

A full-page photograph of a man standing in a sugarcane field. The man is shirtless, wearing a dark hard hat and blue jeans. He is holding a large machete in his right hand. The field is filled with tall sugarcane stalks and a large pile of cut cane debris on the ground. The background shows a clear sky and distant green hills.

manitese
UN IMPEGNO DI GIUSTIZIA

SUGARCANE BITTER SUPPLY CHAIN

Authors

Federica Alfano
Chiara K. Cattaneo
Claudia Zaninelli
Raül Zecca Castel

Supervisor

Giosuè De Salvo

Graphic design

Valentina Oliana

Cover photo

Raül Zecca Castel

Date of publishing

October 2017

*This report has been issued in the framework of
Mani Tese's campaign **i exist** against modern slavery.*



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1. INDEX

We often ignore the place of origin and manufacturing methods of the products we eat, drink and wear every day. The more manufacturing steps are involved, the more complex are supply chains, and the higher the risk - in our current international business regulations and production model - of these involving violations of human rights and environmental damage, of which it is hard to assess the extent and duration of consequences.

Mani Tese campaign *i exist*¹ focuses on three striking examples of modern slavery. In addition to child labour and human trafficking, exploitation of workers in supply chains is evidence of an unfair and unsustainable economic system that aims at exploiting people and the planet to gain maximum profit with minimum costs in the short run.

This report investigates the sugarcane supply chain, which has encompassed more and more land, workers and money in the last decades throughout the world. The expansion of the industry goes hand in hand with an inversely proportional trend that concentrates land ownership and income without providing further protection to workers and communities directly involved.

Through the combined analysis of primary sources and field research conducted in two Central American countries (Guatemala and Nicaragua), this report attempts to show the severe consequences of such a supply chain on human and environmental resources. Guatemala is the main sugar producer in Central America, having 90% of the industry workforce composed of indigenous people. What has emerged is that employment relations fail to be regulated by contracts or to be otherwise defined, salaries fall below minimum legal requirements, labour rights are neglected, child labour is exploited and land grabbing leads to an extremely detrimental impact on health and the environment.

Recently, Nicaragua has been under international spotlight due to the significant incidence of the *Chronic Kidney Disease of Unknown Aetiology (CKDu)* in agricultural areas, especially among sugarcane plantation workers. Despite its categorization as a multifactorial disease, international academics and medicine experts agree on the prominent role of massive use of agrochemicals in sugarcane growing and of farm workers' conditions.

Although the negative consequences of excessive sugar consumption are widely dealt with and acknowledged by the public, it is hard to find similar knowledge and awareness on the violations of human rights and environmental damage occurring in sugar production.

However, liability of ethical decisions having significant impact cannot entirely be on individual consumers, but should rather fall on governments, institutions and international legislation, that have to identify appropriate measures aimed at preventing this situation from continuing, and to come up with alternative sustainable models.

¹ www.iexist.it

2. METHODOLOGY

This report combines quantitative and qualitative desk analysis of existing literature on the subject, and two specially designed research projects that Mani Tese has implemented locally with the support of influential organizations operating in the sector. Research papers include an analysis of the national setting, drawing from resources available only in the field, and interviews to a large variety of stakeholders of the sugarcane supply chain, ranging from local authorities to workers and civil society organizations.

In Nicaragua, the research was conducted by a local organization that will not be mentioned for security reasons. Some data and quotations of Nicaragua case study are part of a field research project conducted by the *Centro de Investigación de Salud, Trabajo y Ambiente* (CISTA) of the Faculty of Medical Sciences of the National Autonomous University of Nicaragua-León (UNAN). Mani Tese, in partnership with CISTA, has started a project to raise awareness and prevent Chronic Kidney Disease among sugarcane workers in the country ².

In Guatemala, the research project was implemented by *Comité de Desarrollo Campesino* (CODECA), a local indigenous farmer movement with a presence in 20 out of the 22 departments of the country.

Nicaragua and Guatemala have been chosen to portray severe consequences that the sugarcane supply chain may produce both on human resources and the land.

When selecting these two countries, Mani Tese also wanted to pursue its relationship with Guatemala, started in 1969, and with Nicaragua, started in 1973, which has led to supporting local civil society organizations and movements over the decades on different issues, ranging from water to land, support to agricultural entrepreneurship and enhancement of traditional medicine in cooperation with indigenous communities and victims of political violence.

This report aims at shedding light on the sugarcane supply chain and exposing the industry weaknesses and main violations, in the hope that greater awareness will lead to more informed decisions made by consumers, citizens, businesses, as well as national and international institutions.

² <https://www.manitese.it/progetto/cura-prevenzione-insufficienza-renale-cronica-lavoratori-canna-da-zucchero/>

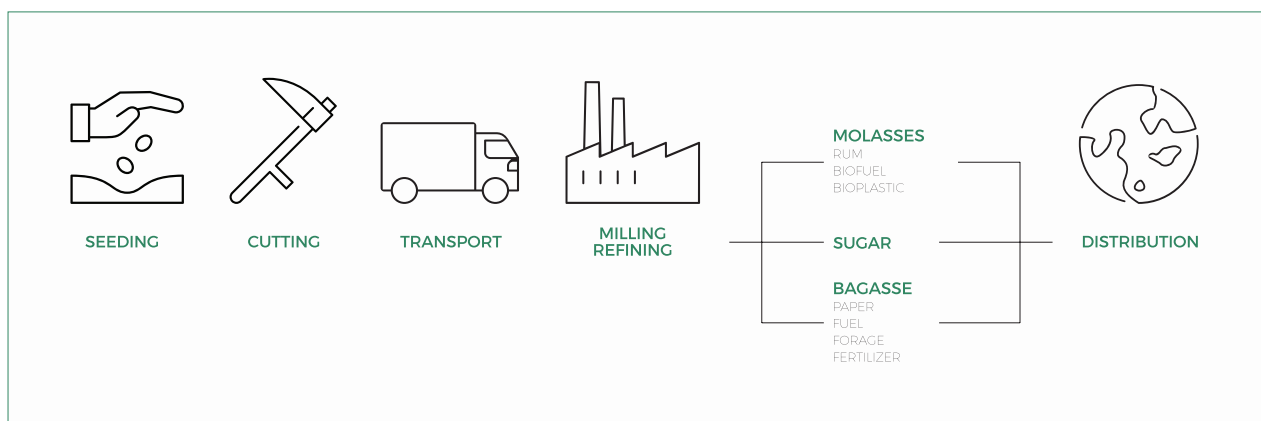
3. THE SUGARCANE SUPPLY CHAIN

Today sugar is one of the daily commodities in higher demand and distribution on a global scale. Sugar consumption has more than doubled from the 1960s to 2009, and further growth is expected in the coming years. Currently, sugar consumption is around 25 kg per person per year, although this amount is higher in developed countries, with over 40 kg in the United States³.

On average, Italians consume roughly 27 kg per year⁴, corresponding to 70 g per day, which exceeds by 50% the maximum threshold recommended by the World Health Organization⁵. An increasing number of studies acknowledge that excessive sugar consumption is a risk factor not only for metabolic diseases but also for heart conditions and cancer.

Currently, the general public is less aware of and concerned about sugar production, especially with reference to work conditions and serious violations taking place in the supply chain, which include child, forced, under-paid and unsafe labour that, in turn, generate abuse, violence, land grabbing and water pollution.

3.1 Stages of the Sugarcane Supply Chain



The productive cycle of the sugarcane plants lasts around 12 months. Sugarcane plants have a long gnarled shaft and thick foliage.

Agricultural production, including soil preparation, seeding, field maintenance and harvesting, hardly relies on machinery and is mostly performed manually by seasonal workers. The most significant stage is sugarcane cutting, involving sharp machetes. Often, to speed up cutting, entire fields are set on fire to get rid of superfluous leaves and potentially dangerous animals (snakes, spiders, bees), thus leaving only sugarcane shafts intact as they are filled with sugary liquid and do not burn.

³ <https://www.forbes.com/sites/alicegwalton/2012/08/30/how-much-sugar-are-americans-eating-infographic/#2eeaf0764ee7>

⁴ <http://www.comitesucre.org/site/about-sugar/sugars-role-in-food-and-nutrition/>

⁵ <http://www.who.int/mediacentre/news/releases/2016/curtail-sugary-drinks/en/>

Once cut and harvested, sugarcanes are transported to milling facilities, usually located near harvesting fields. Sugarcanes are then processed within 24 hours to prevent juice concentration from evaporating and decreasing. Subsequent processing and refining, leading to the production of raw, white and refined sugar, may take longer and take place in other areas, which allows food corporations to purchase plant-derived materials anywhere in the world and then refine products in their facilities.

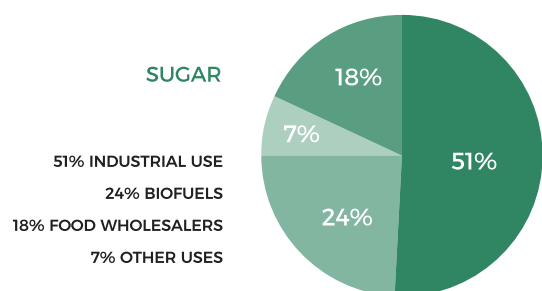
Sugarcane milling delivers also two useful by-products:

- bagasse, which is mainly used as source for fuel but also as forage for cattle, fertilizer for agricultural land, and raw materials for the paper industry;
- molasses, which is used in rum distillation as well as to produce biofuel, bioplastic and sugar syrups for cooking purposes.

3.2 Use and Market

The food industry employs 51% of globally produced sugar mainly as a sweetener, but increasingly often as preservative and thickener, whereas 24% is used as biofuel (bagasse), 18% is used by food wholesalers and 7% is allocated to other purposes ⁶.

According to estimates, globally, the turnover of the sugar industry will exceed 50 billion dollars in 2022 ⁷.



3.3 Main Producing and Consuming Countries

Around 80% of globally produced sucrose is derived from sugarcane (grown mostly in wet and warm tropical regions), whereas the remaining amount comes from beet (grown in temperate areas in the Northern hemisphere, mainly in Europe) ⁸. Over 130 countries worldwide produce sugarcane or sugar beet.

In 1980, the largest producers accounted for 56% of global sugar production, and in 2014 the same countries were responsible for 75% of the production. Such data show a trend towards production concentration. Global sugar consumption is constantly growing by roughly 1.93% compared to the last decade, mainly due to income increase, population growth and changing dietary model.

⁶ IBISWorld (2012) 'Global Sugar Manufacturing'; IBISWorld Industry Report C1115-GL, p.15. (in OXFAM: https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/bn-sugar-rush-land-supply-chains-food-beverage-companies-021013-en_1_0.pdf)

⁷ <http://www.marketwatch.com/story/industrial-sugar-market-worth-5291-billion-usd-by-2022-2017-03-01-10203318>

⁸ SUCDEN, http://www.sucden.com/statistics/1_world-sugar-production; CreditSuisse, http://wphna.org/wp-content/uploads/2014/01/13-09_Credit_Suisse_Sugar_crossroads.pdf

TOP SUGAR PRODUCERS WORLDWIDE IN MILLIONS OF TONS ⁹	
Sugar producers worldwide	Million tons
Brazil	34.24
India	28.87
EU-28	15.30
Thailand	11.00
China	10.26
USA	7.70
Pakistan	6.13
Mexico	5.88
Russian Federation	5.10
Australia	4.82
Rest of the world	169.083

TOP SUGAR BEET PRODUCERS WORLDWIDE IN MILLIONS OF TONS ¹⁰	
Sugar beet producers worldwide	Million tons
Brazil	34.24
India	28.87
Thailand	11.00
China	9.49
Pakistan	6.10
Mexico	5.88
Australia	4.82
USA	3.28
Guatemala	2.84
Indonesia	2.51

10 TOP CONSUMERS IN MILLIONS OF TONS ¹¹	
Consumers	Million tons
India	26.00
EU-28	17.88
China	15.45
Brazil	11.01
USA	10.83
Indonesia	6.05
Russian Federation	5.50
Pakistan	4.86
Mexico	4.37
Egypt	3.27
Rest of the world	168.67

⁹ <http://www.isosugar.org/sugarsector/sugar>

¹⁰ <http://www.isosugar.org/sugarsector/sugar>

¹¹ <http://www.isosugar.org/sugarsector/sugar>

4. SUGARCANE IN CENTRAL AMERICA

This report analyses two case studies bearing special significance in the critical framework of the sugarcane production supply chain. Both studies refer to the Central American geopolitical area, the trade bridge connecting Northern and Southern America, as well as the Western and Eastern hemispheres. This area is symbolically and historically crucial for trade at global level, especially with reference to sugarcane.

Another relevant aspect is that Central America was the first area where an extensive plantation system was used based on slave workforce coming from the black slave trade. To this respect, since its origins, the sugarcane supply chain has involved hard working conditions, exploitation, abuse and violation of rights.



BOX 1 Slavery and Sugarcane Growing

Sugarcane production is indissolubly linked to the historic dimension of the colonial period, marked by the Transatlantic slave trade from the 16th to the 19th century.

Exploitation and inhuman work conditions are an integral part of the plantation system created at first in the Caribbean following the conquest of the “new world”, which mobilized the entire global economy in the following three centuries. Christopher Columbus was the first to take sugarcane from the Canaries to the West Indies in 1493, giving a start to a cultivation of a crop that would shortly expand to all American colonies and would subsequently become the main export product on a global scale. In order to cope with the lack of indigenous workforce, as the population was decimated by *conquistadores* and diseases, the black slave trade was started, which involved at least 10 million Africans. Slaves were forced to work without rest in sugarcane plantations from morning to evening in inhuman conditions, vexed by terrible psychological and physical punishing measures. The average life of a slave in the colonies was hardly longer than 10 years. Slave masters found it cheaper to pay for a new load of men than ensuring decent work conditions to workers. For over three centuries until the final abolition of slavery that came about gradually in the 19th century, an army of forced workers underwent unbearable workloads for their owners to achieve the highest profit at the lowest cost. According to several authors, capitalism in fact originated from this plantation system, not only since plantations can be fully regarded as investments, but also because the sugar thus produced was the main source of energy available to workers employed in European factories. It therefore played a crucial role in triggering the Industrial Revolution and the capitalist system.

Despite the abolition of slavery and more recent achievements in the field of human rights, today sugarcane production and the general working conditions in plantations and agricultural supply chains are burdened with exploitation and injustice.

Although Central America is no longer a global trading hub in sugarcane production, it still involves extremely critical conditions, especially as far as human rights and environmental protection are concerned. Economic interests of private corporations owning the lands where sugarcane is grown and produced very often prevail over national laws and international agreements, despite the increasing number of trade agreements imposing common rules on trade, provisions and regulations on the respect of basic human and labour rights, and environmental protection. Major weaknesses lie in the lack of transparency of the supply chain and, not rarely, in local institutions and authorities' complacency, if not complicity, caused by their frequent involvement in conflicts of interest with the private sector.

4.1 Agreements between Central America and the European Union

The main agreement involving Central America is the European Union-Central American Association Agreement (EU-CAAA)¹² signed on 29th June 2012 in Tegucigalpa (Honduras) and entered into force in 2013. The Agreement includes 6 Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama) and the 28 European Union member states. It is more than a mere free trade agreement, as it also encompasses matters related to political dialogue, development cooperation and economic issues. It explicitly aims at contributing to enhance the Central American integration process within the general framework of progress in human and environmental rights. To this extent, beside holding the trade principle of reducing or removing tariff obstacles across the free trade area, the EU-CAAA aims at fostering a political partnership based on the respect and enhancement of democracy, peace, human and environmental rights. Articles 40 - 48 focus on social development, to be intended as the fight against poverty, inequality and exclusion. They also set priority actions to improve employment, education and health, especially among the most vulnerable ethnic and gender groups. Similarly, Articles 50 and 51 contain principles on environmental protection and actions aimed at countering pollution, deforestation, and desertification, as well as favouring biodiversity and mitigating climate change.

4.2 Civil Society Criticism

Civil society has generally criticized several agreements stipulated between more economically developed countries (especially the US and EU) and Southern countries of the world. Indeed, the aforementioned agreements were considered to be mere economic tools benefiting the business interests of more powerful countries, which failed to bring about any concrete advantage to the local population affected. In particular, the main objection refers to the opening of a competitive market encompassing extremely different economic systems and risking to negatively affect labour rights, product quality and protection of natural resources. Such an objection was also raised with reference to EU-CAAA that, despite its provisions on human rights, labour and the environment, fails to establish monitoring, control and sanction mechanisms enabling effective implementation. Therefore, despite the Agreement explicitly provides for the participation of different civil society representatives as valuable means to raise potential critical issues and/or breaches to the agreement, the lack of sanctioning procedures frustrates any relevant effort. Multiple violations of human and environmental rights were identified in the sugar production supply chain as well as in several other agriculture supply chains in Central America and other areas, thus providing excruciating evidence of this situation.

¹² http://www.sice.oas.org/Trade/CACM_EU/Text_Sept14/Index_s.asp

5. MAIN VIOLATIONS IN THE SUGARCANE SUPPLY CHAIN

This chapter aims at providing an overview of the main violations of rights within the sugarcane supply chain.

5.1 Violations of Individual Rights

Sugarcane manual cutting is extremely hard and dangerous. Most workers admit they do it exclusively for lack of alternatives. Indeed, these people generally live in extremely vulnerable social and economic conditions (migrants, indigenous people and Afro-descendants).

A common practice in the sugar industry consists in subcontracting workers rather than employing them directly. It poses a significant risk for workers, because it transfers liability on compliance with labour rules¹³. Usually workers employed under these conditions cannot rely on regular contracts signed by employers, but only on verbal agreements. Such employment relationships are extremely unstable and do not ensure protection of rights established by national laws and international agreements (working time limitation, minimum wage, payment standards for overtime, protection devices, medical insurance, welfare)¹⁴.

In most plantations, workers get paid by piece rate, per ton of harvested sugarcane. As a result, earnings of farm workers largely vary and depend on multiple factors, including weather conditions (cyclonic rainfalls may interrupt work or extremely hot weather may slow down operations), soil (muddy or excessively hard) and the workers themselves (whose physical strength and endurance depend on age and health conditions). All these reasons make it very difficult to quantify average salaries, as the rule "the harder you work, the more you earn" applies.

In addition, the piece rate payment method leads to excessively long shifts that continue well after working time limits envisaged by the law, and may even exceed 12 hours per day. Clearly, workers are exposed to a number of risk factors, especially when their health is concerned.

Extended exposure to strong sunrays and the intense heat of the tropical regions, where most plantations are located, can cause various pathologies, including severe diseases, ranging from dehydration to even death. Safety on the workplace is often jeopardized by the lack of protection devices (safety gloves, boots, goggles and hats).

Sugarcane cutting raises fine particles that are inhaled and fall in the workers' eyes, as they do not wear any physical protection item. Additionally, burning plantations inevitably generates ash that is dangerously inhaled. It is not rare for workers to have symptoms and signs of respiratory conditions, dermatitis and blindness.

The lack of regular employment contracts prevents farm workers from enjoying forms of protection they would be entitled to, if they had an insurance. Therefore, they neither have medical care nor first aid assistance and paid leaves for injuries and/or sickness.

¹³ <https://www.scribd.com/doc/66213326/diagnostico-cana-de-azucar>, . last view in August 2017.

¹⁴ http://www.coverco.org.gt/trabajadores_ca%F1a.html, . last view in August 2017.

Likewise, subcontracted workers are not entitled to retirement, which forces them to work until they have enough strength, which exponentially increases the risk of accidents and associated disease. In addition, this industry involves frequent violations related to workers' freedom of association. In many agricultural sectors, including sugar production, trade unions are openly opposed by manufacturing companies, which avoid hiring workers belonging to trade unions or dismiss those who submit complaints and claims.

Lastly, an extremely critical issue identified in a number of sugarcane plantations is the direct and indirect exploitation of child labour, especially minors aged between 14 and 18. Child labour, including in cases allowed by law, can still represent a breach of the law because it fails to comply with the maximum working time threshold. In work paid per piece, child labour is often used to support parents' work and complement the poor family income. In addition to major risks for health related to the young age, child labour is also a significant obstacle to education, since it affects school attendance and, in worst cases, it can lead to school dropout. Children frequently follow their parents or the entire family in internal migrations that may last for several months a year during the harvesting period. Sometimes, this implies moving to different social, cultural and weather conditions and often it means enduring extremely hard conditions, such as living in crumbling houses without basic sanitation and services¹⁵.

According to the International Labour Organization, there are almost 100 million child workers in the world, 60% of whom employed in agriculture, which is considered one of the three most dangerous sectors of employment, in terms of accidents and occupational diseases¹⁶.

BOX 2 Discrimination and Gender-Based Violence in Agriculture

Gender represents one of the most evident and cross-cutting reasons for discrimination in employment worldwide. According to ILO data, working women account for less than 50% of the women population (approximately 27% less than men). Women are penalized due to discrimination and inequality related to social and employment conditions as well as freedom of association. Furthermore, they are still victims of sexual harassment and abuse in the workplace.

After the service sector, agriculture is the main sector of employment, especially in Africa and Asia, and it is the primary source of employment for women, who amount to 60% of the total workforce. Despite women being the backbone of the agricultural industry, they still remain invisible farm workers and in most cases do not have access to resources. A FAO survey presented meaningful insights revealing that only 20% of agricultural land is owned by women¹⁷.

As for sugarcane, although men are usually in charge of cutting due to the physical strength required, women largely contribute to production through several ancillary activities, like soil preparation, seeding, manuring, fertilizing, etc. In many cases, women's contribution is hidden, they have no regular contracts, and are subordinated to husbands or fathers they are supporting.

Even when regular contracts are signed, there are gender-based imbalances related to salary, working time and the exercise of a range of rights, including maternity leave, which is not ensured or paid in at least 60% of cases. In such extremely unstable conditions, finding records of sexual offences against women comes at no surprise, ranging from threatening to blackmailing, harassment and rape.

¹⁵ <http://www.unicef.it/doc/416/progetto-uniti-contro-lo-sfruttamento-dei-bambini.htm>, last view in August 2017.

¹⁶ <http://www.ilo.org/ipecc/areas/Agriculture/lang--en/index.htm>, last view in August 2017.

¹⁷ <http://www.fao.org/news/story/en/item/460267/icode/>

5.1.1 Case Study: Nicaragua

Second only to Haiti, Nicaragua is the poorest country in the Western hemisphere. In Nicaragua 30% of population, amounting to around 2 million people, live under the poverty threshold and the same percentage is employed in agriculture¹⁸. Exported agricultural products are staple crops that have always marked the history of Central America: coffee, bananas and sugarcane. Nicaragua current share of sugar production in international markets is not significant, but it is still crucial for the national economy, especially due to the *Flor de Caña* rum, considered one of the best spirits distilled from sugarcane in Latin America and exported to 43 countries worldwide.

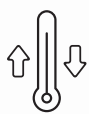
The importance of sugarcane growing in Nicaragua lies in the harsh issues raised by the supply chain, especially with reference to the violation of individual workers' rights and, in particular, health protection.

Currently, sugarcane monoculture encompasses over 73,000 hectares of soil and over 70% of plantations are concentrated in the Chinandega department, on the border with Honduras, where *Ser San Antonio*, the oldest and largest sugar factory of the country, is located. Founded in 1980 by Francisco Pellas, a trader with Italian origins, this *ingenio* still belongs to his heirs, who manage operations through the Nicaragua Sugar Estates Limited (NSEL), which also owns the *Flor de Caña* brand. Beside *Ser San Antonio*, there are three main sugar factories in Nicaragua: *Monte Rosa*, *CASUR* and *Montelimar*. In the 2016-2017 harvest season, in total they produced 16,000 tons of sugar, more than half of which was produced by NSEL, owned by the Pellas family¹⁹.

In the past 15 years, the total amount of sugar produced in Nicaragua has doubled, leading the industry to officially employing 35,000 workers. The fast development of the sugar industry is mainly due to huge investments made by the International Finance Corporation (IFC) - a World Bank agency promoting private entrepreneurship in developing countries - which allocated resources to Nicaraguan sugar factories, including *Ser San Antonio*, that received 55 million dollars and was under international spotlight due to the kidney disease affecting workers in its sugarcane plantations.

BOX 3 Mesoamerican Nephropathy or Chronic Kidney Disease of Unknown Aetiology

Also known as "Mesoamerican nephropathy", this chronic kidney disease has an extremely rapid evolution. The disease mainly affects relatively young males employed in intensive farming. It is triggered by a range of factors, the most important of which are linked to work conditions:



HEAT
STRESS



DEHYDRATION



CONTAMINATION
OF WATER DRANK
BY WORKERS
FOR HYDRATION



LACK OF
SHADOW



HIGH
TEMPERATURES



HUMIDITY



EXCESSIVELY
LONG AND
UNINTERRUPTED
WORK SHIFTS



PRESENCE OF
AGROCHEMICAL
SUBSTANCES

¹⁸ <https://www.cia.gov/library/publications/the-world-factbook/geos/nu.html>

¹⁹ <http://www.cnpa.com.ni/estadisticas.php#10/1>

5.1.2 Nicaragua: Workers' Rights

The Nicaraguan case study is particularly relevant to understand dramatic effects that extensive sugarcane growing can provoke on workers and their families. Employment conditions for farm workers cutting sugarcane in Nicaraguan plantations reflect the conditions of other workers in different geographical areas.

First of all, the rate is very high of subcontracted seasonal workers, who are recruited among migrants without regular contracts and for extended working time. Payment is per piece and is not sufficient to have a decent life. Safety and protection equipment is not provided, nor is healthcare or welfare, and, lastly, also child labour can be observed.

"Work was very hard. It started at 6 am and finished after cutting at least two hectares of sugarcane. We worked bare-foot [...] We could not organize any trade unions or protests because we were occasional workers and we would be fired immediately."

Pedro Joaquín Rivas Varela

The Nicaraguan work environment is marked by the rising of an extremely disabling and painful chronic disease that progressively and irreversibly advances. This disease is found especially in the resident community of the Chinandega department, in particular in the Chichigalpa area, where *Ser San Antonio* plantations, owned by NSEL, are located. This is a specific type of Chronic Kidney Disease of "unknown origin" - that means it cannot be related to diabetes or hypertension - and it is scientifically defined as CKDu (Chronic Kidney Disease of Unknown Aetiology).

According to 2005 data provided by the *Ministry of Health of Nicaragua* (MINSa), mortality rate due to CKDu in the Chinandega department is 13 times higher than the national average. The Pan American Health Organization (PAHO) showed that between 2005 and 2009, this disease led to the death of over 3,000 people. In Chichigalpa alone, 75% of people aged 35 to 55 died for reasons related to CKDu. However, the Nicaraguan Association of People Affected by Chronic Kidney Disease (ANAIIRC) estimated that the extent of the epidemics is far larger than official data show. CKDu incidence has significantly increased in the last thirty years in all Pacific areas of Central America, so much as to deserve the name of "Mesoamerican nephropathy". In this geographical area, differently from other places in the world, this disease significantly affects adult males employed in agriculture, and particularly those who cut and harvest sugarcane in plantations.

Several investigations have been carried out to establish the causes of the CKDu epidemics among sugarcane plantation workers in Nicaragua. Yet, as of today, they have not been able to identify a well-defined aetiology. Among alleged factors are extended exposure to sunrays, dehydration and chronic malnutrition, intensive efforts, repeated use of non-steroidal anti-inflammatory drugs (NSAID), exposure to contaminated chemicals like pesticides and fertilizers, and abuse of low-quality alcoholic drinks.

Although the official cause for CKDu has not being determined yet, facts show that people suffering (and dying) from this disease in Nicaragua are workers living in a limited area identified as NSEL property, in particular the *ingenio Ser San Antonio* in Chichigalpa.

5.1.3 Nicaragua: the Active Role of Civil Society

The first victims of kidney pathologies in agriculture in Nicaragua date back to the mid-Nineties, when abnormal creatinine values, exceeding by far regular values, started to be detected in the blood of workers employed in NSEL sugarcane plantations.

After recording statistic evidence of extremely significant incidence of the disease in Chichigalpa, where *Ser San Antonio* sugar factory is located, the *Chichigalpa Association por la vida* (ASOCHIVIDA) was founded in 2003. It is the first organization instituted to protect the rights of workers affected by CKDu. The following year a second entity was instituted: the *Nicaraguan Association of People Affected by Chronic Kidney Disease* (ANAIIRC), which aimed at having CKDu acknowledged as occupational disease, connecting the epidemics to indiscriminate use of agrochemicals and therefore identifying direct liability of sugar producer Pellas Group.

Early response from institutions to the demands of the two organizations was the reviewing of Act 456 of the Labour Code in 2004. At first, the government seemed to be willing to include CKDu in the list of occupational diseases, but the powerful pressure from NSEL and the commitment to compensate 1,300 sick workers led the government headed by Enrique Bolanos to partially vetoing the resolution, frustrating further requests for damage compensation. Since then, tensions among sick workers and workers at risk, organizations protecting workers' rights, widows and families of victims on one side and NSEL on the other have never ceased and it seems that the tug of war will go on forever. Indeed, the Pellas Group is not willing to acknowledge the company's liability in the disease found among its workers and denies using agrochemicals harmful for human health. They started a roundtable on the issue with ASOCHIVIDA to investigate the causes of the CKDu epidemics. They also provided financial resources and support to develop local communities residing where the disease strikes with greater incidence. However ANAIIRC, supported by civil society and people directly affected by the disease, is reporting the intimidating practices implemented by NSEL, which allegedly fires workers having high creatinine values to prevent further damage to its reputation and avoid compensation costs. In addition, according to some independent studies conducted on water quality in local wells, ANAIIRC reiterates the cause-effect link between agrochemicals use and the CKDu epidemics. The microbiology lab of the National Autonomous University of Nicaragua-León (UNAN) showed that 91.3% of water samples collected in the area having the highest CKDu incidence are not suitable for human consumption, according to CAPRE²⁰ regulation and, more importantly, 31% of them contain traces of DDT, dieldrin, clorpirifos and parathion-metyl, pesticides that are highly toxic and harmful for human health.

Despite the fact that no comprehensive analysis exists that proves the cause-effect link between CKDu and bad practice at NSEL, in particular regarding agrochemicals use, it is clear that such high incidence within the Pellas Group's area is extremely unique and meaningful and cannot be dismissed as a coincidence.

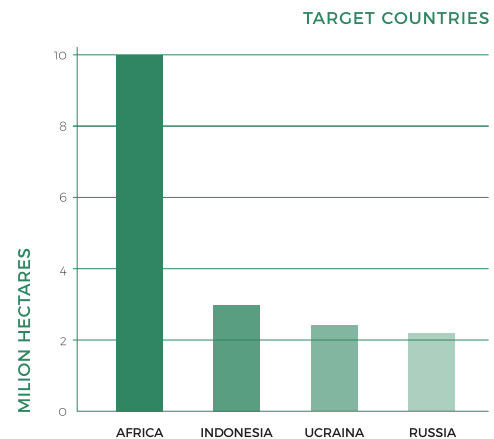
For this reason, the Nicaraguan civil society has repeatedly rallied to attract international and national media attention in the attempt to highlight a situation that continues to cause victims. Recent unofficial estimates on CKDu-related victims report approximately 10,000 deaths in the municipality of Chichigalpa alone. Several solidarity and awareness-raising events have been organized in the last few years (people marching in the capital city of Managua, protests, permanent sit-ins in front of NSEL headquarters) leading to raising attention of both Nicaraguans and Central Americans and the international public. A number of articles and academic papers were published in both online and paper editorial and educational media. The latest appeal to mobilization has led to the boycott campaign against the *Flor de Caña* rum, produced by the Pellas Group, for economic and reputational lobbying on a globally-renowned spirit producer.

At present, the situation in NSEL sugarcane plantations remains critical, due to both hard working conditions and, more importantly, to the health emergency of the CKDu epidemics that has involved entire local communities.

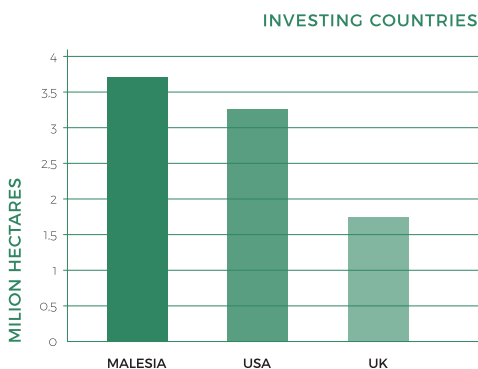
²⁰ Regional Coordination Committee of Drinkable Water and Sanitation Institutions in Central America, Panama and the Dominican Republic.

5.2 Violations of Environmental Rights

On top of the numerous violations of individual rights recorded among plantation workers - and all consequences highlighted above - the sugarcane supply chain is often marked by critical issues related to the environment, involving serious breaches affecting both people and the environment. It is to be noted that over 27 million hectares of land worldwide are used to grow sugarcane and this trend is constantly increasing²¹, especially in the tropical area. Yet, such a rapid and massive expansion of sugarcane monoculture obviously brings about several issues. Increasingly often, large-scale land acquisition is linked to land grabbing²², which is the practice of stealing land from native peoples whose life is directly dependent on local resources.



This frequently originates from issues related to rural land law and, in particular, to local populations not having the possibility to prove ownership and therefore their legal right to live on ancestral territories that have belonged to them for generations. Leveraging on legal voids, several private investors, mostly from foreign corporations, succeed in negotiating directly with national governments and agree on terms regulating the use of lands in which they intend to invest. A recent research showed that over 42 million hectares of land have been involved in land grabbing. 61% of this land is used by the food industry, mainly for oilpalms growing, whereas 21% is used for production of biofuels, especially those derived from sugarcane²³.



The first inevitable direct consequence of such extensive land acquisition methods consists in pushing away local communities, forced to abandon their homes to make room for new plantations. On several occasions, these cases of forced evacuation have been strongly opposed by residents, which called for the use of force and violence. Displacement of indigenous peoples from ancestral territories leads to severe damage not only due to accommodation issues, but also because it prevents access to fundamental primary resources and seriously jeopardizes the survival of cultures with a millenary history, used to living symbiotically with nature. The conversion of large plots of land from complex natural habitats to extensive monocultures puts the ecosystem balance under significant risk.

The Amazon rainforest, 65% of which extends in Brazil, has the highest biodiversity in the world, but is also subject to intense deforestation, carried out at a rate of 1.5 million hectares per year, aimed at hosting future sugarcane plantations. It is not surprising that land grabbing, combined with monocultures, significantly impacts on climate change - even more so if agrochemicals use is taken into account. Pesticides and fertilizers release a great deal of greenhouse gases, directly responsible for environmental pollution, soil depletion, water contamination, besides being extremely harmful for human health, as in the Nicaraguan case.

²¹ FAO: <http://www.fao.org/faostat/en/#data/QC>

²² *Land grabbing* is an economic phenomenon that, especially since 2008, has triggered capital investment flows from developed countries to acquire arable land in the Southern regions of the world. Such acquisitions aimed at using land to develop monocultures. This is a threat to food sovereignty of developing countries and to the survival of local communities.

²³ LANDMATRIX2016: http://landmatrix.org/media/filer_public/ab/c8/abc8b563-9d74-4a47-9548-cb59e4809b4e/land_matrix_2016_analytical_report_draft_ii.pdf

5.2.1 Case Study: Guatemala

Guatemala makes a particularly interesting case study as it shows the dynamics and effects of land grabbing in the sugar supply chain. Top producer in Central America and fourth-ranking producer in Latin America, Guatemala has devoted 360,000 hectares of national land to sugarcane, corresponding to 12% of arable land²⁴. However in departments with greater concentration (Escuintla, Suchitepequez, Retalhuleu and Santa Rosa), this rate can exceed 90%.

Although coffee has been the staple of national economy for a long time, sugar has recently taken over and now ranks first in national food export.

Currently 425,000 people are employed in the sugar supply chain, 30,000 of whom are farm workers, i.e. sugarcane cutters²⁵. This is inevitably an approximate figure due to the extent of informal labour in the agricultural sector. Data on ethnic composition of workforce employed in plantations are extremely significant: 87% of workers have indigenous origins, mainly Maya²⁶ and are the poorest members of the population in the country.

BOX 4 Indigenous Peoples and Afro-descendant Communities

According to estimates, 150 million Afro-descendants and at least 40 million indigenous people (belonging to 600 different ethnic groups) live in the Latin American continent, which amount to almost 40% of the entire population. Nonetheless, today ethnic identity as a distinguishing factor is increasingly blatant as a social and cultural stigma that may trigger massive violations of human and labour rights that limit or completely prevent access to education, healthcare, employment and land.

As for land ownership, although ILO Convention 169 on indigenous and tribal groups acknowledges the right to ancestral land and self-determination, land grabbing is increasingly perpetrated by corporations that enjoy the support of political authorities and use threats and violence to evacuate the plots of land they want. This deplorable phenomenon causes in turn further unrest by triggering forced migrations that often divide families or involve blackmailing-driven economic logics.

In this framework, the UN General Assembly named the 2014-2025 period the *International Decade of Afro-descendants*, to implement an action plan leveraging on international, national and regional cooperation to enhance and ensure economic, social, cultural, civil and political rights for people with African origins, as well as their full and equal participation in all social sectors.

A brief overview of the recent Guatemalan history may help understanding the underlying reasons of the situation in the country.

²⁴ Dirección de Información Geográfica, Estratégica y Gestión de Riesgo (DIGEGR), Ministerio de Agricultura, Ganadería y Alimentación (MAGA), 2010, <http://web.maga.gob.gt/sigmaga/download/4-ca%C3%B1a-azucar.jpg> and <http://www.azucar.com.gt/economia.html>

²⁵ CODECA, 2017 (report)

²⁶ CODECA, 2013 (updated in 2017)

After gaining independence from Spain in 1821, most national land was sold on the free market. In particular, since 1871 and the beginning of the so-called "Liberal Revolution", large plots of land ended up in the hands of only a few people, and the indigenous population was deprived of their basic means of subsistence and forced to work in private plantations to survive. Forced labour of indigenous farmers was promoted and officially established through regulatory measures, including *Reglamento de Jornaleros* (1877) and *Ley contra la Vagancia* (1934), decrees sanctioning unemployment and compelling to unpaid labour.

In October 1944, farmers, students, professors and representatives of the army rebelled against the government and removed the president from office, triggering a revolution that resulted in 1952 *Reforma Agraria*. Notwithstanding, the nationalization and subsequent allotment of land affected the interests of United Fruit Company. Therefore in 1954 the CIA, whose director back then was one of the main shareholders of the US corporation, promoted and supported a coup that led to the dictatorship of Carlos Castillo Armas. His first priority was abolishing the land reform and returning land to its previous owners. This marked the beginning of the bloody civil war that continued until 1996 and caused about 200,000 casualties, mainly among indigenous peoples, so much so that the dictator Ríos Montt (1982-1983) was later sentenced for genocide. Land agreements played a crucial role in the peace process after 1996. They established the so-called *Fondo de Tierra*, a body in charge of purchasing land on the free market and later allotting it to indigenous citizens. However, between 1998 and 2013, according to data gathered by the body, only 15% of the almost 2,000 applicants were given some land.

As a result, today 43% of the national territory is allocated to agriculture²⁷ and over 80% of arable land belongs to only 8% of farmers²⁸, which confirms that Guatemala Gini index on land concentration is among the highest in the world with 0.84²⁹. Other data are not more comforting, with half a million indigenous farm families left without land³⁰ and one child out of two suffering from acute malnutrition³¹. Over time, this trend has worsened and Guatemala now holds the worst record in Latin America and the Caribbean. Increased sugar production, monoculture expansion and the rise in productivity rate per farmed hectare are closely associated to an escalation of poverty by 8%, recorded in less than ten years between 2006 and 2014, with general poverty increasing from 51% to 59% and absolute poverty rising from 15% to 23% for at least 2 million people³².

In departments like Escuintla and Suchitepequez, between 80% and 90% of the territory is allocated to sugar monoculture. Since there is no more land available in these departments, some companies have started to invest in new areas and expand in the Northern departments of Alta Verapaz and Peten. In the latter, in 2005, sugar producer *Ingenio Guadalupe S.A.* started to buy land along the Polochic valley, because its fertility and cheap price made it appealing for sugarcane growing. In 2011, this area, previously inhabited by 89% of maya-q'eqchi's people, underwent violent evacuation, later to be condemned by both the Interamerican Court for Human Rights (CIDH) and the *United Nations High Commissioner For Refugees* (UNHCR). Displacement involved almost 800 families, force was used, houses and harvests were destroyed and entire families were left without a place to live or anything to eat³³.

²⁷ DIGEGR - MAGA, 2015: <http://web.maga.gob.gt/sigmaga/suelos-1-250/>

²⁸ OXFAM, 2014: <http://www19.iadb.org/intal/intalcdi/PE/2014/14205es.pdf>

²⁹ Instituto Nacional de Estadística de Guatemala (INE): <https://www.ine.gob.gt/index.php/estadisticas>

³⁰ OXFAM, 2014: <http://www19.iadb.org/intal/intalcdi/PE/2014/14205es.pdf> (Información del Gobierno de Guatemala, IV Censo Nacional Agropecuario, citado en el Plan Estratégico de Seguridad Alimentaria y Nutricional (PESAN) 2012-2016.)

³¹ OXFAM, 2014: <http://www19.iadb.org/intal/intalcdi/PE/2014/14205es.pdf> ('Guatemala: V Encuesta Nacional de Salud Materno Infantil, 2008-09', Noviembre 2009. In some communities it exceeds 90%)

³² BANGUAT (data processed by CODECA)

³³ UNHCHR, 2013: http://cms.fideck.com/userfiles/onu.org.gt/hector.morales/file/Publicaciones/Estudio_desalojos.pdf

Indeed, the current land used to grow sugarcane was previously allocated to different uses, including animal husbandry and several agricultural products ranging from wheat to cocoa, to cotton, bananas, maize and beans, local produce that has now disappeared.

As a result, local indigenous families were compelled to depend on new sugarcane crops. Communities were deprived of resources, means and employment opportunities and had to work in plantations, accept outrageous working conditions and give up their original lifestyle.

5.2.2 Guatemala: Environmental Damages

The expansion of sugarcane monoculture associated with the use of fertilizers and pesticides (sprayed in the air over vast areas inevitably including houses) is progressively depleting fruit trees productivity and soil fertility by generally contaminating groundwater and the atmosphere, leading to unavoidable consequences on the health of plantation workers and of families and people living in nearby communities. Moreover, corporations owning plantations have diverted the main waterways to enhance irrigation, depriving communities of this valuable and vital resource.

Eventually, the widespread practice of setting plantations on fire to remove brushwood and speed up cutting during the harvesting season has become significantly dangerous for workers and communities living in the close-by areas. Fire combined with the use of agrochemicals have led to increasingly frequent symptoms of respiratory and skin diseases and associated pathologies.

5.2.3 Guatemala: Protest Movements

Over the last few years there have been several public protests against the sugarcane monoculture as implemented by several companies - protests specifically aimed at preventing waterways from being contaminated, diverted and run dry. A significant example was the "March for Water" organized by farmers, indigenous people and activists from a number of local NGOs in 2006. They embarked on a walk lasting several days in the south of the country and reached the capital city to ask for an investigation and sanctions against companies deemed to be responsible. They also asked for the approval of a "*Ley de Aguas*", an act on public water. Other more spontaneous forms of protest involved arson of plantations and block of roads crossed by trucks transporting sugarcane. These actions often ended with promises of improvements made by companies that are promoting free training for community members to enhance corporate social responsibility.

In the last few years, sugarcane monoculture in Guatemala has become an issue also in the media and online social networks, especially with reference to land grabbing and the claims by indigenous communities. They enjoyed some international coverage but no substantial change has taken place.

"They are destroying and contaminating our rivers, lagoons, water springs [...] Here sugarcane enjoys the right to water more than people do. In our community, wells are running dry [...]"

Rosario Jimenez, Suchitepéquez

6. CONCLUSIONS AND RECOMMENDATIONS

Sugar consumption is constantly growing at global level. More and more natural resources are allocated to sugar growing and production, while its industrial use is exponentially increasing in both the food and other industries. Although the impact on health of such trend has been widely studied and consequences are well known to the public, there is little knowledge on the consequences for people living in sugar-producing countries or for workers of the sugarcane supply chain.

The report reveals that land allocated to this crop is growing proportionally to the level of malnutrition; family-based and local consumption agriculture is greatly penalized, and phenomena like land grabbing concentrating land ownership in the hands of few people are increasingly spreading. Moreover, the environment is significantly damaged due to progressive soil depletion and biodiversity loss, as well as soil and water contamination due to the massive use of fertilizers and chemical herbicides.

The sugarcane supply chain involves significant labour fragmentation and instability. Owing to the system of unofficial subcontracting, workforce is recruited by third parties depending on the needs of the production. Such a system further penalizes workers, as they are forced to work in insecure conditions in the short, medium and long term. Additional serious violations include child labour and violations of labour rights.

If raising awareness on multiple violations occurring in the sugarcane supply chain is needed to pave the way for actions for a more sustainable environmental and human approach, on the other hand we also need to acknowledge these critical issues cannot be faced and solved with a monolithic approach.

The role of business is surely pivotal in the complex challenge to make the sugarcane supply chain more transparent and sustainable, but also consumers need to be aware and sensitive in requiring that the sugar they purchase fully complies with laws protecting labour and the environment.

It is to be noted that national and international political institutions can and must play a prominent role in demanding that the freedom to conduct business is subject to respecting human rights and that responsibility is taken by business players.

Mani Tese has decided to operate on three different, necessary and complementary levels.

In Nicaragua, Mani Tese is committed to the prevention and improvement of medical care for workers affected by Chronic Kidney Disease and people at risk of contracting the disease. Our local partner is the *Centro de Investigación de Salud, Trabajo y Ambiente* (CISTA) of the Faculty of Medical Sciences of the National Autonomous University of Nicaragua-León (UNAN), where researchers are involved in the analysis of international literature on the matter, further complemented by interviews and data gathered on the ground. The involvement of informal leaders and competent local authorities has allowed starting a process to devise and adopt shared strategies to cope with the disease aimed at having it acknowledged as occupational disease and creating rules to prevent further spreading.

In Guatemala, Mani Tese has supported social and farmers movements for over 10 years, including *Coordinadora Nacional Indígena y Campesina* (CONIC), engaged on the issues of food sovereignty and access to land through the promotion of the recovery of local traditional techniques and productions, enhancing education on nutrition and strengthening local authorities' engagement.

In Italy, Mani Tese is implementing the campaign "*i exist - say no to modern slavery*" to raise awareness in citizens and institutions on the different forms of modern slavery, in particular child labour, human trafficking and the exploitation of labour in supply chains. Simultaneously, Mani Tese has recently promoted a national strategic coordination of academics and NGOs (including Amnesty International, Fondazione Finanza Etica, Action Aid, Focsiv and Cospe) aimed at impacting on two significant processes related to business and human rights: the National Action Plan on the UN Guiding Principles on Business and Human Rights, and the on-going negotiations in Geneva, UN Council on Human Rights, for a "Binding Treaty on human rights for transnational companies and other businesses".

At European level, Mani Tese is actively involved in two important networks, accredited at the European Parliament: the European Coalition for Corporate Justice (ECCJ) and the Copenhagen Initiative for Central America and Mexico (CIFCA). Since its establishment in 2006, the ECCJ has been committed to making businesses legally responsible for their global production and supply chains and to providing access to European Courts for victims of abuse perpetrated by European companies in third countries. CIFCA focuses on a fine advocacy work and on monitoring the political and trade agreements between the European Union and Latin America and their impact on social justice and the environment.

Achieving a sugarcane supply chain that is both sustainable and respectful of human rights is no doubt an ambitious goal, but it is nevertheless attainable, if we implement strategies and actions to actively involve individual citizens, civil society organisations, sensitive institutions and business operators, directing efforts and attention towards a more egalitarian economic and production system and, eventually, a fairer world.

Mani Tese
Nazionale



@ManiTese



ManiTeseong



www.manitese.it
manitese@manitese.it

P.le Gambara 7/9
20146 Milan, Italy
+39.02.4075165