-plantations are now responsible for sugar production in Nicaragua. They have been successful in recent years, expanding acreage, production and exports and it seems that sugar production in Nicaragua will continue to grow.

6. In recent years sugar production in Nicaragua has come under scrutiny because of a serious outbreak of Chronic Kidney Disease, which appears to have been already present in the region for two decades. This kidney disease is clearly different from
Chronic Kidney Disease from traditional causes. Recent studies conclude that the prevalence of Chronic Kidney Disease in Central America is clearly connected with sugar production in rural areas and to a lesser extent to cotton production. It should be noted that Nicaragua in particular has the highest prevalence of the disease in the region. Evidence points to working in hot conditions under the hot sun and regular dehydration as the main cause of CKD. This means that other explanations, like obesity and hereditary causes, can be dismissed. Some connection may still exist with the use of agrochemicals and contaminated water.

7. Surveys in 2005 and 2013 indicate that sugar workers still suffer poor labour conditions in Nicaragua, being hired mainly through informal subcontractors with little in the way of legal rights and no social security. They work long days, 7 days a week for several months with few breaks and no vacations during the harvest season. Access to water and shade is insufficient.

8. This means that the Boston University School of Public Health assessment of 2010 on industrial hygiene and occupational health is not a real assessment of practices at Ingenio San Antonio. It is an evaluation of potential hazards, but it is not triangulated by other research methods if official practices and regulations were really followed and implemented in the harvest season. Both the surveys of 2005 and 2013 present evidence that they are not.

9. The reactions of the two sugar estates, Ingenio San Antonio and Ingenio Monte Rosa, to the draft report are quite different in tone, where in our opinion Ingenio San Antonio is far more defensive than Ingenio Monte Rosa. Both sugar estates show the policies they have, in particular with regard to labour conditions, and at the same time show that there is a large discrepancy between their policies and the activities they state to undertake with regard to workers’ safety and the outcomes of the two surveys of 2005 and 2013, for example, with regard to the length of labour days and weeks, breaks in the shade, the provision of water, and medical supervision. It again leads to the conclusion that on paper, in pictures and in videos the health and safety practices of the sugar estates look fine, but that there are serious doubts whether they are applied to all the workers during the zafra (harvest).

10. As the Pan-American Health Organization (PAHO) called for in its resolution of October last year, it is important to forge alliances between the different actors and the poor rural communities who are hit by CKD. Specialized Technology Resources (STR), the American consumption products’ quality assurance organisation, indicated the following in its analysis of the Nicaraguan sugar industry: ‘The industry’s idea of corporate social responsibility needs to expand to include the implementation of various programmes and/or operational changes to address the current issues the industry is facing’.
11. If Nicaraguan sugar companies take Corporate Social Responsibility seriously, which they regularly state they do in their magazine El Azúcar and in their annual reports, then they should also take more responsibility for the health of their workers, in which case the regulations they have and even the training they provide are not effective enough. They should hire their workers via legal entities in order to secure workers’ rights with regard to social security and adhere to local labour laws. They should provide sufficient clean drinking water, make sure that workers don’t work during the hottest hours of the day and indeed have regular breaks and access to shade. They should organise more regular medical check-ups of all their workers and alert labourers when they are in the ill-health danger zones.

12. The use of pesticides in the sugar industry and its effects on sugar workers may not be a cause of CKD; however, the connection should be further researched. Pesticide use should also be investigated for its possible role in the development of skin diseases and respiratory problems, since workers have indicated that they suffer from these too. This is also important because it is reported that officially-banned pesticides are still being used.

13. If the Nicaraguan government takes seriously its Decent Work Programme, agreed with the ILO, it should exercise better control over working conditions and security in the agricultural sector, in particular in the sugar industry. In other words, its two control agencies – the Labour Inspectorate and the National Council for Hygiene and Work Security - should prioritise the agricultural sector, since this where most violations of laws and regulations seem to come together.
Preface

While writing this report, on 18 January 2014 a sugarcane worker was killed and another seriously injured by the Nicaraguan police during a two-week worker protest demanding medical care for the more than 500 sick workers at the San Antonio sugar mill in Chichigalpa (Associated Press, 20 January 2014). For the author, following the events in the Nicaraguan sugar industry for more than a year now, these dramatic events showed again the enormous distance between my comfortable study room and the struggle for survival of people that I also meet regularly in developing countries.

Just two months earlier AP photographer Esteban Félix won the Gabriel García Márquez International Journalism Award for his multimedia project: ‘Bitter Sugar: A Mystery Disease’, featuring workers from San Antonio. He showed dramatic pictures and videos of sugarcane workers who had worked on this sugar plantation for more than 20 years, dying of Chronic Kidney Disease.

In this report we will analyze the situation of Nicaraguan sugarcane workers and the Nicaraguan sugar industry. In the 21st century we as consumers cannot tolerate that workers endanger their lives to put sugar on our tables. Nicaraguan sugarcane workers have a right to decent working conditions. The fair production of food demands it.

We write this in the hope that this report is a small contribution to that objective.

It is obvious that the responsibility for the content and presentation of findings and recommendations rests with the author. The views and opinions expressed in the report do not necessarily correspond to the views of those for whom this evaluation was produced.

Amsterdam/Nijmegen
June 2014
Introduction

There is probably no other food product that has as many contrasting connotations as sugar. Sugar was once the ‘white gold’, creating sugar barons in Louisiana, the West Indies and the UK. At the same time, however, it was connected with transatlantic slavery and the ‘sugar girls’ of Tate & Lyle’s East End Factory. Sugar was a luxury product for the merchants of Amsterdam and for the nobility living in the British countryside and quickly became a product adored by the masses as sweetener for bitter products such as coffee, chocolate and tea. Now, however, sugar is also seen as a health hazard and we have dietary and cookery books with titles such as ‘the sugar addiction roadmap’ and ‘sugar detox’, showing how sugar keeps us addicted and causes obesity.

The production of sugar has also been connected with hard labour, exploitation, repression, violence, bloodshed and insurgence. Exploitation of human labour seems to have been inherent to the plantation economies that the Europeans established in the Caribbean and Central America, and in Brazil, but also on islands like Fiji, Mauritius and Réunion. However, we should not forget that this exploitation of slaves, immigrants, women and children, could also be seen during the sugar beet campaigns in Nebraska and Colorado, or Newark, Dinteloord, Aisne and Marne in the 19th and early 20th century.

In September 2008 the Nicaraguan government, the labour unions, employers and the ILO signed a Decent Work National Programme, establishing a National Labour Council and the National Dignified Employment and Labour Plan (ILO 2008). At that time it was indicated that the Ministry of Labour had extended its inspections into rural areas, amongst others in order to fight child labour. The improvement of social security and occupational safety are also central objectives of the programme.

The ILO placed its Decent Work Programme on the international agenda in 1999, and started to extend it also to agriculture in 2003. It then identified a series of decent work deficits in agriculture. Among these were that 170,000 agricultural workers around the world were killed annually as a result of workplace accidents with some 40,000 of these from exposure to pesticides; pesticides affected between three and four million people per year; 70 per cent of all child labour was in agriculture; agricultural workers were among the groups with the highest incidence of poverty; the majority of agricultural wage workers had no social protection; in some countries women accounted for more than half of the work force but were rarely given contracts and were hired more for casual work (ILO 2003). The same report indicated that all these forms of malpractice could be found in the sugar sector: anti-union practices with increasing violence and repression; coercive labour contracting and child labour; a very high incidence of poverty among sugarcane workers. All this to show that decent work and Corporate Social Responsibility still have a long way to go to make our sugar sweeter, but also that the Nicaraguan sugar sector should be scrutinised under the lens
of the Decent Work Agenda. According to the ILO decent work should be productive and deliver a fair income, provide security in the workplace and social protection for families, give better prospects for personal development and social integration, provide freedom for people to express their concerns, organise and participate in the decisions that affect their lives and finally should defend equal opportunities and treatment for all women and men. It seems important and valuable therefore to scrutinise the Nicaraguan sugarcane sector under the lens of the Decent Work Agenda and that is what this report will do.

About this report

This report is in principle a literature review. In 2013, Fairfood International commissioned a survey of Nicaraguan sugarcane workers (conducted by Nicaraguan NGO, La Isla Foundation) and in connection with that, the completion of this report. For purposes of this report, literature was collected on: 1. The Decent Work Agenda in particular in agriculture; 2. Sugar production worldwide and its history; 3. Sugar production in Nicaragua, its history and actual production; 5. Working conditions on Nicaraguan sugar plantations; 6. Chronic Kidney Disease, its origins, prevalence and effects. The report will also present an overview of the 2013 workers’ survey.

For the working conditions on the sugar plantations specifically, we not only relied on the findings of the Boston University team, but we also used the survey produced by La Isla foundation, commissioned by Fairfood International (see chapter 3). We checked the questionnaire and at random filled-in questionnaires, and the database of this survey on its validity and reliability. We did not find any major mistakes and consider the survey to be valid and reliable. We also looked at an earlier survey among Nicaraguan sugarcane workers from 2005 by the Nicaraguan NGO Profesionales para la Auditoria Social y Entreprenarial (PASE) and the International Labour Rights Fund in Washington.

A first draft of this report received comments from three unions from Ingenio San Antonio as well as from the directors of Nicaragua Sugar Estates Limited and Ingenio Monte Rosa. We have studied their letters and the documents they have sent us and we have integrated their major and most important comments in chapter 3.

The lay-out of this report is as follows: In chapter 1 we give some background to sugar production worldwide, its history, trade and today’s consumption and production. In the second chapter we present a short overview of sugar production in Nicaragua. In chapter 3 we deal with the labour situation and the working conditions at the largest sugar producers: Ingenio San Antonio and Ingenio Monte Rosa. In chapter 4 we describe what we have found on Chronic Kidney Disease in Central America and Nicaragua and the debate about its prevalence and causes. In the last chapter we present our conclusions and recommendations.
Chapter 1: Presenting the Context: A short history of sugar production and consumption

Sugar production and trade, as indicated in the Introduction, can be written in terms of ‘wealth and power’, but also of ‘blood and exploitation’. The history of sugar production and trade is then best allegorised in titles as ‘Sweetness and Power’ (Mintz 1985), ‘Sugar: a Bittersweet History’ (Abbott 2010) or ‘The Hunger Crop’ (Coote 1987). In this chapter we will briefly describe the history of sweeteners and sugar, their production and trade, as background to the discussion of Nicaraguan sugar production and trade in the following chapters.

1.1. A short history of sweeteners and sugar

Mankind has been using sweeteners for a very long time. In Asia this came from the sap of the palmyra palm (jaggery) and from sugarcane. Sugarcane was brought from Polynesia more than 2,500 years ago and refined in India around 700 BCE (‘sarkara’ in Sanskrit) This lasted until the 7th century CE until the Persians were able to produce an almost white loaf sugar (Davidson 2006) which was also exported to the West. Until that time, honey was the only sweetener used in Europe.

This changed when the Portuguese started to produce sugar on Madeira, the Spaniards on the Canary Islands and when Columbus took some sugarcane plants to the Caribbean. Sugar production then very quickly expanded to all the Caribbean Islands, Central America and the south of what is now the US (Fraser & Rimas 2010). To harvest the sugarcane and to fuel the sugar factories, a great deal of labour was needed which could not come from the European slaves, the Guanes (original inhabitants of the Canary Islands) or the Caribs (the Indian ethnic groups at the Caribbean Islands). The workforce came from slaves ‘imported’ from (West) Africa. To this end, it seems safe to conclude that throughout its history sugar production has always been connected with slavery and exploitation (Mintz 1985), as summed up in the following quote: ‘The sweetening of British tea has always been taking priority over the filling of the Jamaican stomach’ (Coote 1986:19).

Sugarcane demands (sub) tropical climates (including warm temperatures and rain) and a large quantity of strenuous labour to transform it into processed sugar. This means that cheap labour was needed as plantations expanded (Bacon 2008). Furthermore, a lot of land was needed not only for the sugarcane plantations, but also forests for the wood that fuelled the mills. Sugar production is thus inextricably linked with colonialism and with an Africanisation of the Caribbean and the cane fields (Abbott 2008: ch. 3), the south of present-day US and parts of Central America (Coote 1986). Of
the estimated 20 million slaves that were shipped from Africa, around two thirds arrived
in the sugar plantations.

Unfortunately, exploitation still today characterises the global sugarcane
industry. Plantation workers from many countries still cite long working hours,
insufficient pay, bad working conditions, health problems, high prices and debts at
plantation shops under debt-peonage systems (see e.g. Coote 1987; Mintz 1986; Abbot
2010).

1.2 World production and consumption of sugar

Brazil is the world’s largest sugar producer with 23 per cent of world production. India
and China are the second and third largest producers where sugarcane has been grown
for centuries. More than three quarters of sugar production (77.2 per cent in 2012-13)
is produced by ten countries.

In the second echelon of sugar producers we will find countries producing
between 1.6 and 4.5 million tons, from Cuba and Colombia up to South Africa and
Australia. This means that all sugar producers outside this top 20 produce together less
than 11 per cent of total world production. Among these smaller producers is Nicaragua.

Table 1.1: World sugar production
(‘000 metric tons)

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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>31,600</td>
<td>31,850</td>
<td>36,400</td>
<td>38,350</td>
<td>36,150</td>
<td>38,600</td>
</tr>
<tr>
<td>India</td>
<td>28,630</td>
<td>15,950</td>
<td>20,637</td>
<td>26,650</td>
<td>28,620</td>
<td>27,200</td>
</tr>
<tr>
<td>EU</td>
<td>15,614</td>
<td>14,014</td>
<td>16,687</td>
<td>15,090</td>
<td>18,320</td>
<td>16,591</td>
</tr>
<tr>
<td>China</td>
<td>15,898</td>
<td>13,317</td>
<td>11,429</td>
<td>11,199</td>
<td>12,341</td>
<td>14,000</td>
</tr>
<tr>
<td>Thailand</td>
<td>7,820</td>
<td>7,200</td>
<td>6,930</td>
<td>9,663</td>
<td>10,235</td>
<td>10,000</td>
</tr>
<tr>
<td>US</td>
<td>7,396</td>
<td>6,833</td>
<td>7,224</td>
<td>7,110</td>
<td>7,700</td>
<td>8,144</td>
</tr>
<tr>
<td>Mexico</td>
<td>5,852</td>
<td>5,260</td>
<td>5,115</td>
<td>5,495</td>
<td>5,351</td>
<td>7,393</td>
</tr>
<tr>
<td>Russia</td>
<td>3,200</td>
<td>3,481</td>
<td>3,444</td>
<td>2,996</td>
<td>5,545</td>
<td>5,000</td>
</tr>
<tr>
<td>Pakistan</td>
<td>4,163</td>
<td>3,512</td>
<td>3,420</td>
<td>3,920</td>
<td>4,520</td>
<td>4,780</td>
</tr>
<tr>
<td>Australia</td>
<td>4,939</td>
<td>4,814</td>
<td>4,700</td>
<td>3,700</td>
<td>3,683</td>
<td>4,250</td>
</tr>
<tr>
<td>Other</td>
<td>38,424</td>
<td>37,913</td>
<td>37,701</td>
<td>37,264</td>
<td>39,466</td>
<td>40,075</td>
</tr>
<tr>
<td>Total</td>
<td>163,536</td>
<td>144,144</td>
<td>153,687</td>
<td>161,437</td>
<td>171,931</td>
<td>176,033</td>
</tr>
</tbody>
</table>

Source: USDA 2013.

Some of the largest producers are also the largest consumers, like India, the European
Union, China and Brazil. India is by far the largest consumer, but the largest importers
are Indonesia, the European Union, the US and China.

1 As Kaplinsky (1983) states these official figures might be somewhat misleading because they don’t show
large parts of the production of more traditional sugar production.
Worldwide sugar consumption in the last decade is up more than a quarter compared to the 1990s, a growth that is mainly found in developing countries, due to higher incomes and economic growth there, whereas consumption in developed countries remains more or less stable. Of this consumption, industry is responsible for two thirds of consumption in the European Union, 60 per cent in the US and around 48 per cent in Brazil (Amrouk et al. 2013).

1.3. Sugar and trade: another area of contest

The world sugar market has always been rather peculiar and prices on the world sugar market have always had spikes and downturns. This is in part due to the fact that sugar production depends on weather conditions but also because it seems to follow the ‘pork cycle’, best illustrated by the sugar crisis of the mid-19th century which devastated the sugar economies of many Caribbean countries. The sugar market is heavily influenced by speculators; it is suggested that three-quarters of trading is in futures.

Historically, sugar production has been highly protected in the main markets: the European Union, the US and Japan. This protection was implemented through production quotas, subsidies, import controls and tariffs and export refunds. Overproduction was dumped on the world market. The EU also gave special access to sugar producers under the Lomé Conventions, to the so-called ACP-countries.

The European Union concluded a new Association Agreement with Central America in 2012, which came into force in October 2013. It eliminated most tariff barriers and created new disciplines for non-tariff barriers. Central American countries have immediate and fully liberalized access to the European market, which is intended to result in increased wealth for the producing communities. American sugar policies have also been historically highly protectionist, using import tariffs and quotas to minimize competition from abroad, as well as preferences for some close allies. Moreover, in the North American Free Trade Agreement and later trade agreements with Latin American countries, an exception was always made for sugar and thus they opened the door a bit more than the earlier ‘colonial’ types of agreements. WTO regulations opened the American market still further. Over the last decade, the American sugar industry has been largely restructured. The American Sugar Program does not include any subsidies or buy-ups of overproduction; yet it has still led to restructuring of the sugar industry. Eighty-five per cent of the American market is, however, still allotted to American producers under the Farm Bill of 2008 (Richardson, 2009).

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2 The pork cycle describes how high prices for pork meat cause farmers to produce more pork meat, which then reduces the prices and might bankrupt a number of farmers, which again leads to lower production and higher prices, etcetera.

3 ACP-countries are countries in Africa, the Caribbean and the Pacific that were part of the Lomé Convention, now the Cotonou Convention.
1.4 Production of sugar and labour: the hunger crop?

As already indicated above, sugar plantations have been connected with all the evils of labour exploitation for a very long time: slavery and coerced work, child labour and only casual and underpaid work for women, poor labour conditions and poverty, seasonal work and no income outside harvest periods. This gave sugar the name of the ‘hunger crop’: hard work under the burning sun (sugarcane needs a temperature of at least 21° C) or in the high temperatures of the factories, for long days with low wages and poor living conditions, working with pesticides and fertilizer and long periods without work. This is why, when there are other jobs available, farm workers are reluctant to accept jobs at plantations. Mechanisation could provide relief from the hardest work, but may also cost jobs in rural areas where there is already a high rate of unemployment. Sugarcane in most places depends on a three-month harvest period when temperatures are still high and sugar content at its highest.

In Brazil it was calculated that half of the seasonal labourers lost their jobs when harvesting was mechanised. The slow progress of mechanisation in China shows, however, that it is not easy to invest in all the 16 steps from ripping the soil via harvesting and chopping to the transportation of cane (Yinggang a.o. 2013), just as it was already not easy to harvest sugarcane in Louisiana at the end of the 19th century (Ferleger 1982).

This means that much of the work on sugar plantations will continue to be undertaken by manual labour. This, and the uncertainty and shortage of labour that could arise as a result of other and better paid job opportunities elsewhere, is also of importance when trying to integrate the Decent Work Agenda into sugar production.
Chapter 2:
Sugar Production in Nicaragua

2.1. Introduction

With its current GNI per capita of close to USD 3,900, Nicaragua belongs to the Lower Middle Income Countries and is the second poorest country in the region behind Haiti. Since 2001, however, the country is showing good growth figures, compared with other countries in the region, aided by a massive debt relief under the Highly Indebted Poor Countries Initiative (HIPC), growing exports and rapid growth of the tourism industry. A large portion of the population (42.5 per cent in 2009) is still considered to be poor and 80 per cent of the poor live in the countryside. About 42 per cent of the population lives in rural areas and two out of three of the people living there have to survive on less than a dollar per day. In particular female-headed households (17 per cent of all rural households) are among the poorest. Most of these rural poor live in the dry central region (IFAD 2012).

Table 2.1: Nicaraguan Economic Indicators

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>GNI per capita, PPP</td>
<td>2,560.0</td>
<td>2,740.0</td>
<td>3,700.0</td>
<td>3,890.0</td>
</tr>
<tr>
<td>(current international</td>
<td>USD)</td>
<td>USD)</td>
<td>USD)</td>
<td>USD)</td>
</tr>
<tr>
<td>Population (Total)</td>
<td>5,317,878.0</td>
<td>5,386,299.0</td>
<td>5,905,146.0</td>
<td>5,991,733.0</td>
</tr>
<tr>
<td>GDP (current USD) (in</td>
<td>5,322.4</td>
<td>5,795.6</td>
<td>9,635.6</td>
<td>10,507.4</td>
</tr>
<tr>
<td>millions)</td>
<td>USD)</td>
<td>USD)</td>
<td>USD)</td>
<td>USD)</td>
</tr>
<tr>
<td>GDP growth (annual</td>
<td>2.5</td>
<td>5.3</td>
<td>5.4</td>
<td>5.2</td>
</tr>
<tr>
<td>per cent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life expectancy at</td>
<td>71.0</td>
<td>71.5</td>
<td>74.1</td>
<td></td>
</tr>
<tr>
<td>birth, total (years)</td>
<td></td>
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Source: World Bank Database

Agriculture has always been the country’s biggest export earner and contributes much more to Nicaragua’s GNP than in its neighbour economies. At the same time, yields are also much lower than in e.g. Costa Rica, as is the use of machinery and equipment. Up until the political and economic crisis of the 1980s, agricultural exports made up four-fifths of the exports, employing 60 per cent of the labour force. After the end of the war and the American boycott, agricultural production only recovered slowly, due also to hurricanes and droughts. Textiles and clothing, cables and wires and gold have now overtaken agriculture as the main export earner.4 The service sector is currently the biggest employer due to the growth of tourism. Agriculture’s contribution to the

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4 Figures on exports from the MIT Atlas website: http://atlas.media.mit.edu/country/nic/
Nicaraguan GDP is around 18 per cent, but it employs more than 27 per cent of the workforce. Before the coffee boom at the end of the 19th century, Nicaragua was mainly a beef exporter, but then coffee took over, becoming and remaining, the major export crop.

Other important agricultural export products, apart from beef and animal products, are sesame and sugar. Nicaraguan governments over the last century have never allowed plantation companies to own land. In sugar production this has meant that, unlike in Cuba, Peru or Puerto Rico, sugar production was not in the hands of American companies (Burbach & Flynn 1980) or, as in some African countries, in the hands of former colonisers (Dinham & Hines 1983). Land was and is, owned by Nicaraguan nationals. Half of Nicaragua’s agricultural exports are grown by medium and smallholder farmers, as are 80 per cent of the staple foods. Land distribution, as in other Latin American countries, has always been very unequal, with many landless peasants and smallholders.

The US is by far the most important market for Nicaraguan products taking half of its export. This is followed by Venezuela, Canada and El Salvador. Other Central American countries follow with small percentages.

2.2. History of sugar production

Sugar is produced in the north-west of Nicaragua, in the Pacific coastal area, one of the poorest regions in the country where bananas are also grown. Sugar production has a history of more than 150 years in this area, but production remained low, due mainly to transport problems. Sugar was introduced to Nicaragua in the 16th century, but the production was mainly for the local market. In 1892 the first sugar factory, San Antonio, was installed. Exports grew, but they suffered during the US recession of the 1930s. In 1948, a second sugar factory, Monte Rosa was opened. This was followed by a third factory in 1960, Dolores (now Benjamín Zeledón), and a fourth, Montelimar, in 1969. Later three other factories were opened, but they disappeared in the 1990s when international sugar prices dropped, and also because the Nicaraguan government at that time was unwilling to hand these factories over to the workers. Under the Sandinista government in the 1980s, these sugar companies were confiscated, but they were privatised again to their former owners under the government of Violeta Chamorro between 1992 and 1994. Three of these factories then very quickly closed their doors, while four stayed in production.

San Antonio, still the largest and most modern factory with a crushing capacity of 20,000 tonnes per day, is in the hands of Nicaragua Sugar Estates Limited. Monte Rosa, situated near Chinandega, is a bit smaller and owned by a Guatemalan investment group which bought it in 2000. The two small factories of Benjamín Zeledón and Montelimar are the property of two Nicaraguan investment groups. The four factories are united in the National Sugar Producers’ Committee/Comité Nacional de Productores de Azúcar (CNPA).

When the American sugar boycott against Cuba started at the beginning of the 1960s, production in Nicaragua started to rise. Production tripled in the two decades
that followed, but then Nicaragua also suffered from an American embargo during the Sandinista revolutionary regime between 1983 and 1990 under the ‘famous’ Helms-Burton Act. Production thus stood at a mere 2.3 million tonnes in 1989.

From 1990 production rose again. Sugarcane production declined somewhat in 2010-2011 but in the year 2011-2012 production recovered and there was a steep increase in sugarcane production of 18 per cent, leading to a production of more than six million tons of sugarcane (USDA 2012). This was both due to an increase in the planted area and to more favourable weather conditions and an increase in yields. This led to sugar production of more than 600,000 metric tonnes, of which around 55 per cent were exported.\(^5\)

The harvest of 2012-2013 was a record year with another 13 per cent increase in production yielding 698,720 metric tonnes of sugar and 6.3 million metric tonnes of sugarcane. Furthermore, the production of molasses showed a 16 per cent increase. More than half of molasses will be used locally and 42 per cent will be shipped to Costa Rica for ethanol production (USDA 2013). The increase was mainly due to the expansion of land under sugarcane cultivation, now at around 67,128 ha, mainly due to the extension of the two smallest plantations, Zeledón and Montelimar. Both plantations have plans to double their production by 2016. This means that Nicaragua will use its full quota under the CAFTA regulations with the US.

Raw cane sugar contributes 5.25 per cent to Nicaragua’s exports, which is 0.48 per cent of world exports, placing it in 33rd place in the ranking of main exporters. Molasses is good for 0.83 per cent of Nicaraguan exports, alcoholic preps for beverages 0.73, other sugars 0.45 and ethyl alcohol 0.12 per cent. This brings the total contribution of the Nicaraguan sugar export sector to around USD 250 million in 2013. It should, however, be noted that the main market for Nicaraguan sugar is still local.

Sugarcane is harvested from November to May. Around 59,000 ha was under sugarcane cultivation in 2012 (with San Antonio and Monte Rosa the largest plantations). In 2013 the acreage under cultivation jumped to 67,128 ha and it is expected that there will be another small increase in acreage in upcoming seasons, although not in the north-west. There is very little land available there because other crops, like peanuts, have become more popular in the area. The jump in production in the last season was seen at all four plantations, but also due to a big increase in smallholder farmers delivering cane to San Antonio, Monte Rosa and Montelimar.

The factories-cum-plantations now employ 35,283 workers and according to the CNPA, also create 100,000 indirect jobs. Eight hundred smallholder farmers deliver cane to the four factories, to a limited amount only at Montelimar. In the mid-1990s total employment was still at 84,000 workers; close to 60 per cent were temporary workers.

\(^5\) Figures in this section come mainly from the USDA reports (see literature list), but also from the Nicaraguan Ministry of Agriculture (Ministerio Agropecuario y Forestal) and the CNPA.
Nicaraguan companies stopped ethanol production in the 2008-09 season with an eye on high international sugar prices. Ingenio San Antonio, the largest producer with the only facility capable of producing ethanol, started ethanol production again in 2011-12 with an export of 10 million litres to the US (Van Veen 2008; USDA 2011, 2012, 2013). Other companies have showed interest in ethanol production but seem to be reluctant due to high investment costs. San Antonio is also the only factory with an accreditation from the American Environmental Protection Agency.

As indicated above, there are four main sugar mills: Ingenio San Antonio, Monte Rosa, Benjamin Zeledón and Montelimar. San Antonio is the largest and produces 44 to 46 per cent of Nicaragua’s sugar, followed by Monte Rosa with 37 to 39 per cent, Zeledón with 9-10 per cent and Montelimar with 6-9 per cent. Both Zeledón and Montelimar have plans to expand their sugar production in the south-west where there is less competition from peanut production (USDA 2013).

Ingenio San Antonio is owned by Nicaragua Sugar Estates Ltd. (NSEL), which is owned by the Pellas Group, the most powerful economic group in Nicaragua who acquired the plantation in 1980. It is also producer of the Flor de Caña rum, a style of rum found in Spanish-speaking countries in the region, distilled from molasses. As indicated above, an ethanol production of 10 million litres was exported by San Antonio to the US in 2011-12. An additional 20 million litres are used for rum production annually. The rum is produced under the label of the Compañía Licofera de Nicaragua in
some eight varieties, among which is an 18 year old. It has won many prizes in competitions and is considered to be a premium label. It is exported mainly to Costa Rica and other Central American countries. The company also has a distillery in Honduras.

About half of Nicaragua’s sugar is exported. The major export destinations for Nicaraguan sugar are the United States (33 per cent), followed by India (14.8), Venezuela (13), Russia (9.4) and Mexico (8.7) in 2010.

Export to the US is under a regime of two tariff rate quotas, one for raw sugar and one for raw cane (under the WTO and CAFTA commitments). In 2011, 272,683 metric tonnes were exported for a value of USD 156.3 million. Again the US was the main destination, but exports to Venezuela grew with 59 per cent. In 2012 exports rose to 343,502 metric tonnes; 38.9 per cent going to the US, 15.8 per cent to Venezuela and the rest to South Korea, Canada and Tunisia as other major importers.\(^6\)

\(^6\) These figures also come from the USDA reports on Nicaragua’s coffee production.
Chapter 3: Working conditions on the sugar plantations in Nicaragua

There is a series of reports on working conditions in the Nicaraguan sugar industry. They were produced by the International Labor Rights Fund, a Washington-based lobby organisation, with their Nicaraguan counterpart NGO PASE, by Boston University’s School of Public Health after an intervention by the Compliance Advisor/Ombudsman of the World Bank, and finally by La Isla Foundation, an NGO formed in 2008 by documentary film-maker Jason Glaser, who was struck by the situation in La Isla de Viudas (The Island of Widows), where men were victims of Chronic Kidney Disease. In the following sections we will summarise and present the main conclusions of all these reports. We will concentrate more on working conditions, health and health hazards and less on poverty. The general conclusion is that all these sugar workers live in poor to very poor circumstances.

3.1 The PASE/International Labor Rights Fund Report

In 2005 a report was published by the Nicaraguan NGO Profesionales para la Auditoria Social y Entreprenarial (PASE) and the International Labor Rights Fund in Washington as one of four country studies on the sugar sector in Central America. These were done also in light of the then ongoing discussions on the Central America Free Trade Agreement (CAFTA), being passed through the American Congress at the time. For these reports over 1,500 cane cutters and refinery workers were interviewed about the working conditions in the sugar sector. In general the reports showed the failure of the governments of the four countries (el Salvador, Costa Rica, Guatemala and Nicaragua) to implement labour legislation and to improve labour laws. This goes back to earlier complaints filed about the sugar sector in Central America under the labour legislation that is part of the American General System of Preferences, that was to be replaced by CAFTA.

The Nicaragua report contained a series of conclusions based on a survey among 650 workers, more than half of them at Ingenio San Antonio, the others from Monte Rosa and Montelimar. Firstly, it was noted that subcontractors were responsible for the provision of three quarters of the workers during the zafra (the sugar campaign) and that these subcontractors were not formally established companies, but led by individuals. This of course gave these workers no formal contracts, which deprived them of social security but also hindered them in forming unions and to file complaints against the sugar companies, e.g. on safety protection. In particular at San Antonio at that time (2002-2003) there were many temporary workers in agriculture (all men), around 3,000, with around 500 permanent workers (94 per cent men). Next to these
farm workers, the company employed around 3,000 workers in the factory, administration and other services (of which 94 per cent were men). Of all the people interviewed 86 per cent had a contract with a subcontractor, most of them had a written contract, but barely any of them had a copy of that contract. Most were employed for a period of four to six months. Eighty-three per cent of them were reported to earn less than USD 70 dollars per month.

It should be noted that of all the workers interviewed, 83 per cent indicated that work in the sugar plantations was their only source of income. A large portion of them were illiterate or had only a few years of schooling. On average 83 per cent of the workers lived in the vicinity of the plantation.

According to this report the Ingenio San Antonio had the highest level of complaints nationally and internationally on the health situation of the workers, ‘due to use of highly dangerous agrochemicals in the production process, primarily affecting workers who labour in the fields (sugarcane workers)’ (PASE 2005:22). Ninety-three per cent of those interviewed considered their work high risk, but 80 per cent of the men and 95 per cent of the women did not receive any occupational training. Nearly all workers had work-related problems such as accidents, illness, fatigue and stress, with a high incidence of accidents and illness. Among the factory workers there were very few illnesses reported, while field workers reported skin cancer (31.2 per cent), sterility (25.1 per cent) and kidney deformation (25.6 per cent). They suggested that the use of agrochemicals used in fumigation and the exposure to ultraviolet rays were the principal causes of their illnesses.

Close to 87 per cent of those interviewed said that they could not depend on potable drinking water from taps; instead they had to rely on private wells, communal wells and a small portion on river water. All these water sources are reported to be highly contaminated with agrochemicals.

Eighty-three per cent of those interviewed stated that they were not free to organise a union. Only some of the men indicated they had that right. There are still unions in the factories, but the subcontracting system seemed to have heavily undermined their position. According to this survey, some companies are said to have created ‘yellow unions’ formed of employees trusted by the companies. Workers, in San Antonio in particular, have indicated they feel the threat of being fired, getting wage cuts or being transferred to less attractive jobs, if they join and are active in a union. It was indicated in the report that the Ministry of Labour did not adequately monitor labour regulations and workers’ rights.

3.2 Boston University School of Public Health Reports

When the Compliance Advisor/Ombudsman of the World Bank (see the next chapter) started to intervene after the official complaint on behalf of the communities of León and Chinandega and the acknowledgement that the complaint met all CAO’s eligibility criteria, he worked first on water issues in the region and relations between the community and the sugar estate/NSEL (CAO 2010). It led to a series of infrastructure works, but the Centre for International Environmental Law was afraid that the CAO was
only paying attention to the first part of the complaint and not to occupational diseases. A team from the Boston University School of Public Health was then involved in investigating the epidemic of Chronic Kidney Disease in the region.

After an initial assessment, the School of Public Health concluded that Chronic Kidney Disease had a higher occurrence in the ‘sugar’ departments of León and Chinandega and that the epidemic appeared not to be caused by diabetes or hypertension. It then proposed that eight studies should be done with no less than ten hypotheses about what could cause CKD, ranging from exposure to agrochemicals via volume depletion and muscle damage to medications and alcohol consumption (Brooks & McClean 2012).

Remarkably enough, heat stress was not mentioned as one of the possible tested hypotheses. Of the eight proposed studies, the kidney biopsy and ‘worker observation studies’ were not initiated or ‘proposed for future research’. In our opinion, in particular the second study could have given deeper insight into work practices and their relation with CKD.

Of course, most of these studies are related to CKD and we will deal with these in the next chapter, but two of them deserve some comment in this chapter. First, this is the ‘Industrial hygiene/occupational health assessment’ (McClean a.o. 2010), because it led to some far-reaching conclusions. This assessment was done in a week-long ISA site visit and called an ‘Itinerary and Participants of the Site Visit’. The visit was accompanied by the management of NSEL and by organisations like ASOCHIVIDA and the Association of Retired Workers. The visit included all the main categories of the work from field preparation and fertilisation via planting and cutting seed burning cane and harvesting cane. First, NSEL officials were asked to explain the procedures, then ASOCHIVIDA representatives and retired workers were asked to comment. The comments do not appear clearly in the report, so it is not clear if all the procedures – San Antonio is ISO 9001 certified since 2001 – are really followed in practice.

From this site visit a clear overview emerges of tests and procedures. The social medicine programme, for instance, includes a medical screening, in particular a measurement of creatinine before employment but also at the end of the zafra. Furthermore, workers should receive training on major health risks and to avoid hazards like dehydration. Social workers were employed since 2002 and they should monitor subcontracted workers on the ‘length of the workday’, greater consideration for worker hydration and select 20 workers ‘on a typical day’ to assess hydration. These social workers should also monitor how much water each worker has consumed, have short informal talks about the importance of staying hydrated and wearing protective equipment.

From the field work - cutting seed (see comment above), planting seed, irrigation, burning cane, harvesting cane – it was clear that those activities like planting seed with no shade to shelter from the sun, were most dangerous with regard to heat stress. The report indicates that social workers monitor water intake and the consumption of ‘bolis’ (packets of hydrating solution) and cookies and speak to the supervisors if there is not enough drinking water, but it also concludes that workers
seemed not to have received any training about heat stress. Workers bring water and bolis themselves.

During the harvest season, the zafra, from November through May, San Antonio employs around 800 to 900 manual cutters, working in crews of 130 to 140 workers. Cane close to the communities is not burned the day before and is harvested mechanically. The report indicates that workers typically work a day of 5.5 or 6.5 hours, from 5:30 to 11:00 or 12:00 (McClean 2010:34). Also here health and safety controls are said to be enforced by social workers who monitor the manual cane cutters. The cane cutters have, according to the report, received training at the beginning of the zafra on wearing protective equipment and received clothes, boots, caps with neck cover and polainas (shin guards) to protect from machete injuries. The training also included cutting techniques and the importance of staying hydrated.

Boston University School of Public Health concluded from this assessment and from a study of international literature that there was no evidence that the agrochemicals used were a cause of CKD nor that the work practices at San Antonio or the chemicals used by San Antonio are generally accepted causes of CKD. Remarkably enough, it was also concluded that the international literature review provided no evidence that heat stress (leading to volume depletion and muscle damage) was a generally accepted cause of CKD. This is remarkable, because another study with key informant interviews, physicians and pharmacists, indicated that among these health professionals the most common belief was that CKD was caused by the exposure to heat, heavy physical work and dehydration (Ramirez-Rubio 2011).

A study on water sources at San Antonio and in the communities indicated that there was no evidence that the consumption of this water would be harmful to human health.

The conclusion might be that the hygiene/occupational health assessment depicts the official story of regulations, procedures and practices, but that it is not tested if these are also implemented and followed. The report also did not test the use of agrochemicals for other diseases or health hazards. Agrochemicals are not as widely used in sugarcane production as with other cash crops, but pesticides used may cause skin and respiratory problems (Lehtonen 2009).

### 3.3 The La Isla Foundation study

This study is based on interviews with 102 manual workers of both Ingenio San Antonio and Ingenio Monte Rosa. It was conducted in September 2013. We checked the questionnaire, a sample of the questionnaires filled in by the surveyors and the database itself. We consider the survey to be valid and reliable. The outcomes of the survey confirm the findings of the PASE/International Labor Rights Fund, among others that the majority of the workers were subcontracted (67 per cent at San Antonio and 40 per cent at Monte Rosa) and of those subcontracted workers four-fifths were field workers. This means that in total, two-thirds of the field workers were subcontracted. Around half of the workers were only hired during the zafra.
Most important are the results on the working days, working hours, breaks and hydration. All of these contradict the official procedures as described in the Boston University School of Public Health Assessment. Work days and work weeks exceed the number of hours permitted by the Nicaraguan Labour Code (which indicates that a working week should not exceed 48 hours), in particular of course during the harvest season. 40 per cent of the workers, at San Antonio in particular, indicate that during the *zafra* they work more than twelve hours a day. This also means that workers don’t start at 5:30 and stop at 11:00 or 12:00, but they start at 6:00 and work at least till 14:00 but mostly until 18:00. It means that they work in the heat of the day, where temperatures rise to 38°C. Workers also indicate that they work seven days a week during the harvest.

This all also relates to the payment systems for cane cutters. They are mostly paid per tonne of cane they have cut. This invites workers to work long days and weeks with little or no breaks to earn more money. Although the response varied considerably on how much cutters received per tonne and how many tonnes they could cut in a working day; one worker indicated that they are paid in a tiered system, meaning that they get a higher payment per tonne if they cut more tonnes.

With regard to breaks the practices again seem to be more lenient at Monte Rosa, where workers are allowed two breaks and employers mandate more frequent breaks than at San Antonio where workers have, on average, one break a day. Over a quarter (26 per cent) of the workers don’t even take one break a day. Workers were given a break during lunch time when they could also sit in the shade. This shows that during most of the working hours, they were in the burning sun. Taking into consideration the working conditions and heavy labour this is far below international standards.

Overall, workers drink, on average, 5.4 litres of water a day, which is low when looking at international recommendations. More than half of the workers indicated that they brought their water from home and this was the only water they had. Twenty-one per cent of those interviewed said they received water from the company, but several workers complained that this was water from the irrigation system, water they considered to be contaminated. A third of the workers confirmed that they were required to drink water and 41 per cent that they had to participate in the hydration programme, which mainly consists of handing out ‘bolis’. 48 per cent indicated that this was not obligatory.

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7 The U.S Occupational Safety and Health Administration (OSHA) standards require workers performing heavy work under warm conditions (>30 degrees) to work for 15 minutes and rest for 45 minutes out of each hour: https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_4.html.

8 The US Environmental Protection Agency (EPA) recommends that employers provide between 5.7 and 9.5 liters of water per day and in severe heat stress conditions all lost fluids should be replenished (up to 1.9 liters of sweat per hour and 12 liters of fluid per day) (Steve Shapiro 1993). See also: NIOSH 2013. Other health authorities, e.g. the UK Health and Safety Executive, have similar recommendations.

9 A recent study (Roncal Jimenez 2013) with mice showed that those who received drinking water after the period of dehydration developed renal injuries, while those which received drinking water during dehydration did not. It also indicates that the effects of the ‘bolis’ should be further researched.
Of all respondents 57 per cent reported that they had felt sick from the heat while at work, suffering from dehydration, sun stroke, heat stroke or heat exhaustion. Of all respondents from Ingenio San Antonio, 72 per cent reported feeling sick from the heat while 42.3 per cent of the respondents from Monte Rosa reported the same, which could relate to the differences in numbers of hours worked and access to water at both ingenios. Safety training is much more common among workers contracted by the companies themselves than with subcontracted workers, of which close to half received no training. Training includes instruction on heat exhaustion and in particular protective equipment.

With regard to creatinine and CKD, 30 per cent of workers from both companies reported that they had experienced high creatinine levels, the other two thirds had not. Of those with high creatinine levels, most (61 per cent) were working or planned to continue working. The majority of cases occurred among men, but two women also reported CKD. Fifteen workers indicated that they had been diagnosed with CKD, which is approximately 15 per cent of all workers surveyed. It is reported that the proportion of workers with high creatinine levels increased significantly over the age groups, which means that continuous heat stress over the years raises the chances of high creatinine levels.

Of the workers who were directly contracted by the companies, most stated that medical benefits were included in their contracts, with nearly all workers at Monte Rosa and 80 per cent at San Antonio. This percentage is, however, much lower with subcontracted workers (58.5 per cent as against 88.5 per cent).

Of the 102 workers interviewed 13 had been fired and no longer worked in the sugar industry. Of these 13, seven were fired because of high creatinine levels which confirms the regular accusation that the sugar companies dismiss labourers with CKD or who show a high risk for CKD. One of the major complaints of dismissed labourers is that they don’t receive severance payments.

What stands out most from all the findings of this survey is the perceived absence of labour unions, the fear among workers of being blacklisted if they were to unionize and the apparent failure of the sugar companies to adhere to labour laws. As the PASE study also indicated, 75 per cent of the workers who responded to this survey indicated that they were not aware of any union activity. Out of all workers interviewed, only two indicated that they had ever been a member of a union.

Workers seem to have little knowledge of labour laws and their rights under these, meaning the sugar companies often get away with not respecting the Nicaraguan Labour Code, for example regarding the payment for vacations and the 13th month at the termination of the contract. There are also substantial differences between directly contracted and subcontracted workers. Of those entitled to a severance package 73 per cent (at ingenio San Antonio) and 64 per cent (at Monte Rosa) of directly contracted workers indeed received severance payments, whereas of the subcontracted workers, only 19 per cent and 24 per cent received these. Most workers whose contracts were terminated only received a verbal communication, which also makes it difficult for them to access complaints procedures.
Both Ingenio San Antonio and Ingenio Monte Rosa seem not to obey the law with regard to paying of overtime and other salary regulations. It should be noted that the agrarian minimum wage which is around USD 103.50 (2,566.89 cordobas) per month as of September 2013 is far below the ‘valor de canasta basica’ (the value of the basic basket of goods and services) calculated by the Nicaraguan Institute of Development Information (INIDE) to be USD 453.36 for July 2013. On average, workers with contracts reported larger salaries than workers without contracts. Directly contracted workers got substantially better bi-weekly payments at Monte Rosa than subcontracted workers (2,306 versus 1,669 cordobas). At San Antonio, with a much smaller number of directly contracted workers, the subcontracted workers earned more (2,489 cordobas for directly contracted and 2,671 cordobas for subcontracted workers bi-weekly). However, these are average wages and there are substantial differences between those involved in irrigation and those involved in the most common job, cane cutting, the latter receiving between 2,038 and 3,321 cordobas. As indicated above, most cane cutters are paid on the basis of the amount of sugarcane they have cut. It should be noted here that the Nicaraguan labour code is very clear that regardless of payment system used, employers are always obliged to pay the agricultural minimum wage.

It is obvious that these salaries cannot cover minimum household expenditures of the ‘canasta basica’, but also that they are above the agricultural minimum wage mainly because workers work for many hours. Only 40 per cent of the workers stated that they had been paid overtime (at Monte Rosa this was 65 per cent) and more than 60 per cent indicated that they never received bonuses. Moreover, the seventh day of rest with full pay after a six-day work week (or equivalent number of hours), imposed by law, does not seem to be paid. Workers also did not seem to be paid for overtime (double time), if they chose to work the seventh day. Other irregularities found were deductions for vacation or the 13th month, which should be included and not deducted from the salary, and withholding of salaries e.g. when there were conflicts.

### 3.4 Reactions to the draft report: the labour unions

We received comments on the first draft of this report from three labour unions, from the Confederación de Unificación Sindical (CUS), the Central Sandinista de Trabajadores (CST), and the Confederación Unitaria Sindical Autonoma (CUSA), as well as a letter from five labour union organizations at Ingenio San Antonio. In these letters they confirm they have been working for the rights of the labourers in Ingenio San Antonio since the 1940s which has resulted in a series of ‘Convenios Collectivos’, collective labour contracts, which according to this letter have been followed with honesty and sincerity.

The trade unions also point to regular visits by Nicaraguan authorities, like the Ministry of Work and the Ministry of Health, in which they also have participated and in which the different norms for labour as well as for occupational health were tested, also on their alignment with national norms.

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10 Letter of the five labour unions representatives (CST, CUS, three labour unions of CUSA), Chichigalpa 24 March 2014.
The labour unions state that they are members of the Mixed Committee on Hygiene and Safety) of the company in which all the labour processes in the sugar estate are followed, also of activities of field labourers and they write to be part of the ‘pride of this company to be one of the pioneers in Central America in good working practices’.\footnote{Letter of the five trade unions, 24 March 2014.}

They also point to the fact that the company has a medical doctor employed since 1911 and they assert that there is ‘no other company in Nicaragua that over more than 50 years has looked so well for the social security of its workers’.\footnote{Letter of the five trade unions, 24 March 2014.}

They accuse the La Isla Foundation of falsifying data, as this foundation should have done also with another Nicaraguan university study in 2013 to ‘let the community of Chichigalpa and our workers believe that the responsibility for this health problem lies exclusively with this company’.\footnote{Letter of the five trade unions, 24 March 2014. The ‘health problem’ referred to is CKD.}

The labour unions then go on by writing that CKD is not a problem of this company but of the pacific region of Central America and Panama, it is ‘a public health problem of national and international character’.\footnote{Letter of the five trade unions, 24 March 2014.}

The labour unions also point to the humanitarian aid that the more than 2,500 victims from this sugar estate have received, in the form of better housing, food and medical aid, and income generating projects, which according to trade unions no other CKD patient in the country has received.

The labour unions also protest against the ‘lies’ on trade union activity, which in their eyes ‘slanders’ their freedom to unionize and, at the same time, the results they have been able to achieve.

3.5 Reactions to the draft report: Ingenio San Antonio/NSEL

In reaction to the first draft report we received several documents from Ingenio San Antonio/NSEL, among which was a letter from its director, an overview of its certifications, its collective labour contract for the period 2013-2015 and some annexes with regard to its health and safety policy as well as an inspection report by the Nicaraguan labour inspection and an audit report from one of its buyers. One of the most important of these documents is a 17-page overview entitled ‘On Chronic Kidney Disease (CKD)’, in which the company explains how it looks at CKD, what productive practices and working conditions are, and how it tries to align with quality standards and national laws.\footnote{Ingenio San Antonio, On Chronic Kidney Disease. Not dated (probably March 2014).}

In the section on CKD the Ingenio states that in 1992 doctors in its health clinic first discovered this health problem and that since then the company has focused its attention on the identification of possible sources of the disease. It claims that a number of theories have been advanced to explain the etiology of the disease, like exposure to heavy metals or agrochemicals, but also dehydration. It then refers to the Boston University School of Public Health studies – summarized above – and the Compliance Advisor/Ombudsman of the World Bank, in which is stated that the ‘unusual form of
CKD observed in former NSEL workers is prevalent throughout the Pacific zone of Central America, goes beyond sugar cane workers impacting also workers in other industries. The sentence that then follows in the media statement of the Compliance Advisor (‘The disease appears predominantly in middle-aged males, and is likely exacerbated by work under strenuous conditions, such as heat’) is left out of the quotation by the Ingenio and the quotation that follows (‘Boston University’s work is unprecedented in Nicaragua …’) is then quoted again. Left out of the quotation are also the efforts of the Minister of Health of El Salvador to bring several actors including the PAHO together for a conference, which document is presented in the next chapter.

It is indicated in this paper from Ingenio San Antonio that the Boston School is undertaking a genetic study with kidney patients ‘to determine possibly genetics loads associated with kidney problems’. Also a second study of this school is announced.

What follows in the paper is an overview of all the certificates and special prizes that the company had and has won, including the ‘Empresa Lider y Excelencia’ by the Nicaraguan National Council for Occupational Safety and Health. The company claims that cane cutters ‘receive adequate hydration for the labour they perform’, that they get ‘one day of rest during the week’, that ‘the company pays double for one of the six days of work’, that ‘workday usually starts at around 6.00-6.30 am and ends between 12.00 and 13.00 pm, working on average six hours a day’, and that the ‘workday ends with the delivery of balanced meals for lunch to all workers’.

‘To reduce the effects of the sun’ the Ingenio claims to provide tents for around 25 people and that the workers are encouraged to take breaks there: ‘These breaks range from 10 to 20 minutes for each hour’. And during these breaks ‘workers are assisted by health promoters to measure body temperature and record the consumption of water and hydrating drinks’. All this information is then ‘collected and recorded in the health surveillance databases’. There is also a mobile clinic with permanently a physician and a trained nurse and with a cooling area, in which the hydration status of workers can be assessed, where their weight and urine can be controlled. Periodic examinations are made and they are shared ‘with every employee and contractor’.

Workers are supplied with a plastic container of ten liters of water and also the buses are supposed to carry 50 gallons of water provided by the company. Workers are also provided, according to this report of Ingenio San Antonio, with isotonic hydrating drinks, called ‘bolis’ which follow the physicochemical parameters established by the World Health Organization. During the day, three hydration guidelines are observed, controlled by health workers. One is that workers should drink at least one liter of water per hour. This is also controlled by chemical and bacteriological studies and included in training for all employees and medical personnel.

3.6 Reactions to the draft report: Ingenio Monte Rosa

16 A quote from the Compliance Advisor’s media statement of 26 January 2012.
18 Idem, p. 7.
From Ingenio Monte Rosa also we received a set of documents dealing with the ethical code of the company and certificates, together with pictures and videos of training sessions, but also on the sugar campaign and a miniguide to a healthy lifestyle and a series of pictures on the awards the company has received over the last year. There are, however, no external audits provided, as in the case of INSEL, which might provide proof that the ethical code and policies are really followed. Most important again is a 15-page document, a letter of 1 April 2014, in which the company presents answers to the draft report.

In this letter the company outlines its ‘Politica Integral de Gestión’ as well as the certificates on health and occupational safety. This health certification includes all the persons visiting the sugar estate. Ingenio Monte Rosa indicates in this letter that all workers are well aware of these policies, because they are trained before entering into a contract and they are also controlled and monitored by ‘health brigades’. These monitoring data are also centrally collected and analysed on a weekly as well as a monthly basis and discussed in the team which supervises the agricultural activities. These figures indicate that even during the harvest period in January, February and March working days are not longer than 5.45 hours with an average break time of 1.23 hour. This is demonstrated with details of working days, breaks and water intake. The objective of these actions is said to be ‘to reduce the risks of work-related diseases’. The company also states it provides workers with 16 liters of water and 2.5 liters of dehydration drink per day. Medical tests are said to be part of these activities, as workers are also trained by means of leaflets and songs about taking rests and water that are sung in the buses that take them to work.

Apart from the training in which workers are said to get used to the heat during the zafra and communication of changes in security and social policies, according to the letter, workers are also engaged in the analysis of work-related accidents. There is, following a resolution of the Ministry of Labour, also in this Ingenio a joint committee for Hygiene and Security. The company also regularly tests the water that it provides for its workers via a third company.

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19 Letter of Ingenio Monte Rosa, 1 April 2014, p. 6.
Chapter 4: Chronic Kidney Disease: causes and prevalence in Nicaragua

It has been called ‘a compelling health mystery’ and a ‘mystery disease’ but health problems with kidneys, be it called Chronic Kidney Disease or Kidney Insufficiency, have dominated the news around the Nicaraguan sugar sector in the last decade. It has led to documentaries with patients and protesting labourers and their families as well as an investigation led by the Compliance Advisor/Ombudsman of the World Bank.

NSEL, the conglomerate which owns Ingenio San Antonio, received a loan from the World Bank (IFC) of USD 55 million in 2006. This was contested in 2008 by a complaint submitted to the Compliance Advisor/Ombudsman at his World Bank Office by the People of Léon and Chinandega, assisted by the Centre for International Environmental Law in Washington (People of Léon etc. 2008). The intervention of the Compliance Advisor led – as indicated in chapter 3 - in 2009 to a research project by Boston University on the causes of Chronic Kidney Disease, which was at the centre of the complaint. Part of the complaint was also the interference of the company in attempts to establish a workers’ union and the incarceration and prosecution of community members who raised concern about the company’s activities and about the depletion of ground water and the suspected contamination of drinking water. Health problems and kidney disease were, however, at the heart of the complaint since these appeared at the beginning of the 1990s.

Chinandega has a long tradition of workers’ resistance against exploitative practices of plantation owners (Gould 1990). Nicaraguan sugar production came under heavy criticism in recent years, due to workers’ protests related to what is called Insuficiencia Renal Crónica (IRC) or Chronic Kidney Disease (CKD). The sugar workers originally claimed that this disease stems from the pesticides that are used on the plantations and the polluted water they had to drink. They formed two associations: ASOCHIVIDA (La Asociación Chichigalpa por la Vida), which is seen as the most representative uniting 1,900 patients of CKD and widows of CKD patients; and ANAIRC (Asociación Nicaragüense de Afectados por Insuficiencia Renal Crónica). These organisations were able, after some years of action, to mobilise first local journalists and film-makers and then also attract the attention of international news agencies like the BBC and NBC. ANAIRC filed several lawsuits and organised demonstrations and even tried to organise a boycott of Flor de Caña, which received heavy criticism in some parts of Nicaraguan society. ANAIRC, an affiliate of the trade union for workers in agriculture,
hotel and catering, also demanded financial compensation for the CKD victims from NSEL.

The organisations claim that sugar workers with a high level of creatinine and most probably also CKD were laid off by the company in the past. There are also indications that sugar workers and association leaders are intimidated by the company as well as the local police.²⁰

4.1 What is Chronic Kidney Disease? What is its prevalence?

Chronic Kidney Disease (CKD) or Chronic Renal Insufficiency (CRI) may arrive from primary sources via infections or be hereditary, or arise from secondary sources like diabetes. CKD patients in Central America don’t however show symptoms of diabetes or hypertension (Wijkström 2013) but they do show high levels of creatinine. The disease is seen as a ‘death sentence’ in the words of Daniel Brooks of Boston University, since without dialysis or a kidney transplant patients cannot survive.

On average 400 out of one million inhabitants could end up with kidney disease of which around 80 could end up with chronic kidney failure. Prevalence in Nicaragua is ten times higher than in the US or other developed countries (PAHO 2013) and seems to be much higher still among sugar workers at Ingenio San Antonio and Ingenio Monte Rosa, with a prevalence of high creatinine levels in 30 out of 102 workers (La Isla Foundation 2013).

CKD has also been called Mesoamerican nephropathy since it has appeared disproportionately in the Pacific coastal regions of Central America, affecting mainly men working in extremely hot conditions in agricultural communities, in particular in sugar production (Johnson & Sanchez Losada 2013). This might, however not be geographically correct, since similar cases have also been discovered in rural areas of Sri Lanka (Athuraliya 2012) and Upper Egypt (Minshawy 2011). In Sri Lanka the WHO initiated a research programme of several years duration to uncover the prevalence and causes of CKD. The disease has also been called CKD of uncertain etiology (CKDu).

There are estimates that the disease has killed more than 3,200 men in Nicaragua in recent decades. This might seem like an exaggeration and it is more likely to be in the hundreds, but it is now generally acknowledged that most of these deaths occurred in the sugar regions. For Central America the total number of deaths given is 20,000 and Nicaragua is considered to be the country with the highest mortality rate; 17 times higher than in Cuba and three times higher for men than for women (PAHO 2013).

4.2 What causes Chronic Kidney Disease?

Although medical research has not provided definitive answers yet, a compilation of studies (Wesseling et al 2013, PAHO 2013) clearly correlates the high prevalence of CKD in some regions of Central America with agricultural work, the use of pesticides,

²⁰ As reported by local newspapers and the Nicaraguan Human Rights Commission: http://www.cenidh.org/noticias/580/.
dehydration, and the use of rum (Cerdas 2005, O’Donnell et al. 2010, Peraza et al. 2012, Crowe et al. 2013). The most logical explanation is a combination of regular dehydration and the exposure to toxic substances. One Nicaraguan medical study, to be found at the NSEL website,\(^2\) finds no relationship between CKD and sugar production and indicates that CKD is high in other Nicaraguan provinces too. None of the recent studies have confirmed this and the figures on CKD prevalence in Nicaragua make it easy to reject this claim.

There is, however, also no confirmation, as suggested by the organisations of CKD patients and their supporters ANAIRC and ASOCHIVIDIA) that CKD might be caused by the use of pesticides and the use of other toxic substances at the sugar plantations. The first Boston study indicated that, at the moment, there is no relationship to be found between CKD and work practices and use of toxic substances. Further research is needed here, also in relation to other diseases. Sugar production is also linked to respiratory problems, like bagassosis. A small study of some 50 workers, indicated that about two thirds of them had respiratory problems ranging from light to severe (Romeo et al. 2008). Skin diseases, as indicated in chapter 3, are also seen as one of the health hazards for those working on the sugar plantations.

In an overview of recent publications, Johnson & Sanchez Losada (2013) concluded that the CKD patients in Central America did not show the symptoms of renal patients suffering from diabetes and/or hypertension. Therefore, it seems more likely that at the root of CKD is a reduction of the renal blood flow, which points to ‘working in extremely hot conditions where recurrent dehydration is common’ (Johnson & Sanchez Losada 2013:561).

The PAHO also reached the same conclusion: ‘The strongest causal hypothesis for the epidemic is repeated episodes of heat stress and dehydration during heavy work in hot climates’ (PAHO 2013:4). At the same time the PAHO acknowledges, pointing to recent studies in El Salvador but also at research in Sri Lanka, that it is a multifactorial disease in which longstanding contact with agrochemicals, soil and water pollution should not be fully dismissed as factors contributing to the disease. At the beginning of October 2013, the 52nd Directing Council of the PAHO adopted a resolution indicating that CKD is a serious public health problem which should be addressed by strengthening surveillance and by creating alliances between the different actors and the affected communities to overcome health, social and economic problems.\(^2\)


“A former sugar workers suffering from CKD on its latest stages”
Chapter 5: Conclusions and recommendations

The prevalence of Chronic Kidney disease in Central America, and thus in Nicaragua, where the highest rates of prevalence are found, is clearly connected to the rural areas, to sugar, and to a lesser extent to cotton production.

All the recent research on Chronic Kidney Disease, embraced also by the Pan-American Health Organization (PAHO) in its resolution and overview of findings of last year, indicate that its causes are multifactorial and should probably not exclude contact with agrochemicals or polluted water. However, CKD is mainly caused by working long hours in the hot sun and by regular dehydration.

Working hours and weeks in the sugar industry, particularly during the *zafra* are long; often 12 hours per day with only a few breaks and a working week of seven days. The payment systems for cane cutters, who are paid per tonne of cane cut, induce farmers to work long days leading to long exposure to the hot sun with little access to shade and insufficient access to water resulting in recurring dehydration.

It is clear from the survey of 2005, the Boston University’s School of Public Health report of 2010 and the 2013 survey that not only the sugar plantations’ own regulations and procedures are not being followed but also that the sugar companies do not appear to be complying with the Nicaraguan labour code.

This situation is further aggravated by two additional factors: the majority of workers are subcontracted and those with written contracts are not in possession of those contracts making it difficult for workers to lodge complaints. Next, the two surveys show that workers feel oppressed and are afraid that joining a trade union will lead to termination of contracts. Workers report that there is little trade union activity. This refers to the missing complaints mechanisms and lack of worker representation leaving workers powerless to change their working conditions for better ones.

The reactions of the two Ingenios to our draft report are rather different: where Ingenio Monte Rosa tries to show what it is doing with regard to occupational safety of its workers, Ingenio San Antonio is much more defensive, in particular also in its analysis of the causes for the type of CKD one finds in Nicaragua. The overview that the two ingenios provide us on their health and safety policies and activities are very different from the two surveys among Nicaraguan sugar workers, this in particular with regard to water provision, breaks, working hours per day and working days per week during the *zafra*. Moreover, thus far the companies have not provided any evidence by third party audits that their policies with regard to salaries and fair remuneration, working hours,
and safety and health are really implemented and are implemented for all workers and that they are thus really following international standards as US OSHA or ISO.

The PAHO indicated in its resolution of October 2013, that it is important to forge alliances between the different actors and the poor rural communities who are hit by CKD. Specialized Technology Resources (STR), the American consumption products’ quality assurance firm, indicated in 2009 in its analysis of the Nicaraguan sugar industry: ‘The industry’s idea of corporate social responsibility needs to expand to include the implementation of various programmes and/or operational changes to address the current issues the industry is facing ’(STR 2009:21).

Nicaraguan sugar companies state regularly in their magazine *El Azúcar* and NSEL also on its website, that Corporate Social Responsibility is important to them. But Corporate Social Responsibility means more than doing charity work in rural communities. It starts with treating workers well, in line with labour codes and other national labour laws and international agreements on ‘decent work’. In the harsh working conditions of the sugar plantations it should mean more.

It means first and foremost taking responsibility for the health of workers on the sugar plantations. It begins with written contracts for workers which are shared and in which payment, working hours and weeks, regulation and payment of overtime, vacation and access to medical care are clearly and transparently laid out. Companies should also take care that workers don’t work many hours in the sun, have regular breaks and access to shade and clean drinking water provided by the employer. Sugar plantations also have a responsibility to take care that workers take their breaks and drink enough water. They should organise more regular medical check-ups and alert labourers when they are in the danger zone of high creatinine levels.

Sugar companies should also foster regular contacts with freely elected employee representative bodies and realise that under normal 21st century industrial practices, this will alleviate a lot of tension in their firms and create a better working climate thereby leading to higher productivity.

More research is also needed to have a better insight into other occupational health hazards in the sugar industry like skin diseases. The focus on CKD tends to concentrate all efforts and research on this disease, which is understandable given the deadly consequences of CKD but which could also take attention away from other health hazards.

It is also important that international companies that buy Nicaraguan sugar take responsibility for the way Nicaraguan sugar is produced and raise this in discussions with the sugar plantations in Nicaragua.

In its Decent Work Programme for Nicaragua the bureau of the ILO (ILO 2008) indicated that its first priority was that Nicaragua should adhere to the international norms and fundamental labour rights. Its second priority was to strengthen the desire of the government, the trade unions and the employers’ organisations to elaborate and implement a National Plan for Employment and Decent Work. One of the important elements of the latter would be to strengthen and modernise the Labour Inspection and also the National Council for Hygiene and Work Security (Consejo Nacional de Higiene y Seguridad del Trabajo, CNHST). In that light, the ILO and the Government of Nicaragua
should pay more attention to the agricultural sector and in particular the sugar industry, seeing that working conditions and the major health-related problems in this sector are miles away from what could be considered ‘Decent Work’.
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