EVERYBODY’S BUSINESS:
THE XINJIANG GOODS ENTERING GLOBAL SUPPLY CHAINS
ABOUT C4ADS

C4ADS (www.c4ads.org) is a 501(c)(3) nonprofit organization dedicated to data-driven analysis and evidence-based reporting of conflict and security issues worldwide. We seek to alleviate the analytical burden carried by public sector institutions by applying manpower, depth, and rigor to questions of conflict and security. Our approach leverages nontraditional investigative techniques and emerging analytical technologies. We recognize the value of working on the ground, capturing local knowledge, and collecting original data to inform our analysis. At the same time, we employ cutting edge technology to manage and analyze that data. The result is an innovative analytical approach to conflict prevention and mitigation.

© C4ADS 2022

LEGAL DISCLAIMER

The mention of any individual, company, organization, or other entity in this report does not imply the violation of any law or international agreement, and should not be construed as such.

ABOUT THE AUTHOR

Irina Bukharin is the Program Director for Human Security at C4ADS. The Human Security Program exposes the illicit networks and systems underlying human rights crises, empowering global stakeholders to act decisively against those who threaten human security around the world. Irina received her bachelor’s degree in political science from Swarthmore College, and she is currently pursuing a master’s degree in global environmental policy from American University. She speaks Russian and has lived and studied in Kazakhstan.

ACKNOWLEDGEMENTS

C4ADS would like to thank all those who provided input and shared knowledge during the course of our research. The author also sincerely thanks the C4ADS team members and consultants who contributed to this report, and without whom this report would not have been possible: Angela Bruhjell, Max Kearns, Sheyda Mainzer, Nicole Morgret, Sara Thelen, Dave Stephenson, Dr. Robert Vasey, Anna Wheeler, Kelis Wong, and Flora Yan.

OUR TECH PARTNERS

C4ADS would also like to thank its technology partners, whose software and systems are integral to the integrity and quality of our research and analysis.

COVER IMAGE

Xinhua
04 EXECUTIVE SUMMARY

05 INTRODUCTION

06 METHODOLOGY

07 BY THE NUMBERS: THE XINJIANG ECONOMY
  Agriculture and Extraction
  Manufacturing
  Xinjiang’s Exports

12 XINJIANG’S HIGH MARKET SHARE GOODS
  Cotton (棉)
  Tomato Products and Paste (番茄酱)
  Peppers (辣椒)
  Walnuts (核桃)
  Rayon (嫘萦)
  Calcium Carbide (碳化钙, 电石)
  Polysilicon (多晶硅)
  Wind Turbines (风力发电机组)
  Beryllium (铍)

17 CASE STUDY: THE PEPPERS OF XINJIANG
  Products of Discrimination and Coercion
  Embedded in Global Markets

20 CONCLUSION
EXECUTIVE SUMMARY

The economy of the Xinjiang Uyghur Autonomous Region is inextricably entangled with forced labor and oppression. The linkages between abuse and the economy are not contained within Xinjiang: through the global market, the rest of the world enables forced labor and repression perpetrated by the government of China. This analysis of the Xinjiang economy examines specific goods produced in the region that have outsized impact on global supply chains. Organizations involved in the purchase of these agricultural and industrial products are at risk of supporting oppression.

In this brief, C4ADS maps the contours of the Xinjiang agricultural and industrial sectors and identifies nine goods produced in disproportionately high volumes in Xinjiang that are part of global supply chains:

- Cotton
- Tomato Products
- Pepper Products
- Walnuts
- Rayon
- Calcium Carbide
- Polysilicon
- Wind Turbines
- Beryllium

Some of these goods, such as cotton, tomatoes, and polysilicon, have been publicly linked to forced labor. Other identified goods share similar forced labor risk factors, or are linked by ownership or subsidies to the Chinese and Xinjiang governments, which perpetrate forced labor and mass detention against Uyghurs in the region. As such, the goods highlighted in this brief represent an opportunity for stakeholders to maximize their impact against oppression in Xinjiang. Any company purchasing the goods named here is at risk of supporting forced labor and oppression in the region, and risks negative publicity or law enforcement action.

Governments, the private sector, and civil society must respond by more deeply evaluating the intersections between these goods, human rights abuses, and global supply chains. To illustrate these connections, C4ADS explores the case of Chenguang Biotech, a Chinese company that uses coercive labor practices to harvest peppers, yet remains integrated in the supply chains of major multinational food companies.

The world can end the financial support of atrocities in Xinjiang by changing patterns of global trade. Using the findings and tools elaborated in this brief, stakeholders can assess supply chains and make changes where necessary, eliminating profit mechanisms that support the abuse of Uyghurs and Turkic peoples in Xinjiang.
INTRODUCTION

Since 2016, the Chinese government has wrongfully imprisoned or coercively moved a million or more Uyghurs and Turkic people in the Xinjiang Uyghur Autonomous Region, many of whom now work in conditions of forced labor. Those not directly detained or working under coerced conditions live in an omnipresent surveillance state and face an unprecedented effort to eliminate Uyghur linguistic, cultural, and religious expression from the public sphere.

The Chinese government has weaponized the economy of the Xinjiang Uyghur Autonomous Region to achieve its cultural and political objectives against Uyghurs and other Turkic peoples. Companies in Xinjiang receive subsidies to coercively employ Uyghurs, while the goods they produce create profit through their sale into global supply chains. This repression is financed by state-owned enterprises controlled by the central government, the Xinjiang government, and the Xinjiang Production and Construction Corps, a paramilitary organization which functions as a parallel government in the region.

The world, to varying degrees, has responded. International stakeholders have imposed sanctions on perpetrating entities, banned the import of goods produced through forced labor, and shifted supply chains to more ethical and transparent sourcing practices. These actions have disrupted profit derived from Uyghur oppression, but they are often taken in reaction to negative publicity about a particular industry or good. This generates fragmented economic consequences, and it relies on ad hoc media and civil society reporting that does not systematically identify risks.

In this brief, C4ADS takes stock of the Xinjiang economy, identifies the region’s key agricultural and industrial outputs, and outlines avenues by which these products can enter global supply chains. Using this analysis, stakeholders can better evaluate global intersections with activities supporting forced labor and human rights abuse in the region, and act proactively to remove these ties.
METHODOLOGY

C4ADS used Chinese government records, industry statistics, trade data, and other forms of publicly available information to map the Xinjiang economy and its role in global supply chains. C4ADS used the 2020 Xinjiang Statistical Yearbook, a government-produced yearly report, to identify key agricultural, industry, and export-oriented goods produced in Xinjiang and their approximate volume or value. We leveraged global industry statistics, sourced from industry analysis aggregators or industry representatives, to assess the relative volume of Xinjiang production of each good compared with global production, and then verified our findings through industry and media reporting. C4ADS conducted further analysis of the production, distribution, and export of the verified goods that consist of at least 1% of the global market. Goods that consist of over 5% of the global market are highlighted in Xinjiang’s High Market Share Goods.

To verify and supplement this industry analysis, C4ADS created and analyzed a Xinjiang exports dataset. Because complete Chinese or Xinjiang trade data is not accessible from a single source, C4ADS compiled Xinjiang export data from eight different trade data sources into a harmonized dataset consisting of 930,000 shipments exported between September 2019 and December 2021. C4ADS then assessed the prevalence of goods exported by grouping shipments by their Harmonized System Codes at different levels of specificity, and compared the volume and value of exports in different categories of goods.

LIMITATIONS

Chinese government reporting, trade data, and publicly available information all face unique constraints. Government-reported figures may not be accurate; the government regularly updates the figures as it receives new data, the government may misreport production numbers, or there may be mistakes in the data. For these reasons, the production numbers are not understood to be a precise value, but they do provide a measure of scale. Likewise, C4ADS trade data is not globally comprehensive. Therefore, analysis based on trade data alone may misrepresent export patterns. To accommodate for these limitations, C4ADS cross-referenced information from the 2020 Xinjiang Statistical Yearbook, trade data, and other forms of publicly available information to gain as complete a picture of the Xinjiang economy and product flows as possible.

C4ADS uses official corporate records and trade data wherever available to verify corporate holdings and commercial relationships. However, this information represents a snapshot of corporate and trade activity at a given time: records may not be updated regularly, may not be consistent or wholly accurate, and may not have the same reporting standards across jurisdictions, among other limitations. In addition, public records do not reveal all details of a company’s operations or relationships between entities. Therefore, C4ADS limits its analytical conclusions to those directly supported by underlying documentation. Unless explicitly stated, the mention of an individual, company, organization, or other entity in this report is not meant to imply the violation of any law or international agreement and should not be construed to so imply.
BY THE NUMBERS: THE XINJIANG ECONOMY

This section identifies the key sectors, products, and exports of Xinjiang, using data from the 2020 Xinjiang Statistical Yearbook in conjunction with industry and publicly reported information. By focusing on these aspects of the Xinjiang economy, stakeholders can better understand the intersections between Xinjiang and the global economy, as well as specific risk factors relevant to their country, industry, or company.

The Xinjiang economy has robust extractive, agricultural, and manufacturing sectors, which will be the focus of this brief.

XINJIANG GROSS DOMESTIC PRODUCT (GDP) BY INDUSTRY CATEGORY, 2019

<table>
<thead>
<tr>
<th>Industry Category</th>
<th>GDP Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>51.6%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>35.3%</td>
</tr>
<tr>
<td>Raw Materials and Agriculture</td>
<td>13.1%</td>
</tr>
</tbody>
</table>
AGRICULTURE AND EXTRACTION

Within Xinjiang’s agricultural and raw materials sector, produce and animal husbandry dominate. Major crops include cotton, tomatoes, peppers, melons, hops, and walnuts, along with other fruits, nuts, and vegetables. Animal husbandry also produces a variety of meats and wools. Much of these products are consumed within Xinjiang, domestically, or exported locally to Central Asia. However, agricultural goods such as cotton, tomatoes, peppers, and walnuts also have significant export markets. The production of agricultural goods in Xinjiang appears to have a high prevalence of forced labor, putting any company dealing in these products at higher risk.8

Eighty percent of China’s mineral resources are found in Xinjiang.19 Over 138 minerals can be found in the region, and major mineral outputs from Xinjiang include crude oil, coal, natural gas, pyrite, nickel, iron ore, copper, zinc, and gold.20 Resource extraction has not yet been highlighted as a Xinjiang industry that hosts forced labor. However, it is an industry that has a higher concentration of state-owned enterprises, and it is supported by the Xinjiang government and the Xinjiang Production and Construction Corps (XPCC), which perpetrate abuse in the region.21 22
MANUFACTURING

Xinjiang also has a thriving manufacturing sector. Mining, coal, and gas top Xinjiang’s industrial outputs, but the region also produces processed agricultural goods, clothing and textiles, machinery, electrical equipment, and household goods. Energy products are primarily used domestically, but manufactured and processed goods freely enter global supply chains.

Everybody’s Business: The Xinjiang Goods Entering Global Supply Chains

**XINJIANG’S EXPORTS**

Goods from Xinjiang enter global supply chains through direct trade, mostly to regional neighbors, and through China’s domestic market, which feeds into global supply chains. Central Asian countries and Russia are Xinjiang’s top trading partners, but, as of 2019, Pakistan, the United States, India, and the United Kingdom were also top importers of Xinjiang products.

**XINJIANG’S MOST SIGNIFICANT TRADING PARTNERS, 2019**

Xinjiang’s exports include a variety of industrial and agricultural products, mirroring the region’s economic makeup. C4ADS trade data analysis aligns with reports of top export commodities in the 2020 Xinjiang Statistical Yearbook.

**XINJIANG’S TOP EXPORT PRODUCTS AND CATEGORIES, 2019**

- **Machine Products**: $4,884 M
- **Clothing Products**: $4,672 M
- **Footwear**: $1,863 M
- **Agricultural Products**: $1,105 M
- **Chemical Products**: $1,088 M
- **Yarn and Fabric Products**: $934 M
- **Toys**: $823 M
- **Hi-tech Products**: $608 M
- **Bags and Luggage**: $465 M
- **Auto Parts**: $450 M
- **Tomato Paste**: $426 M
- **Marine Products**: $403 M
- **Fresh and Dried Fruits and Nuts**: $398 M
- **Fresh and Dried Fruits and Nuts**: $392 M
- **Steel**: $366 M
- **Lamps and Lighting Devices**: $329 M
- **Polyvinyl Chloride (PVC)**: $262 M
- **Plastic Products**: $233 M
- **Motor Vehicles**: $160 M
- **Pharmaceuticals**: $118 M


While this overview of the Xinjiang economy provides a basic outline of the region’s outputs and exports, it misses some important distinctions and aspects of economic activity. For example, many of the products highlighted here are in fact categories of goods, which may mask production variation within the category. Likewise, import and export data presented here does not account for domestic flows of goods, which also contribute to global supply chains. In the following section, C4ADS addresses these gaps by identifying the specific goods that Xinjiang produces at high levels and exploring their domestic and international supply chains.
XINJIANG’S HIGH MARKET SHARE GOODS

C4ADS analysis shows that Xinjiang produces over 5% of the world’s cotton, tomato products, pepper products, walnuts, rayon, calcium carbide, polysilicon, wind turbines, and beryllium. These goods should be a focal point of international stakeholders’ response to the crisis in the region: if these goods are found to be produced by forced labor, or otherwise support oppression in Xinjiang, removing them from global supply chains can help end international support for these crimes. Many of the identified goods exhibit risk factors for production by Uyghur forced labor. Media and civil society have found evidence of systemic forced or coerced labor in the production of cotton, tomato products, and polysilicon in Xinjiang. Agricultural products, like walnuts and peppers, share forced labor risk factors with cotton and tomato products. Meanwhile, the production of goods such as minerals is dominated by state-owned entities that are controlled by the regional or Chinese governments, which are perpetrating abuses in the region. If it is found that the production of any of these goods supports atrocities in Xinjiang, there is also significant risk of disrupted supply chains for derived products. For these reasons, governments, the private sector, and civil society should further investigate the production practices and supply chain implications of these goods, and act against goods and companies that are found to be tied to forced labor.

Xinjiang produces about 19% of the world’s cotton, and there has been significant civil society, government, and media reporting on forced labor in the industry and its connections to global supply chains. The US has banned the import of Xinjiang cotton products, and many companies and industry organizations have changed policies and shifted supply chains in an attempt to remove forced labor from their products. Despite this, C4ADS analysis has shown that Xinjiang cotton is still exported internationally and enters the supply chains of many of the world’s biggest brands.
Xinjiang produces approximately 25% of the world’s tomato paste, not including fresh or other processed tomatoes. The US government claims that forced labor is present in Xinjiang tomato harvesting and processing. This is supported by the risk factors present in tomato production: it is an agricultural industry with high seasonal unskilled labor needs, which is conducive to coerced labor, as in cotton production. While Xinjiang tomato exports may have been impacted by the United States’ 2021 ban on the import of Xinjiang tomato products, which was put into place due to evidence of forced labor, Xinjiang tomatoes still indirectly enter the supply chains of US, Canadian, and global brands. Likewise, Chinese government reporting suggests that Russia, Italy, and the United Arab Emirates are also top importers of Xinjiang tomato products.

Xinjiang produces 8% of the world’s peppers, but it contributes to a much greater share of the world’s paprika, along with other pepper-based products. While there are conflicting reports on paprika production by country, China is one of the top paprika producers, and Xinjiang is a major pepper- and paprika-producing region. Paprika and derived products originating in Xinjiang may be processed within the region or elsewhere in China, and it is exported globally, including to Europe, the United States, and Southeast Asia. Paprika is used in the food, pharmaceuticals, and cosmetics industries. There has not yet been any public investigation of or reporting on labor or rights within Xinjiang’s pepper industry as a whole, but it shares the same labor risk indicators as agricultural industries such as cotton and tomato production. Xinjiang’s pepper industry and its ties to global supply chains are explored through the case of Chenguang Biotech Group Co., Ltd., below.
WALNUTS
核酸

Xinjiang produces 11% of the world’s walnuts. Many of these walnuts are destined for domestic consumption, as China both consumes and produces roughly half of the world’s walnuts. However, Chinese media reporting indicates that Xinjiang and Chinese walnuts are also exported to Japan, Australia, the United Kingdom, Europe, Pakistan, and Kyrgyzstan. As with peppers, there has not yet been any public investigation of or reporting on labor or rights within Xinjiang’s walnut industry, but it shares the same labor risk indicators as agricultural industries such as cotton and tomato production.

RAYON
嫘萦

Xinjiang produces approximately 10% of the world’s rayon, a synthetic fiber that is usually formed from chemically processed wood pulp and can be used in a range of textile products. Chinese rayon is exported to countries such as Brazil, India, and Turkey—all of which produce significant amounts of finished textile and apparel products for global consumption. Xinjiang Zhongtai Chemical Co., Ltd. and its subsidiary, Xinjiang Zhongtai Textile Group, produce much of Xinjiang’s rayon.
Xinjiang may produce as much as 22% of the world’s calcium carbide, a chemical compound that is made from combining lime and coke at high temperatures. Calcium carbide has several industrial uses, but in Xinjiang it appears to be used in rayon and polyvinyl chloride (PVC) production. It is primarily produced by Xinjiang Tianye (Group) Co., Ltd. and Xinjiang Zhongtai Chemical Co., Ltd. They are both publicly-traded companies, and Xinjiang Tianye is partially owned by the Xinjiang Production and Construction Corps (XPCC), which perpetrates mass detention and forced labor in Xinjiang. According to C4ADS trade data, little to no calcium carbide is directly exported from Xinjiang, but it enters global supply chains through secondary products like PVC and rayon. These products are another vector of risk for support of oppression, though there has not yet been public investigation of or reporting on labor or rights within Xinjiang’s calcium carbide industry.

Xinjiang produces approximately 40% of the world’s polysilicon, a critical material used in solar panels. Civil society and media reporting has tied polysilicon production in Xinjiang to coercive labor transfers, which are a risk indicator for forced labor. Xinjiang’s polysilicon, whether processed in Xinjiang or elsewhere in China, is deeply embedded in global solar panel supply chains.
Xinjiang holds approximately 9% of the world’s beryllium reserves. Beryllium is a rare alkaline earth metal commonly used for aircraft, spacecraft, and missiles, among other uses. While Xinjiang reportedly has the world’s largest identified beryllium deposits, low production quantities and its sensitive applications mean that tracking production and exports is difficult. In 2019, China produced approximately 28% of the world’s beryllium, yet imported additional beryllium to meet its high demand. This may indicate that most of the beryllium produced in Xinjiang is used domestically.

Xinjiang Goldwind Science and Technology Co., Ltd. produces at least 13% of the world’s wind turbines. Xinjiang Goldwind is a publicly-listed company based in Beijing, but it maintains production in Xinjiang, as well as in other provinces of China. It exports its turbines globally, including to Australia, the United States, South Africa, Pakistan, Argentina, and Ethiopia. Additionally, it owns subsidiary companies in the United States, Australia, Germany, Samoa, Hong Kong, and the United Kingdom.

<table>
<thead>
<tr>
<th>WIND TURBINES 风力发电机组</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XINJIANG 2019 PRODUCTION</strong></td>
</tr>
<tr>
<td>402,600,000 USD</td>
</tr>
<tr>
<td><strong>SIGNIFICANT MARKETS</strong></td>
</tr>
<tr>
<td>Australia, the US, South Africa, Pakistan, Argentina, and Ethiopia</td>
</tr>
<tr>
<td><strong>KEY PLAYERS</strong></td>
</tr>
<tr>
<td>Xinjiang Goldwind Science and Technology Co., Ltd.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BERYLLIUM 铍</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIGNIFICANT MARKETS</strong></td>
</tr>
<tr>
<td>Primarily domestic</td>
</tr>
<tr>
<td><strong>KEY PLAYERS</strong></td>
</tr>
<tr>
<td>Fuyun Hengsheng Beryllium Industry Co., Ltd. (富蕴恒盛铍业有限责任公司)</td>
</tr>
</tbody>
</table>
CASE STUDY: THE PEPPERS OF XINJIANG

Xinjiang’s peppers illustrate how the goods identified in this brief can freely enter global supply chains, despite evidence of coercive labor practices. While peppers in Xinjiang are grown for fresh domestic and regional consumption, peppers from Xinjiang also make their way into international markets as dried chilis, chili powder, paprika, food coloring, and ingredients in makeup and pharmaceuticals.

Chenguang Biotech Group Co., Ltd. (晨光生物科技集团股份有限公司) is an important company for the Xinjiang pepper industry: it takes peppers from Xinjiang and processes them into widely used derivative products such as paprika oleoresin (a food coloring and/or flavoring). Chenguang Biotech claims to be the number one producer of paprika oleoresin in the world, and it sells its products globally for use in food, cosmetics, and healthcare products.105 106

PRODUCTS OF DISCRIMINATION AND COERCION

This global reach stands at odds with Chenguang Biotech’s human rights record. According to public reporting, Chenguang Biotech uses coercive and discriminatory practices in its Xinjiang-based subsidiaries, including those involved in pepper production. As detailed in a report published by the Atlantic Council, The Helena Kennedy Centre for International Justice at Sheffield Hallam University, and NomoGaia,107 Chenguang Biotech’s subsidiaries in Xinjiang allegedly engage in discriminatory hiring practices, in one case reserving administrative roles for ethnic Han individuals, effectively barring Uyghurs and other ethnic groups from serving in more stable positions. One of its pepper-producing subsidiaries, Xinjiang Tianjiao Hongan Agricultural Technology Co., Ltd. (新疆天椒红安农业科技有限责任公司), reportedly operates in close partnership with the Xinjiang Production and Construction Corps (XPCC).108 The XPCC is a US- and EU-sanctioned entity that perpetrates mass detention and forced labor in the region.109 The XPCC allegedly supported Xinjiang Tianjiao Hongan by transferring land to the company for the purpose of pepper production, compelling farmers to grow peppers at set prices.110

Additionally, public reporting indicates that the pepper industry in Xinjiang, from which Chenguang Biotech sources its peppers, is facilitated by potentially coercive labor transfers. Labor transfers are the means through which the Chinese government facilitates the movement of people to companies or industries facing a labor shortage. However, media and civil society reporting has demonstrated that at least some of these labor transfers are coercive, and that the Chinese government intentionally uses them to reduce the density of the Uyghur population and assimilate Uyghurs into the general population.111 Chinese media have reported multiple instances of labor transfers to support the harvest of peppers across the region.112 While more investigation into the use of labor transfers in Xinjiang’s pepper industry is needed, the presence of labor transfers indicates that there is significant risk of coercive or forced labor practices beyond those identified here.
EMBEDDED IN GLOBAL MARKETS

The peppers that Uyghurs harvest and process under coerced and discriminatory practices are part of an extended global supply chain that is entangled with companies and consumers around the world. Chenguang Biotech sources its peppers from its Xinjiang subsidiaries, turning them into paprika oleoresin and other products in its high-tech facilities. From there, the pepper products are sold to both domestic and foreign customers, many of which distribute the products further into global supply chains.

C4ADS analysis of trade data demonstrates the extent of Chenguang Biotech’s reach. Per trade data, Chenguang Biotech has exported at least 748 shipments of pepper-derived products worth over $147 million dollars between January 2018 and January 2022. Shipments predominantly contained paprika

CHENGUANG BIOTECH’S EXPORTS, JANUARY 2018 - JANUARY 2022

AT LEAST 748 EXPORTS OF PEPPER-DERIVED PRODUCTS

WORTH OVER $147 MILLION
oleoresin, and the top importing countries were Indonesia, India, Mexico, and the United States.

Consignee companies for Chenguang Biotech’s pepper products primarily consist of flavor and fragrance companies, which specialize in spices, flavorings, extracts, food dyes, and scents. Flavor and dye products are in a vast number of food products (as well as other consumer products like cosmetics), but there is little supply chain transparency for these companies and products. However, the following examples illustrate how peppers grown through human rights abuse, and then sourced by Chenguang Biotech, may be an ingredient in everyday products on grocery store shelves around the world.

- **Trade data** indicates that three United States, Mexican, and Filipino subsidiaries of International Flavors and Fragrances (IFF) have imported at least 62 shipments of pepper products, worth over $1.3 million, from Chenguang Biotech since January 2018. IFF is a publicly traded American company that claims to have customers in over 200 countries, and it made $5.1 billion in sales in 2019. According to public reporting, IFF has relationships with many leading food and cosmetics companies, including Coca Cola, Nestlé, and Unilever.

- **Per trade data,** Synthite Industries, a major Indian flavor and oleoresin company, imported 57 shipments of pepper products, worth over $30.4 million, from Chenguang Biotech since 2018. Synthite Industries is based in India and reportedly supplies multinational food companies such as Unilever, Nestlé, and PepsiCo.

- **Mane Kancor Ingredients,** another major Indian flavor and natural ingredients company, imported 70 shipments of pepper products from Chenguang Biotech since 2018, according to trade data. C4ADS trade data analysis indicates that Mane Kancor also exports significant quantities of pepper products, particularly paprika oleoresin, to McCormick’s United States and United Kingdom branches. McCormick is a Fortune 500 spice manufacturer and distributor with global operations. Trade data indicates that Mane Kancor also exports pepper products to companies in Indonesia, France, Canada, Thailand, Mexico, Nigeria, and Australia, among other countries.

Without increased transparency from companies in the flavor and food industries, it is difficult to pinpoint the end products that use peppers from Chenguang Biotech and Xinjiang. However, the supply chain relationships detailed here show there is immense risk that peppers produced through coercive practices against Uyghurs are entering global supply chains at a significant and pervasive scale.

Stakeholders, particularly companies, governments, and the financial sector, have a responsibility to more closely evaluate where their pepper products come from and the conditions under which they are grown. While this case study examines the pepper industry, peppers are just one of the identified high market share goods that may rely on or contribute to human rights abuses in Xinjiang. As demonstrated by this analysis, global companies that procure the high market share goods identified in this brief, and decline to take sourcing transparency seriously, invite the possibility of compromised ethics, reputational damage, and law enforcement action.
CONCLUSION

The forced labor and abuse that Turkic peoples in Xinjiang face does not stay within the region’s borders, but spills into the world through global systems of trade and finance. These global ties can allow for increased profits at the expense of human rights, and, unless countered, mean that international stakeholders tacitly enable such crimes.

In particular, Xinjiang exerts disproportionate sway over the globally traded goods identified in this brief, which impact broader supply chains. These goods present both opportunities and risks for international stakeholders. First and foremost, they are an opportunity for global stakeholders to better understand and break the most significant financial linkages between abuse in the region and global trade. However, if this information is not acted upon, organizations involved in the purchase of these goods are at risk of supporting oppression and may face severe consequences. Public investigations demonstrating the connections between these products and labor abuse in Xinjiang may induce government-, company-, or consumer-led action against the sale of these goods and the companies that source them.

This analysis provides a baseline for understanding the role of the Xinjiang economy in global supply chains, but international stakeholders must build on these findings to direct meaningful change. Governments, the private sector, civil society, and media each have a role to play in more closely assessing the industries and goods presented in this brief, sharing their findings, and acting on them. The necessary data and methods for combating financial support of oppression in Xinjiang are available, and it is time for stakeholders to make use of them.
ENDNOTES


6 Harmonized System Codes, or HS codes, are a standardized set of codes that are applied to shipments to categorize their contents. HS Codes are six digits long, and they can be grouped into broader categories by their first four and two digits, allowing for easy analysis of product type at different levels of specificity.


8 Both cotton and tomatoes have been identified as Xinjiang industries with endemic forced labor. As Adrian Zenz discusses in Coercive labor in Xinjiang: Labor transfer and the mobilization of ethnic minorities to pick cotton, cotton production is particularly susceptible to forced and coerced labor because the work is seasonal, low paid, and strenuous. The same risk factors hold for most agricultural industries, including the production of tomatoes, peppers, and walnuts, which are highlighted in this brief.


15 The 2020 Xinjiang Statistical Yearbook does not state what is included in the processed tomato product category, so this statistic may underrepresent Xinjiang’s contributions to all tomato-based products. For example, as discussed in Xinjiang’s High Market Share Goods, Xinjiang produces approximately 25% of the world’s tomato paste, a much greater share than 8.62%.


17 Global data on muskmelon production is not widely available, so this statistic compares Xinjiang muskmelon production with global melon production. This figure therefore underestimates Xinjiang’s share of global muskmelon production.


23 Global production of tomato paste and canned tomato products are not widely available figures. To arrive at this number for global tomato paste production, C4ADS consulted public reporting on Xinjiang’s tomato paste exports, which indicated that Xinjiang contributes between 25 and 28% of the world’s tomato paste. This does not account for other tomato-based products that may be produced in or sourced from Xinjiang. For both of these reasons, the 25% figure should be understood as an estimate and not a precise figure.


24 Data for global production of calcium carbide in 2019 was not available, so projected global output for 2020, which is expected to be at a similar scale as 2019 production, was used. CALCIUM CARBIDE MARKET - GROWTH, TRENDS, COVID-19 IMPACT, AND FORECAST (2022 - 2027). Mordor Intelligence. Retrieved March 18, 2022, from https://www.mordorintelligence.com/industry-reports/calcium-carbide-market.

25 The 2020 Xinjiang Statistical yearbook reported a massive discrepancy between Xinjiang’s 2019 and 2018 production of aluminum: 43,171,045 and 6,403,600. C4ADS used the 2018 figure to calculate Xinjiang’s global share of aluminum production.


33 Select perishable goods produced at greater than 5% of global production, such as melon and horse meat, are not included in this analysis as they do not have significant supply chain implications.

34 U.S. Customs and Border Protection (2021, January 13). CBP issues region-wide Withhold Release Order on products made by slave labor in


41 Global production of tomato paste and canned tomato products are not widely available figures. To arrive at this number for global tomato paste production, C4ADS consulted public reporting on Xinjiang’s tomato paste exports, which indicated that Xinjiang contributes between 25 and 28% of the world’s tomato paste. This does not account for other tomato-based products that may be produced in or sourced from Xinjiang. For both of these reasons, the 25% figure should be understood as an estimate and not a precise figure.


Everybody’s Business: The Xinjiang Goods Entering Global Supply Chains


71 Estimates of Xinjiang’s rayon production vary from 10 to 18 percent, according to the South China Morning Post.


75 张瑶. (2021, October 19). 2020年中国粘胶纤维发展现状（附分类、发展

77 Data for global output of calcium carbide in 2019 was not available, so projected global output for 2020, which is expected to be at a similar scale as 2019 production, was used.


83 Chinese corporate registry aggregator.


91 This figure, 13.8%, is the market share of Xinjiang Goldwind Science and Technology Co., Ltd., a major Chinese wind turbine producer that is based in Beijing but produces, at least in part, in Xinjiang. Other companies may also produce wind turbines in Xinjiang, which is not captured in this figure.


92 These countries are identified as the international market for all Chinese wind turbines, not just those from Xinjiang.


94 This figure, 13.8%, is the market share of Xinjiang Goldwind Science and Technology Co., Ltd., a major Chinese wind turbine producer that is based in Beijing but produces, at least in part, in Xinjiang. Other companies may also produce wind turbines in Xinjiang, which is not captured in this figure.


96 These countries are identified as the international market for all Chinese wind turbines, not just those from Xinjiang.


97 Chinese corporate registry aggregator.


106 Notably, though this case study is focused on peppers, Chenguang Biotech also produces products made out of cottonseed, walnuts, and tomatoes, the other agricultural products highlighted in this brief.


