INCCS | INTERNATIONAL NETWORK FOR CRITICAL CHINA STUDIES

Forced Labor, Coercive Land-Use Transfers, and Forced Assimilation

in Xinjiang's Agricultural Production

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The International Network of Critical China Studies (INCCS) is a research network composed of scholars working in China Studies led by Dr. David Tobin, Lecturer in East Asian Studies, University of Sheffield.

Executive Summary

This report demonstrates that agricultural products from the Xinjiang Uyghur Autonomous Region (XUAR) in China, such as tomatoes, peppers, marigolds, and stevia are tainted by forced labor, coercive transfers of land-use rights from Uyghur peasants[1] to large Chinese agribusinesses, and forced assimilation and political indoctrination of Uyghur laborers in these corporations. The findings implicate major Chinese corporations that together represent over 50% of China's tomato production and 65% of the world's production of red pepper pigment. Xinjiang produces about 14-15% of the world's tomato paste, 10% of its chili peppers, and nearly two-thirds of its paprika oleoresin, a pigment used in food coloring and cosmetics. Xinjiang also produces a growing share of global production of stevia, a popular natural sweetener sold worldwide.

Xinjiang operates the world's largest contemporary system of state-imposed forced labor, with up to 2.5 million Uyghurs and members of other ethnic groups at risk of coerced work. Alongside its campaign of mass internment, the Chinese government is enacting drastic measures to transform the region's agricultural sector to become increasingly industrialized, vertically integrated, and dominated by Chinese agribusinesses.[2] As part of these policies, the state pressures local Uyghur and other ethnic peasants to surrender the right to farm their land to large commercial operators, then coerces them into wage labor, often in local processing bases run by these agribusinesses. Between 2001 and 2021, land-use transfer shares in Xinjiang grew nearly 50-fold, indicating the staggering scale at which ethnic peasants were rendered landless and then pushed into state-mandated work. This is resulting in profound livelihood changes and tearing apart of organic communities, ensuring that Uyghurs are more easily and thoroughly controlled, surveilled, and assimilated.

As this takes place, products made with tomatoes or peppers from the Uyghur region continue to taint global supply chains. Our investigation identified 72 international and 18 Chinese companies with either production in Xinjiang or supply chain links (or a risk of such links) to Xinjiang's agricultural products: 45 companies with direct links to Xinjiang-based companies, 22 companies with indirect links through intermediary suppliers, 6 companies with a general risk exposure, and 17 companies with production in Xinjiang itself. Xinjiang's products are directly or indirectly linked to several major multinational corporations including Kraft Heinz, Nestlé, Del Monte, PepsiCo, McCormick, Unilever, and L'Oreal. Xinjiang's agricultural products often enter supply chains through intermediaries in other Asian countries, obfuscating their origin. At least one Xinjiang-based tomato producer has established a shell company with zero employees for the purpose of "protecting" its foreign trade and uses this entity to ship thousands of tons of tomato products to Italy. Chemical testing indicates that multiple tomato products sold in British and German supermarkets not only contain Italian tomatoes, as claimed on their labels, but also appear to contain tomatoes from China. In addition, Xinjiang-based companies implicated in a wide range of rights abuses, including COFCO, ChalkiS, and Chenguang Biotech, continue to operate subsidiaries in the US and Europe.

Some western companies not only use products from Xinjiang but also actively collaborate with companies from the region. As of 2024, the Kraft Heinz Company, maker of the popular Heinz brand ketchup sold worldwide, still maintains a long-term strategic relationship with COFCO, a Xinjiang-based state-owned enterprise, engaging in joint seed development and technical collaboration. In 2023 and 2024, Kraft Heinz procured COFCO tomatoes from Xinjiang for its products sold in China, Central Asia, Egypt, India, Indonesia, New Zealand, and Russia. The tomato sauce produced by Kraft Heinz in China is made with Xinjiang tomatoes. Along with four other major Chinese agribusinesses, COFCO not only participates in and benefits from coercive work and land-use transfer policies—they also actively help the government to surveil Uyghur households and enforce state policies linked to cultural assimilation and forced labor.

The report finds that Chinese agribusinesses are materially aiding the government in implementing oppressive policies that tear apart ethnic communities, separate parents from children through coerced relocation for work, promote cultural-linguistic assimilation, and suppress religious practices. Such policies also lead to a dilution of ethnic population shares, a deliberate process that the state euphemistically refers to as "optimizing" the ethnic population structure specifically to "end the dominance" of the Uyghur population in their traditional homeland. For example, Xinjiang Guannong, which produces 3% of the world's tomato paste, operates its own company-based armed militia, a type of entity known to participate in state security operations targeting ethnic groups.

Xinjiang-based agribusinesses concede that western countermeasures have been effective, indirectly admitting that US sanctions have hurt their sales. Based on the report's findings, we make these suggestions for governments, policymakers, and companies:

- Policymakers should enact legislation requiring companies to disclose their supply chains for commodities with a high risk of links to human rights violations in Xinjiang and elsewhere, including forced labor, coercive land-use rights transfers, and forced labor arising from agricultural production mandates.
- Governments working to enforce bans on forced labor imports, such as the Uyghur Forced Labor Prevention Act, should focus extra scrutiny and high-priority enforcement measures on all agricultural products where Xinjiang plays a significant role in global production, including tomatoes, peppers, marigolds, stevia, and all derivative products.
- Companies that source these products and their derivatives from China should apply heightened due diligence and closely scrutinize all suppliers down to the farm level. All suppliers should be required to fully disclose actual and potential supply chain links to Xinjiang.
- Companies such as Kraft Heinz and Del Monte should immediately cease collaborations with and stop sourcing from Xinjiang-based Chinese agribusinesses, and instead source tomatoes and other raw materials from other regions.
- Policymakers, governments, and companies should subject intermediary countries with a high share of imported Xinjiang-based agricultural products to heightened scrutiny. This includes for example Italy, where nearly half of imported processed tomatoes are from China (and well over two-thirds of China's exports are linked to Xinjiang).

1. Introduction *and* Method

1.1 Introduction

SINCE THE END of collective farming during the Cultural Revolution and the initiation of economic reforms under Deng Xiaoping, agricultural production in the People's Republic of China (PRC) and its northwestern Xinjiang Uyghur Autonomous Region (XUAR) has undergone major transformations. State policies have caused agricultural production, historically dominated by traditional smallholder subsistence agriculture, to become upscaled, industrialized and commercialized. While this increased income-earning opportunities, it also led to drastic socio-economic transformations and assimilatory pressures targeting ethnic groups.[3]

In Xinjiang, where ethnic identity and organic community are bound within traditional lifestyles, the state has been enforcing changes in rural structures at a concerning pace, driven by not just economic considerations but also political ones. Amid documented oppressive policies including mass internment, parent-child separation, suppression of culture and religion, and state-imposed forced labor, Xinjiang's current agricultural production is tainted by its links to human rights violations, creating significant risks for companies with business ties and supply chain links to the region. At present the region operates what appears to be the world's largest system of state-imposed forced labor.[4]

This report details coercive labor and other ethical risks associated with the production of tomatoes, peppers, marigold and stevia, including derivative products such as tomato paste and red pepper pigments, and traces their links to global supply chains. While coercive practices likely affect all labor-intensive agricultural production, we were able to obtain significant evidence related to these four agricultural products. The government's intensified agricultural production policies exert coercive pressures, especially on peasants belonging to predominantly Turkic ethnic groups, resulting in risks of rights violations through dispossession, coerced work, and mandated agricultural production—forms of work that constitute state-imposed forced labor as defined by the International Labour Organisation (ILO) and operationalized in its updated handbook on the measurement of forced labor.[5] The state exerts such coercive pressure in five main ways.

The first is through forced agricultural production mandates. Peasants continue to work their land, but are coerced into growing mandated crops under mandated conditions. They are often required to procure agricultural inputs from third-party entities and sell their produce to them, at mandated prices that may be to their disadvantage. Forced agricultural production constitutes a form of forced labor.[6] This form of coercion is most commonly linked to the first of three models of agricultural production of tomatoes and peppers in Xinjiang, the so-called "order-based model."

The second pathway to coercion is through mandated transfer of rural land-use rights. Peasants are coerced

to surrender the right to use their land, which is owned by peasant collectives, to companies or intermediary entities, often making them greatly dependent on those entities. Between 2001 and 2021, land-use transfer shares in Xinjiang grew from 0.77 to 38.58 percent, a staggering 50-fold increase, and some localities openly admit that use rights for 90% of local farmland were removed from ethnic peasants in a single season.[7] Peasants then often become wage laborers for those same companies or intermediaries—meaning, in some cases, that they work the same land for which they previously possessed the exclusive use right, but now without the freedom to decide what to grow, and how. They may also be shifted into other industries, regions or even provinces via state-arranged labor transfers. Government reports openly state that local authorities "liberated" peasants by removing their land-use rights, then sent them to work at industrial sites operated by tomato-processing companies.

The third means of coercion is labor transfers. Here, peasants or "rural surplus laborers" are forced to abandon subsistence agriculture, moving them from primary to secondary and tertiary sectors, including industrialized agricultural processing and seasonal harvesting.[8] This need not involve a geographical relocation. Labor transfers are enforced through significant coercive pressures, and Chinese tomato and pepper producers are largely complicit in these practices. COFCO for example participated in grassroots efforts that enforced state work mandates such as: "poor households who should be put to work were all put to work."[9] Labor transfers are often linked to transfers of land-use rights. No longer permitted to work their own land, peasants have no choice but to move into state-sanctioned wage labor positions. Xinjiang's major agricultural corporations have been designated by the state as so-called "dragonhead" or leading enterprises. Companies that receive such designations are primary receivers of state-mandated rural surplus labor transfers. Just one Chinese company, Xinjiang Tianjiao Hong'an, cumulatively used over 200,000 rural surplus laborers in the production of peppers and related products. While mechanization of planting and harvesting processes has increased, many tasks continue to require manual labor, and one company even admitted that they did not fully mechanize so that they are able to employ ethnic laborers for "poverty alleviation" purposes.

The fourth coercive pathway is through agricultural production involving detainees from Xinjiang's re-education camps, which the state euphemistically refers to as Vocational Skills Education and Training Centers, or VSETCs.[10] Internal government documents from the Xinjiang Police Files—a cache of tens of thousands of documents hacked by an anonymous third party obtained by the Victims of Communism Memorial Foundation[11]—show that VSETCs were asked to establish agricultural training bases and greenhouses, together with existing rural cooperatives. There, detainees were trained to grow tomatoes, peppers, and other vegetables, in preparation for coerced employment in the region's increasingly industrialized and commercialized agricultural production. Recent witness testimony obtained by the BBC Eye Investigation shows that in 2017, one ethnic group member was detained and subsequently forced to grow tomatoes. The authorities then told him that there was a job for him at a tomato plantation, and he agreed to go in order to avoid being sent back to the camp.

The fifth means of coercion arises from the direct involvement of most of Xinjiang's dominant tomato and pepper production companies in perpetrating coercive state policies. Such companies not only benefit from such coercive policies by obtaining cheap land and labor. They also participate in state-mandated village-based work teams that penetrate deep into ethnic communities to conduct regular home visits, enforce state policies, spy on individual households, and identify persons for re-education internment or coerced livelihood changes, including labor transfers.[12] These companies' political activities include subjecting rural ethnic populations to ideological education, propaganda sessions at flag-raising ceremonies, and mandatory "ethnic unity" activities. Documented activities also include "thought education" to transform beliefs, establish "correct worldviews," and "stimulate" the motivation of ethnic peasants, pushing those with "backward" mindsets and "outdated" attachments

to traditional land ownership and livelihoods into "modern," state-mandated forms of wage labor—typically low-paid work for Chinese agribusinesses. Chinese agricultural producers have been involved in efforts to monitor and surveil ethnic populations resulting in substantial coerced transfers of surplus laborers. At least one large tomato producer subjected transferred ethnic laborers to forced physical examinations and state-driven measures to suppress births.

> Given that Xinjiang accounts for **over two-thirds of China's exports** of large-package tomato paste, the Italian tomato industry is at high risk of being tainted by Uyghur forced labor.

Of these Xinjiang tomato producers, two of the largest are owned by the Xinjiang Production and Construction Corps (XPCC), an entity established in 1954 as a military-agricultural colony that facilitates large-scale Han in-migration.[13] The XPCC operates a large network of prisons and labor camps that in the 1980s and 1990s absorbed tens of thousands of prisoners (including political prisoners) from eastern China. In 2020, it was sanctioned by the U.S. government over its involvement in most aspects of the atrocities, including the operation of re-education camps for Uyghurs.[14]

Land and labor transfers reflect Beijing's wider political goals for the region. Writing for government reports, leading Chinese scholars have argued that southern Xinjiang's Uyghur populations are too concentrated, leading to a "monoethnic" population composition that promotes "excessive" identification with a particular region that the state deems politically sensitive.[15] In short, they argue that to improve Xinjiang's social stability, Uyghurs' attachment to their homeland must be weakened. Birth suppression and labor transfers help reduce the "dominance" of Uyghurs in the south, while land transfers weaken their identification with the locales in which they are concentrated. Land and labor transfers promote the dissolution of organic communities, separating parents from their children, and causes ethnic peasants to enter factory-style work environments where they are much easier for the state to control and forcibly assimilate.[16] At the same time, state policies incentivize large numbers of Han Chinese settlers to move into Uyghur and other ethnic regions.[17] The resulting demographic shifts are intended to "optimize" the composition of ethnic population shares.

Xinjiang produces about 14–15% of the world's tomato paste and about 10% of the world's chili peppers.[18] According to a 2021 Chinese state media report, Xinjiang produces over half of the world's supply of red-pepper pigment, which is widely used in cosmetic products and food coloring. Some Xinjiang-based companies dominate global market shares in select derivative products. For example, Chenguang Biotech, which is owned by the XPCC and directly implicated in highly coercive practices targeting ethnic group members, produces 65% of the world's paprika oleoresin (used in food coloring and cosmetics) and 40% of all capsicum oleoresin (used as a spice or for medicinal purposes).[19] In 2022, almost half of Italy's processed tomatoes came from China, many of them transported along new transportation routes set up as part of China's Belt and Road Initiative (BRI), a signature project of CCP General Secretary Xi Jinping. In 2020, Xinjiang Guannong, a major tomato producer, dispatched 11 freight trains carrying 16,000 tons of tomato prod-

ucts along this route, representing 50% of the total shipments of the southern Xinjiang-Europe train services that year.[20] Given that Xinjiang accounts for over two-thirds of China's exports of large-package tomato paste, the Italian tomato industry is at high risk of being tainted by Uyghur forced labor. Italy in turn is the world's largest exporter of a wide range of processed tomato products, with a 43% share of the global export market (by value).[21]

Xinjiang's agricultural products enter global supply chains in complex ways. A key challenge is supply chain obfuscation. Our research shows that several western and US-based companies directly import products made from Xinjiang tomatoes, peppers, stevia and marigolds. At the same time, several of them import such products indirectly, through third-party intermediaries. For example, Unilever Pakistan Foods routinely purchases tomato products from COFCO Tunhe Tomato for further processing in its food products. The company then exports them from Pakistan to companies in the United States, Canada, and the UK. Other multinationals involved in COFCO Tunhe Tomato's supply chains include Kraft Heinz, Nestlé, Del Monte, PepsiCo, and McCormick. Other major western corporations such as L'Oreal purchase from non-Chinese intermediaries in Asia who have a supply chain relationship either with Xinjiang-based companies or with Chinese suppliers of products whose domestic market is dominated by Xinjiang-based producers. As a result, these companies cannot exclude the risk that they may be complicit in the region's atrocities. In addition, recent testing commissioned by the BBC Eye Investigation found multiple instances of tomato products sold in western supermarkets where brands claimed that the tomatoes were from Italy, but Trace Element Analysis suggests that they also appear to contain tomatoes from China.[22] Such discrepancies were especially pronounced for tomato products made by Italy's Antonio Petti, which has been sourcing tomatoes from Xinjiang.[23]

Company responses to our findings and allegations differed starkly (Appendix G). Bio-Gen said they would no longer source from Xinjiang Guannong, while Antonio Petti stated that they would suspend any further commercial negotiations with Chinese suppliers in general. McCormick did not comment on specific allegations and simply replied that their policy prohibits forced labor in their supply chain. Kraft Heinz Company confirmed that they use COFCO-supplied tomato products in China and Central Asia, but not elsewhere. However, our research found that in 2023 and 2024, Kraft Heinz subsidiaries in Indonesia and India also purchased tomato paste from COFCO. L'Oréal denied a direct supply chain relationship with suppliers linked to Xinjiang but did not comment on the more complex, indirect supply chain relationship that we had outlined. The company further stated that the production of two potentially implicated products was discontinued several years ago, although both products were still being sold on Amazon (US) as of November 2024.

Del Monte replied to our allegations by stating that its multiple COFCO Tunhe suppliers each certified that they do not use forced labor. The COFCO subsidiaries affirmed their claims to Del Monte by furnishing Sedex Members Ethical Trade Audit

Other multinationals involved in COFCO Tunhe Tomato's supply chains include **Kraft Heinz, Nestlé, Del Monte, PepsiCo, and McCormick.**

(SMETA) Reports. SMETA provides several audit formats, including social auditing, and uses the ETI (Ethical Trade Initiative) Base Code to assess labor standards.[24] However, experts have uniformly testified that social audits are unable to assess state-imposed forced labor, especially in countries such as China where labor auditors have been intimidated, harassed, and where Chinese nationals are obligated to relay confidential information (including for example the contents of worker interviews) to the state under stringent national security laws.[25] A review of the SMETA audit methodology and the ETI Base Code shows that like other social audit frameworks—such as the Social Accountability SA8000 standard—it is primarily designed to assess company-based forced labor.[26] There is currently no audit methodology that has been specifically designed to evaluate state-imposed forced labor, especially not forms of such coerced work that are based on non-internment coercive mobilization rather than camps or prison.[27] The ILO itself has specifically stated that "labor transfers" targeting minorities constitute a form of state-imposed forced labor, and that non-internment forced labor mobilization, such as can be found in Xinjiang, is best assessed as a risk rather than a specific instance.[28] In addition, it is arguably unethical to maintain supply relationships with companies such as COFCO that are involved in aiding the implementation of state policies linked to rights abuses. It is therefore extremely concerning that companies such as Del Monte use such audits in ways that have been described as "audit-washing"[29]—to defend and continue their supply relationships with Xinjiang-based companies that are directly implicated in coercive labor programs and other rights abuses.

At least three of the Xinjiang-based companies examined in this report operate subsidiaries in the United States and Europe: COFCO, Chalkis and Chenguang Biotech. However, there is no trade data showing where American Chalkis' receives its tomato products from—a deeply concerning lack of transparency. Chenguang Biotech sent multiple shipments to its California-based subsidiary, a potential violation of the US UFLPA (Uyghur Forced Labor Prevention Act). American and western companies in turn reportedly maintain close cooperative relationships with Xinjiang-based agribusinesses implicated in large-scale rights violations. Kraft Heinz has a decades-long strategic partnership with COFCO that continues to this day. Many tomatoes in Xinjiang are grown from Kraft Heinz seeds, and by its own admission, the brand's tomato sauce in China (and Central Asia) is still made from locally sourced Xinjiang tomatoes. In sum, the evidence presented in this report points to a continued entanglement of global corporations in the Uyghur region, in blatant disregard of fundamental ethical principles.

This report proceeds in six parts. Following a brief outline of methodology, Section 2 discusses key national and XUAR policies and the legal and conceptual frameworks that underpin them, including transfers of land-use rights, transfers of rural surplus laborers, and modes of PRC agricultural production. Section 3 then traces the evolution of XUAR policies promoting agricultural industrialization and rural change, in the wider context of increasingly assimilatory ethnic policies and societal securitization and surveillance. Section 4 examines the industrial policies underpinning Xinjiang's tomato and pepper production, and how related industrial processes and chains are linked to coercive land and labor transfer policies. Section 5 then details major PRC companies in the tomato and pepper industries, their global and domestic market shares, and how they are implicated in coercive and assimilatory state policies. Last, Section 6 analyzes global supply chains tainted by Xinjiang's tomato and pepper products, including export shares, export destinations, and how implicated products are imported into European and North American markets, with potentially drastic implications for western forced labor policies.

1.2 Method

This report assesses coercive state policies in Xinjiang linked to the production of tomatoes and peppers through a method called Investigative Policy Analysis. In 2018, co-author Zenz developed this approach to document the campaign of mass internment, then in mid-2019, Zenz adapted it to examine forced labor.[30] In 2023, he published an analysis of the evolution of coercive employment policies in Xinjiang since the early 2000s and of the conceptual distinctions between Xinjiang's two systems of forced labor.[31]

Investigative Policy Analysis proceeds by first identifying the genesis and usage of key terms, then tracing the development of related policy frameworks by triangulating documentary evidence at various administrative levels, from the central government to the region to counties and townships. Having established basic conceptual cornerstones, the research proceeds to assess policy implementation through triangulated analysis of diverse related sources, including macro-level planning documents, state reports, budgets, Chinese academic papers, propaganda narratives, and witness accounts. Policy implementation is also assessed by examining internal state documents, including the Xinjiang Papers, Xinjiang QQ Files, and Xinjiang Police Files.[32] The resulting multilevel policy analysis is facilitated by "politically binding standard phrases" (tifa) that connect policies across administrative levels and along stages of the policy cycle, from deliberation to implementation.[33]

In our analysis, we first identified key Chinese manufacturers within the tomato, pepper, marigold, and stevia sectors. We also utilized the Made-in-China website, a platform that lists Chinese suppliers involved in international trade, to identify manufacturers that source from Xinjiang. Additionally, we scrutinized corporate websites and official documents, such as annual reports, audit statements, and prospectuses, to identify disclosed suppliers, customers, and sourcing regions. Our method for mapping supply chains involved a comprehensive examination of publicly accessible sources, including e-commerce platforms from China and the United States, corporate filings, government documents, industry reports, and academic literature. We utilized the global supply chain intelligence platform Sayari to conduct detailed mapping of both supply chains and corporate structures. This effort was complemented with trade records obtained from Importinfo, a U.S. customs import database.

We reached out to all 90 companies named in this report with detailed requests for comment. Several companies, including for example American Chalkis International Food Corp, did not publish any contact information and could not be reached. Others provided invalid email addresses. Most companies, including all Chinese entities named in the report, did not respond. We also did not receive responses from some major western companies, such as Amazon, Walmart, Nestlé, Unilever and PepsiCo.

2. Introducing the Context:
Coercive Labor, Assimilation and Ethical Risks Associated with Xinjiang's Agricultural Sector

2.1 Xinjiang's Three Primary Models of Agricultural Production

THIS SECTION INTRODUCES the three main models of agricultural production that have been propagated in Xinjiang (and in China in general) in order to upscale, mechanize, and industrialize agricultural production. Detailed understanding of these models enables one to assess related coercive risks and livelihood changes.

Chinese scholars writing about China's agricultural transformations, Xinjiang's agricultural industrialization policies, and the region's tomato and pepper production in particular, all broadly agree that development of industrialized agriculture in Xinjiang has involved promoting three primary models for production[34]:

1. **Contract or order-based model:[35] company + rural households**
   A company signs production and sales contracts with individual peasant-farmers. Contracts specify agricultural outputs, quantities, required inputs, and in theory, guaranteed purchase prices. Companies directly pay households for the products, and peasants are typically required to sell only to them. Households typically must procure required inputs, such as seeds or fertilizer, at predetermined prices. The companies reap surplus profit from processing, marketing, and branding.

2. **Intermediary model:[36] company + intermediary entity + rural households**
   Intermediary entities manage the relationship between peasants and the company, usually by mobilizing, organizing, or coercing peasants in a given region to submit to contract-based production models and mandates that can result in drastic production and livelihood changes. Peasants enter into contracts with the intermediary, which often involves transferring land-use rights. This reduces transaction costs for companies, which only deal with the intermediary. Intermediaries can be village committees, peasant cooperative economic organizations such as peasant cooperatives or various types of associations, or large ("big") households engaged in commercial production.[37] In XPCC regions, XPCC farms are often the intermediaries managing and directing individual peasants.

3. **Base or workshop-based model:[38]**
   company (+ intermediary entity) + production base + rural households
   Companies or intermediary entities establish production bases[39] for processing agricultural produce in increasingly vertically-integrated production chains or industrial clusters. Bases often employ rural households as wage laborers. Households may simultaneously engage in agricultural production on their own land, or

> more commonly, become landless through land-use rights transfers, and then have little alternative but to perform wage labor in bases or related fields managed by companies or intermediary entities. Chinese scholars argue that this model promotes the tightest level of integration between rural households and larger producers.[40]

For Xinjiang, Chinese researchers have noted a trend toward closer integration between households and larger entities.[41] In 2010, Chinese scholars argued that the workshop-based model, the most integrative and transformative of the three, represented the definitive "development direction for the industrialization of Xinjiang's tomato (products)."[42] Since then, interactions between enterprises and peasants have been shifting from the contract or order-based model to the more tightly-integrated intermediary model.[43] This trend follows repeated mandates from XUAR planning documents over at least 25 years.[44] While order-based models are considered "looser," both intermediary and especially workshop-based models are thought to promote the "tightest" level of integration through forms of coercive land-use rights transfers and concomitant labor transfers. Through land-use rights transfers, agribusinesses and state entities gain greater "disciplinary power over…tenant households" than in conventional contract farming models, where rural households retain land-use rights.[45]

To understand evolving forms of intermediary models, it is important to distinguish professional associations from peasant cooperatives (for a more detailed discussion, see Appendix A). Both are so-called peasant cooperative economic organizations established for the purpose of mutual aid and support, and are in theory self-governed by the member body. Professional associations provide technical assistance to members and traditionally do not engage in commercial operations, whereas peasant cooperatives function as economic entities. The relationship between members and the cooperative is based on joint property ownership and includes commercial activities such as joint agricultural production, joint procurement of agricultural inputs, and sale of produce.[46] Traditionally, peasant cooperatives were established by smallholder peasants to collaborate professionally, but they can also be created by leading enterprises or large commercial farmers.[47] In the context of agricultural industrialization, professional associations have become more akin to farmers' professional cooperatives, expanding services to include areas such as agricultural processing and marketing.[48]

Approaches that involve the second model, intermediary entities, can in theory better protect peasants' rights and promote better profit-sharing. However, they also frequently promote greater livelihood changes and lead to much higher dependencies. Subsequent report sections on agricultural production and Chinese companies demonstrate that these entities (usually cooperatives) are actively implicated in coercive practices, including large-scale land and labor transfers.[49] When production is organized through cooperatives, peasants often either transfer their land-use rights to the cooperatives as shares, sharing in costs, benefits, and risks of the collective effort, or else sublet land for a guaranteed rental fee.[50] Similarly, the third model of agricultural production is also referred to as a "shareholding system" or "shareholding cooperative system"[51] between intermediaries (cooperatives) or companies and contracted rural households, whereby peasants receive an annual share of the producing entity's profits based on how much land they entered into it.[52]

The third model of agricultural production (workshop-based approaches) has been especially favored in the context of Xinjiang's wider mandate to promote "industry-based poverty alleviation" through labor transfers.[53] From 2016, it featured prominently in state plans for Uyghur regions.[54]

Xinjiang's vigorous promotion of the second and third models of agricultural production has coincided with a drastic increase in coerced transfers of land-use rights and rural surplus laborers, shifted large numbers of peasants into wage labor linked to agricultural processing, and resulted in long-term changes to traditional livelihoods and organic ethnic communities.

2.2 Coercive Transfers of Agricultural Land-Use Rights

THIS SECTION DISCUSSES the various mechanisms by which agricultural land-use rights are transferred from peasant households to other entities. A detailed understanding of this context is essential for assessing related coercive risks and the dynamics of dispossession engendered by Xinjiang's recent state policies. The state enforces widespread transfers of land-use rights[55] to promote "land consolidation"[56] of scattered smallholder plots into larger, contiguous farmland for mechanized and industrialized agricultural production. Especially since 2016, transfers of land-use rights, including for producing tomatoes and peppers, are also used to enforce labor transfers.

2.2.1 Background and Definition

In the PRC, all rural land is owned by peasant[57] collectives.[58] There are three distinct rights related to land: ownership, the right to contract land to others, and right of usage.[59] Land transfer means that peasants exercise their contracting right to transfer their land-use right to a household, company, or intermediary entity. The actual ownership of land always remains with the peasant collectives.[60] In practice, Rural Collective Economic Organizations or RCEOs and village committees represent peasant collectives in exercising land ownership.[61] It should be noted that there is a possible connection between RCEOs and the re-education camps whereby released camp detainees are potentially being employed in agricultural production or processing (see section 2.5).

Land transfer refers to a transfer of land-use or management rights while potentially retaining contracting rights, meaning that transfers are at least theoretically reversible.[62] The three parties involved are the land transferor (rural households), the land transferee (often large landholders, cooperatives, and agricultural enterprises), and RCEOs and local governments.[63] This last group exercises their supervisory rights between the two parties.[64] During the transfer period, farmers receive rent payments from transferees, and may have to pay administrative fees to the land-owning entity.[65]

After the enactment in 2003 of "Rural Land Control Contracting Law," Beijing began to standardize farmland transfer procedures to protect peasants' contractual rights.[66] In 2014 the PRC transitioned to the Separation of Three Rights System, which divided rural land rights into ownership right, contracting (transfer) right, and land-use right, with the aim of preserving peasants' contracting rights even when they had transferred usage rights.[67] This system is designed to promote upscaled farming on contiguous plots of land by large commercial entities.[68]

2.2.2 Land Transfer Mechanisms

Land transfers typically differ from outright expropriations.[69] With the exception of conveyance (defined below), the original land contracting rights between contracting rights owner (household) and land-owning entity (such as peasant collective or RCEO) remain unchanged. Consequently, land-use rights transfers are technically reversible. In practice, however, depending on how the transferred land is used and on the state's policy priorities, such a reversal can be very difficult if not impossible.

There are seven common ways to transfer land-use rights[70]:

1. **Subcontracting**[71]:
   The land-use rights owner (typically a rural household) temporarily leases part or all of the land-use rights to other members of the same peasant collective or RCEO, typically fellow peasants, while leaving contracting agreements with the ownership entity unchanged.[72]

1. **Inverse subcontracting**[73]:
   Several peasant households lease their land back to the village, thereby surrendering their land-use rights. The village committee then

centralizes the layout of multiple individual plots, and subcontracts the resulting contiguous farmland to big households or agribusiness companies.[74]

2. **Leasing**[75]: The land-use rights owner leases part or all of the use rights to others to engage in agricultural production for a defined period.[76] Unlike with subcontracting, the leasing entity does not belong to the same peasant collective or RCEO.[77]

3. **Exchange**[78]: Peasant households temporarily exchange land-use rights among each other, while leaving contracting agreements with owning entities unchanged.[79] This typically does not affect the wider land structure or layout.

4. **Conveyance:**[80] Permanent transfer of land-use or contractual rights to another entity. This involves termination of the contracting relationship between peasants and peasant collective or RCEO, where the original contractor (peasant household) loses part or all rights to the land. The peasant collective or RCEO always retains the actual ownership. [81]

5. **Shareholding:**[82] Peasants convert land-use rights to dividend-earning shares in a company or collective that now manages their land and disburses profits as dividends.[83] This usually involves groups of peasants, creating a contiguous land area for scaled-up industrialized and mechanized agricultural production.

6. **Substitute farming:**[84] Tenant farmers brought in to farm the land on behalf of the original land-use rights owners, who may for example leave rural areas to work in cities, renting out their land to maintain their contracting rights and earn lease fees from tenant farming.[85]

2.2.3 Official Sources and Research Studies Pointing to Involuntariness Within State-Led Land Transfers

Chinese scholars have argued that transfers of land-use rights to other market players can leave peasants with weakened contracting rights and cause them to gradually drift away from the land, which no longer serves as a lifeline to support their livelihood.[86] State policies meanwhile are actively encouraging peasants to transition from subsistence agriculture to off-farm wage labor.

The coercive risks inherent in this process are twofold. First, the state's desire to create large, contiguous farmland areas necessitates the transfer of all farmland in given regions, even though not all peasants typically consent. Second, peasants in Xinjiang and elsewhere are strongly attached to their land as a secure livelihood base.

> Tellingly, China's official 2019 yearbook cites a Chinese scholar as stating that land transfer reform must **"combine coercion and inducement."**

State policies that enforce land-use rights transfers are associated with rights abuses throughout rural Chinese regions.[87] Domestic awareness of their link to abuses became so widespread that in 2014 and 2015, China's annual planning documents for rural development specifically highlighted that such transfers must be "voluntary," without "force."[88] However, state policies that pursue agricultural modernization are nearly impossible to implement without large-scale

transfers of entire contiguous land areas that require the consent of all affected households. Tellingly, China's official 2019 yearbook on Rural Poverty and Regional Economic Development cites a Chinese scholar as stating that land transfer reform must "combine coercion and inducement."[89]

In the Chinese context, transfers of land-use rights are usually mediated by village authorities, representing a non-market mechanism that relies primarily on authority and therefore may not be "completely voluntary."[90] A 2021 Chinese academic study that surveyed 1,897 peasants in various regions concluded that 79.9 percent of transfers were purely "voluntary," whereas 1.9 percent were outright "forced."[91] The remaining 18.2 percent were mediated by either state authorities (15.9 percent) or by cooperatives and companies (2.3 percent), and, according to the author, effectively "semi-forced" in nature.

In Xinjiang such coercive pressures are heightened. Some of the strongest evidence of involuntariness in the region's land transfers comes from the regional government's official annual reports. The XUAR's 2019 Survey Research Report notes that "peasants' land transfer willingness is weak," especially in southern Xinjiang, where by 2018, some 52.1 percent of all villages had not engaged in land transfers (compared to only 21.8 percent in the north).[92] In the report's case study on the ethnic region of Shawan County (Tacheng Prefecture), it notes that the state uses the shareholding cooperative model to "force"[93] farmers to transfer land-use rights, since this approach prohibits independent agricultural production and effectively enforces a collective approach, thereby requiring the transfer of all local land.[94] Citing another ethnic region (Bayingol) as an example, the report further suggests that peasants' limited land transfer willingness results from "traditional views," which are "backward" and must be "transformed."

This assessment is reflected in numerous Xinjiang-focused academic studies published by PRC scholars. Discussing land transfer practices in Xinjiang's Changji region, one Chinese academic noted that peasants' willingness to transfer land-use rights is weak because they view land as a basic security for their livelihood.[95] This observation aligns with findings from several other studies in XUAR regions, which highlight strong attachment as a key factor behind such reluctance.[96]

A study of land transfers in northern Xinjiang suggests that the more peasants understand the actual outcomes of transferring land, the more likely they are to retain use rights.[97] Reticence to transfer land is linked to "excessive government administrative intervention" that infringes on the legal rights of some farmers, as well as limited opportunities for off-farm employment.[98] This finding contradicts Chinese scholars' frequent assertions that Uyghur unwillingness to transfer their land is linked to an "ignorance" of related laws and regulations protecting their rights, excessively "traditional" worldviews, or general cultural "backwardness."[99]

A 2017 study in Xinjiang's Manas County found that peasants' overall willingness to transfer land was low, especially among those with smaller plots.[100] Such reluctance, it said, resulted mainly from strong attachment to their land, which they consider the ultimate security for a livelihood and a fundamental source of income. The study also cited favorable state policies for mid-scale farming. Survey results showed that only 22.4 percent of respondents wanted to transfer land-use rights. A 2016 report based on a field study in Manas County likewise concluded that the peasants' willingness to transfer land was weak.[101] Some 63.5% of surveyed respondents did not wish to transfer their use rights, with respondents stating that they depended on the land for subsistence.

An earlier Chinese study from 2012, focusing on Xinjiang's Manas County, openly suggested that local governments carried out forced land transfers.[102] In one example provided, in the Lanzhou Bay town the government enforced a policy of "five unifications" aimed at standardizing crop types and consolidating contiguous plots for farming.[103] This policy led to forced land transfers for peasants unwilling to comply with the uniform planting requirement. The study bluntly suggests that the "unique complexity and

importance of rural land issues" necessitates "government intervention," resulting in "forced transfer of land [use rights]"in order to convert individual plots into contiguous farmland and scale up production.[104] In 2010 a large-scale transfer of land-use rights to COFCO, China's largest tomato producer, to establish a new tomato processing base reportedly caused "considerable backlash" among affected peasants, indicating the coerced nature of this practice.[105]

According to a May 2024 report from the Uyghur Service of Radio Free Asia (RFA) a Uyghur official from the Natural Resources Department in Ghulja County (Ili Prefecture) was detained in a VSETC (re-education camp) for supporting Uyghur peasants who refused to sell their land-use rights to a Chinese company.[106] The article also references an online video in which a Uyghur woman claimed that Uyghur farmland is being seized without peasants' consent. Another RFA report from May 2024 reviews a video posted on Chinese social media by a Uyghur woman from Kumul (Hami), in which she states that authorities confiscated her land at the end of 2023 to implement a policy of "concentrating lands in the hands of authorities."[107] This likely refers to the aforementioned state policy of creating contiguous land plots, a policy that involves a high number of coercive transfer of land-use rights. The woman complains that she invested 3-4 years of work into the land, and that it was her only means of subsistence. A police official from the woman's village told RFA that after the woman sent a letter complaining to the government, she was arrested on April 15. While these accounts cannot be independently verified, they are consistent with other evidence.

2.3 Xinjiang's Coercive "Poverty Alleviation Through Labor Transfer" System

Since 2019, researchers have documented two distinct major systems of forced labor targeting Uyghurs and other ethnic groups in the XUAR[108]:

1. Forced labor linked to the region's re-education camps, whose designation the state gradually unified to the euphemistic "Vocational Skills Education and Training Centers" (VSETCs).[109] During internment, detainees receive coerced skills training and are then coercively placed into work.[110]

2. Forced labor linked to China's "Poverty Alleviation Through Labor Transfer" policy,[111] which coercively trains and transfers non-detained rural surplus laborers from the primary (agricultural) sector into secondary or tertiary sector work.[112] Labor transfers also include coerced shorter-term transfers of surplus laborers into seasonal agricultural work, such as harvesting cotton or tomatoes.[113]

2.3.1 Background and Definition of Labor Transfers of Rural Surplus Laborers

In the classic dual-sector or Lewis-Ranis-Fei model of economic development, surplus labor is defined as "labor [that] can be transferred out of the traditional [agricultural] sector without reducing the volume of farm output."[114] China is widely recognized as having abundant rural surplus labor.[115] Labor transfers move workers from primary to secondary and tertiary sectors, which need not involve geographical relocation.

In the 1950s, Mao Zedong imitated Stalin's development strategy of promoting industrialization by systematically exploiting a land-confined peasantry through a system of unequal exchange, restricted population mobility, and rural collectivization.[116] Under this "rural-urban dual system," which artificially kept large numbers of surplus laborers under-employed, China's rural population shares remained largely stable between 1955 and 1978, at around 85 percent.[117] With decollectivization in the 1980s, peas-

Labor transfers evolved from an in-itself legitimate socio-economic policy that has now become part of Xinjiang's **multi-faceted atrocities**.

ants were permitted to seek work in cities, unleashing millions of rural surplus migrant workers who fueled China's export-driven development strategy.[118]

By the late 1990s, China's socio-economic inequality had increased significantly .[119] As part of efforts to reduce inequality, the government issued its "2003–2010 National Rural Migrant Worker Training Plan" emphasizing "labor transfer of the rural surplus labor force," portraying this as essential to achieving national goals of industrialization, modernization, urbanization, and social stability.[120] Labor transfers evolved from an in-itself legitimate socio-economic policy that has now become part of Xinjiang's multi-faceted atrocities. State-sponsored labor transfers from agriculture into other sectors arose from needs faced by most developing countries transitioning toward industrialization, in China's case exacerbated by Mao Zedong's Stalinist industrialization strategy. In Xinjiang, from its inception in the early 2000s this policy was implemented in tandem with colonialist marginalization and Han Chinese dominance over resources.

2.3.2 Labor Transfer Mechanisms

The Chinese state defines rural surplus laborers (also referred to as rural migrant workers[121]) as persons engaged in forms of subsistence agriculture who are considered to be superfluous labor within a modernized agricultural production system.[122] State policies and statistics on transferring these laborers from primary to secondary or tertiary economic sectors describe various forms of self-initiated labor migration ("self-transfer"[123]), transfers facilitated by private intermediaries (often incentivized by the state), and transfers directly supervised by state agencies.

Labor transfer mobilization consists of six phases: (1) identification of employment targets/quotas, (2) recruitment, (3) training, (4) transfer, (5) worker management, and (6) worker retention.[124]

2.3.3 Coercive Pressures Inherent in XUAR Labor Transfers

While some rural laborers likely welcomed state policies enabling them to earn wage incomes in cities and industrial sectors, transfers already showed evidence of coercion as early as the 2000s.[125] From the mid-2010s, XUAR labor transfers became much more coercive and pervasive due to (1) Beijing's shift of political priorities for Xinjiang after 2014 to prioritize full (off-farm) employment, (2) the XUAR's campaign of de-extremification and re-education through mass internment from early 2017, and (3) Xi Jinping's national campaign to eradicate absolute poverty by 2020, which prompted an intense poverty alleviation work "rectification campaign" in 2019. Chinese academic studies found that many Uyghurs resisted such transfers even when offered adequate remuneration and free housing.[126] Academics and officials associated such unwillingness with "closed-mindedness" and religious "extremism," arguing that labor transfers can "crack open the solidified society in southern Xinjiang."[127]

To mobilize Uyghurs into labor transfers, officials in village-based work teams would "deeply penetrate" households and perform "thought work" until they "cause a transformation in the way farmers think about choosing their employment."[128] An internal December 2018 work summary from a village-based work team in Khotan county described how teams

entered each home. Poor families were subjected to strengthened "motivational education," and households considered to be poor because of "laziness" were sent to dedicated "education" activities.[129] Chinese companies were actively co-opted in the process. In 2017, Huafu, which operates the world's largest textile mill in the Uyghur region of Aqsu, stated on its website:

> Due to lack of information, lack of courage, and fear of going out, large numbers of [Uyghur/ethnic] rural surplus laborers are idle at home, which increases the burden on their families and brings hidden dangers to public security. Aqsu Huafu actively engaged with government departments, actively absorbed surplus labor...to gradually transform them from farmers to industrial workers.[130]

2.3.4 Labor Transfers and the Risk of Internment

Refusal to participate in state-mandated employment campaigns renders Uyghurs liable for internment, A classified internal directive contained in the Xinjiang Police Files from February 2017, immediately before the mass internments began, outlined criteria for subjecting key population segments to "strike-hard" detention. These included persons who (1) "without reason are unwilling to receive various types of welfare-related policies" (this would include most poverty alleviation measures); (2) "do not participate in grassroots organizational arrangements" (these broadly include labor transfer programs); or (3) "repeatedly refused employment opportunities provided by resettlement assistance institutions" (resettling former prisoners).[131] According to a Uyghur woman who was detained in a VSETC in southern Xinjiang between late 2017 and early 2019, two of her cellmates were detained for refusing to accept state-mandated work assignments.

2.3.5 The Coercive Risk Continuum and Forced Agricultural Production

While the coercive pressures inherent in camp-linked work placements are evident, Poverty Alleviation through Labor Transfer creates independent systemically-coercive dynamics.

The ILO defines forced labor as work that is both involuntary (without free and informed consent) and enforced through a menace of penalty.[132] Drawing on Zenz's work, the ILO's updated handbook on measuring forced labor, published in February 2024, notes that non-internment forced labor mobilization is best assessed as a risk rather than a specific instance.[133] The Handbook states that "labor transfers" targeting minorities constitute a form of state-imposed forced labor.

State-imposed forced labor risks in Xinjiang can also arise from coerced agricultural production. Such risks are linked to three factors: (a) state ownership of agricultural land, (b) state-assigned agricultural production mandates, and (c) enforcement of such mandates through the threat of expropriating and redistributing land to more compliant farmers—and in the case of Uyghurs, the threat of a range of retributive measures, including re-education internment.

2.4 Land Transfers Promote and Enforce Labor Transfer

LAND TRANSFERS CONSTITUTE a primary method for the state to promote large-scale transfers of rural surplus laborers among targeted populations.[134] The 2019 Rural Poverty and Regional Economic Development yearbook states that the "promotion of land transfer is an inevitable requirement for accelerating the transfer of rural labor."[135] In Xinjiang, government documents refer to such transfers as a "liberation" of peasants, which severs their emotional or other attachment

to the land as their source of security, and "free[s]" them to become full-time wage laborers. State-led land transfer schemes are designed to drive nearby employment, in particular through models involving companies and intermediary entities such as cooperatives that promote unified planting.[136] Companies acquire and build agricultural production bases through land transfer, then employ the now-landless peasants.[137] Pepper industry reports openly state that agricultural industrialization policies "liberated" rural surplus labor.[138] This was accomplished by adopting models involving cooperatives as intermediaries, such as "cooperative + farmer" or "company + cooperative + farmer," both of which involve land transfers.[139]

Since 2016, land and labor transfers typically occur in a highly coercive, campaign-style fashion, forcing drastic transformations across entire regions. For example, following "vigorous promotion," 58,000 households in Aqsu transferred 154,500 hectares of land, resulting in the transfer of 73,300 laborers.[140] These cases illustrate the close link between land and labor transfers.

2.5 Agricultural Production and Xinjiang's Re-Education Camps

THE PRODUCTION OF agricultural products including tomatoes and peppers can be linked to Xinjiang's re-education campaign.

An internal directive from Tekes County, first circulated in April 2018, states that VSETCs are to place detainees into various skills training classes, including crop planting and related value-added processing.[141] For this and other industry-based skills training, VSETCs were to establish "planting and breeding bases." These were to make "full use of the land around the education and training center [camp]," and to establish greenhouses. These "planting and breeding bases" were to be jointly operated by the VSETCs, rural cooperatives and planting and breeding associations in line with the state's models for rural poverty alleviation and agricultural industrialization.[142] These cooperatives were to provide small loans to poor detainees to "grow tomatoes, peppers, eggplant, and other vegetables." Detainees working in VSETC-linked greenhouses were to "receive special training in facility agriculture," thus preparing them for employment in modern agricultural production and related processing.

VSETCs subjected detainees to a camp-to-labor pipeline.[143] After the re-education phase, detainees initially receive skills classes, then are trained and work within VSETCs in "training bases" while still receiving reeducation in the evenings. Last, they are then assigned more permanent labor placements, sometimes in "employment bases" located in industrial parks, or in work settings further afield. The Tekes document, published at the exact time when this forced labor program started, indicates that camp-linked forced labor extends to agricultural production. In addition, the fact that internment camp detainees are forced to work in the production of tomatoes and other vegetables can be confirmed through a related and recent witness testimony reviewed by the authors, details of which unfortunately have to remain anonymous.

> VSETCs (camps) were to establish **"planting and breeding bases."**

Another evidentiary link between the internment camps and agricultural production comes from a July 2019 article published by an expert at the Institute for Economic Research at the XUAR Development and Reform Committee (XJDRC), which suggested a

potential collaboration framework between VSETCs and the commercial and industrial operations of Rural Collective Economic Organizations (RCEOs).[144] The article argued that southern Xinjiang's RCEOs have a key role to play in "maintaining stability." Written at a time when larger numbers of detainees were being released, it suggested that RCEOs could relieve the burden on local governments and village committees by re-integrating released detainees into society through employment.

Official sources confirm that RCEOs can establish market entities such as enterprises or cooperatives.[145] From 2013, Xinjiang encouraged RCEOs to join the growing drive to establish peasants' professional cooperatives, constituting another vehicle for establishing new entities to facilitate agricultural industrialization and upscaling.[146] By the early 2020s, RCEOs had become part of agricultural production models such as "company + RCEO + production base + peasants."[147] In short, RCEOs engage in agricultural production and commercial activities that can involve employing villagers, including through the camp-to-labor pipeline and coercive labor transfer program.

While it is unclear if the XJDRC institute's policy recommendation was ever implemented, the fact that camp detainees were to be trained in modern agricultural production increases the likelihood of coerced work placements in commercial agricultural production. Consequently, there is a distinct risk that the production of tomatoes, peppers and related derivative products involves forced labor performed by "released" VSETC detainees.

3. The Evolution of Agricultural Production Policies in Xinjiang

3.1 Agricultural Developments in China Since the Cultural Revolution

After the Cultural Revolution, China's party-state focused on modernizing and scaling up its agriculture. By the late 2000s, this resulted in dramatic transformation of China's rural structures as agricultural production became increasingly commercialized, industrialized, and vertically integrated.[148] Peasants' land became concentrated in the hands of large agribusiness. The state promoted these changes through a range of "new rural institutions" including so-called leading or dragonhead enterprises, specialized cooperatives, and larger-scale commercial and entrepreneurial farmers. Dragonhead enterprises are large commercial firms that enjoy favorable policies and often monetary subsidies from the state, and are in turn expected to drive local implementation of state policies.[149] While such transformations increased productivity in agricultural production, they also led to drastic social changes, turning many peasants into labor migrants and contributing to dispossession, exploitation, and a wide range of coercive state practices.[150]

3.2 The Evolution of Xinjiang's Agricultural Industrialization Policies, 1996-2025

3.2.1 XUAR Agricultural Policies 1996 to 2010

In the 1980s after the Cultural Revolution, peasant households in Xinjiang received land-use rights under the Household Responsibility System. However, their agricultural production strategies were tightly regulated.[151] Peasants were:

- Obligated to grow an industrial crop (cotton) on their best land and sell it to the state at predetermined prices;
- Subject to compulsory procurement of grain for the state;
- Required to practice cultivation methods imposed by the state.

In the 1990s, the authorities sought to promote stronger integration of ethnic groups into mainstream culture and economy, even while an influx of Han Chinese migrants and settlers exacerbated socioeconomic disparities.[152] XUAR peasants' financial burdens increased significantly. To modernize production, they were forced to procure mandated inputs for the state, such as fertilizer or plastic film, and to use state-provided modern seeds. Failure to abide by these requirements resulted in heavy fines.[153] The result was a system of forced agricultural production.[154]

With Xinjiang's 9th Five-Year Plan (1996-2000)[155], came the first mention of establishing agricultural "production bases" for commercial fruit production.[156] The plan also discussed improvements in the "transfer system of land-use rights." Neither tomatoes or peppers were mentioned. By contrast, the region's 10th Five-Year Plan (2001-2005) indicated the start of major policy initiatives pointing to a lasting transformation of agricultural production.[157] The plan contained extensive language outlining "agricultural industrialization."[158] Xinjiang was to "cultivate and develop a group of dragonhead enterprises" with the ability to engage in "deep processing of agricultural products" and to "gradually form a production and marketing relationship between companies and peasants."[159] Agricultural industrialization was to involve establishment of "professional cooperatives,"[160] which were mentioned for the first time. The plan was also the XUAR's first to mention "transferring the rural surplus workforce."[161]

In 2004, the central government estimated Xinjiang's rural surplus labor at 1.8 million persons, most of them in the four Uyghur-majority prefectures in southern Xinjiang.[162] Policy directives indicate that by then, each region already had assigned annual quotas for training and transfer.[163] A 2005 report from China's National Bureau of Statistics (NBS) described Xinjiang's labor transfers as directly contributing to social stability.[164] It lamented that the "flow of surplus rural labor" in Xinjiang was in a "semi-disordered state," and called for increased government intervention.

The 10th Five-Year Plan also mentioned tomato production for the first time. It specified that the production of tomato sauce should involve "dragonhead enterprises" by establishing large-scale production bases. These bases employ salaried workers, often rural surplus laborers, and often ones whose land-use rights were transferred to these agribusinesses, making them now dependent on such employment for their livelihood. Specialty agricultural products such as tomato paste[165] should, the plan said, be produced through "deep processing," meaning that raw tomatoes and other produce are converted into increasingly sophisticated products at the higher end of the value chain.[166]

Xinjiang's 11th Five-Year Plan (2006-2010) contained the first mention of promoting "modern large-scale agriculture," when outlining plans to "optimize the agricultural structure." Promotion of agricultural industrialization, now occupying a prominent place in the plan's opening "guiding thought" section, was to be "vigorously promoted." The plan contained specific targets for the numbers of dragonhead enterprises and mandated the establishment of "industry clusters" driven by such enterprises. The plan highlighted "employment pressures" and called for "labor transfer training for the rural workforce."[167] For the first time, it explicitly outlined "labor export" plans to transfer surplus laborers outside their home regions.

Research has found that from the 2000s, agribusinesses in China began to exert a more dominant role, both nationally and in Xinjiang. Local officials, under great pressure to promote development and attract investment, acted as intermediaries. Since agribusiness operations require scale, for this to work, all farmland in a given region needs to be transferred to the large operator.[168] In one XUAR case study, cadres prodded and coerced both Han and ethnic-minority peasants to transfer their land-use rights and to comply with agribusiness production demands. The state organized a concerted campaign to pressure peasants

Research has found that from the 2000s, agribusinesses in China began to exert a more dominant role, **both nationally and in Xinjiang.**

to "voluntarily" participate in the new policies, and peasants who continued to resist were subjected to more direct coercive force, including the bulldozing of their livelihood bases (in this case, fishponds).

In that case, the agribusiness corporation entered into agreements with local townships, which local authorities in turn imposed on village committees, who then coaxed households into signing them.[169] Soon after, the company reduced the agreed minimum price for the grapes. Townships meanwhile set up checkpoints, forcing villagers to sell grapes only to the specified agribusiness. In a 2003 Chinese study of 260 peasants in six XUAR counties, 81.4 percent of surveyed peasants stated that in the order-based agricultural production model, companies were using various tactics to reduce the prices they were paying them for agricultural produce.[170]

3.2.2 XUAR Agricultural Policies 2011 to 2015

In July 2009, decades-long tensions between Uyghurs and Han erupted into violent clashes in the region's capital of Urumchi. From 2009, Xinjiang significantly increased its recruitment of police and security forces, gradually establishing one of the world's most sophisticated high-tech police states.[171]

Xinjiang's 12th Five-Year Plan (2011-2015) outlined a comprehensive plan for agricultural industrialization, involving deep processing and vertical integration. It was the first to mention the "order-based" model[172] whereby farmers engage in contract-based production for larger commercial operators. By 2015, over 60 percent of farmers were to produce under this model, and contractual agreements with "industrialized commercial entities" were "vigorously promoted." The plan mandated "active development" of specialty agricultural products such as tomatoes and red peppers, representing the first mention of peppers in a Five-Year Plan. The 12th Plan mandated a "more active employment policy" that involved developing labor-intensive enterprises to employ rural surplus labor. Unlike in previous iterations, the 12th Plan highlighted a need for peasant "voluntariness"[173] three times, two of them in the context of labor transfers of rural surplus laborers, reflecting growing coercive pressures exerted by local officials. Writing in the early 2010s, Uyghur economist Ilham Tohti had argued that such transfers "started out as a...worthwhile endeavor" but employed "coercive methods."[174]

As a result of the intensified policy environment, transfer rates of land-use rights increased significantly.[175] Between 2001 and 2014, Xinjiang's transferred land increased from 0.013 to 0.37 million hectares, or 17.8 percent of all land managed under the Household Responsibility System (HRS), significantly below the national average of 30.4 percent.[176] In the first half of 2013, only 0.24 million hectares or 11.6 percent of the total of 2.1 million hectares farmland under the HRS had been transferred.[177] In northern Xinjiang, the land transfer share stood at 19.4 percent, whereas in the predominantly Uyghur south, it amounted to a miniscule 1.9 percent. By 2011, Hotan Prefecture, a traditional Uyghur heartland region, had a land transfer share of only 0.14 percent of all farmland (and therefore a slightly higher but still miniscule share for all HRS land).[178] Following intensified agricultural industrialization mandates contained in the 13th Five-Year Plan (2016-2020) and their strict enforcement alongside the campaign of mass internment, land transfer shares in Uyghur regions would soon increase dramatically (see below).

3.2.3 XUAR Agricultural Policies 2016 to 2020

At the Second Central Xinjiang Work Forum in May 2014, central government priorities for Xinjiang shifted from economic development to "de-extremification" and stability maintenance, with significant implications for rural policies.[179] Premier Li Keqiang noted that southern Xinjiang's three million surplus laborers posed a "particularly prominent" problem, arguing that "people without land, employment, or a fixed income have nothing to do and wander all day" and will "be easily exploited by evildoers." [180] Chen Quanguo's appointment as Xinjiang's party secretary in 2016, and the mass internments from early 2017, coincided with a decisive turn towards more coercive campaign-style approaches to poverty

alleviation, employment and labor transfers. In January 2018, Xinjiang initiated a special plan to transfer laborers from 22 poor counties in southern Xinjiang to other regions.[181]

In tandem with Xi Jinping's more intrusive Targeted Poverty Alleviation mandates on the national level, and Xinjiang's much more oppressive approach to dealing with ethnic unrest, the XUAR's 13th Five-Year Plan (2016-2020) mandated "accelerated agricultural industrialization," involving a series of measures that penetrated much deeper into rural livelihoods. This effort was to involve dragonhead enterprises coupled with commercial production bases and peasants producing for "professional cooperatives."[182] Agricultural production was to become more vertically integrated, combining production, processing, transportation, warehousing, and distribution. Under the principle of "supporting the excellent, supporting the large, supporting the strong," upscaled agricultural production was to cultivate "new agricultural business entities" such as "big households," commercial family farms, and cooperatives.[183] In 2016, Xi Jinping stated that cooperatives should be promoted since they represented an effective means to increase rural production and incomes.[184] Whereas previous plans mostly spoke of establishing a system to preserve peasants' rights when transferring land-use rights, land transfers to these new "business entities" were now to be strongly "encouraged." For the first time, the plan spoke of getting peasants to convert their land-use rights into shares with dragonhead enterprises and cooperatives (a mechanism discussed further below).

The 13th Plan's new heavy emphasis on land transfers was soon reflected in implementation of mass coercive transfers on the ground. To achieve its key goals of agricultural mechanization and upscaling, the plan stated it was "essential" to create contiguous farmland plots through land transfer shares reaching close to 100 percent. Xinjiang's main state media has described land transfer as a crucial measure to reduce land fragmentation and promote mechanized cotton farming.[185] By 2019, Awat county in Aqsu planned to transfer 66,667 hectares from smallholders to cooperatives, XPCC state farms, and large corporations in order to "fully implement mechanized cotton-picking" and thus "liberate the peasants from [their] land [through labor transfers]."[186]

Overall, the 13th Plan gave special prominence to upscaled new agricultural business entities, in particular dragonhead enterprises, which were to spearhead an all-out transformation of Xinjiang's agricultural structures. One model to be promoted was that of "dragonhead enterprise + base + peasants," involving widespread establishment of processing bases, which in turn would employ the now-landless peasants as wage laborers. Those who continued to farm the land (whose use rights they often no longer owned) were being "embedded" into industry chains, with "dragonhead enterprises at both ends and the poor masses in the middle."[187] As a result, internal state documents from Uyghur-majority regions, published in 2019, bluntly stated that "peasants no longer need to worry about choosing what to plant," because their agricultural production is now mandated by larger commercial operators, and their place in the system (industry chain) is enforced by the state's poverty alleviation policies.[188] The resulting agricultural production mandates constitute a form of forced labor.[189]

The 13th Plan also intensified industrial policies related to tomatoes and peppers. Previously, the term "industrial belt" had been reserved for the Industrial Belt on the Southern Slope of Tianshan Mountains.[190] Now, the plan mandated accelerated construction of "several regional specialty agricultural product industry belts" involving production bases for processed agricultural products, especially tomatoes and peppers. It also outlined new mandates for transforming agricultural production in Uyghur heartland regions, promoting an "accelerated adjustment of [their] agricultural structure" and an on-site "deep processing" of agricultural products, which requires significant numbers of transferred laborers.

In mid-2017, after the mass internments had begun and as coercive labor transfers were accelerating, the XUAR published a Regional Development and Poverty Alleviation Implementation Plan specifically for southern Xinjiang.[191] Involving a "strengthening of

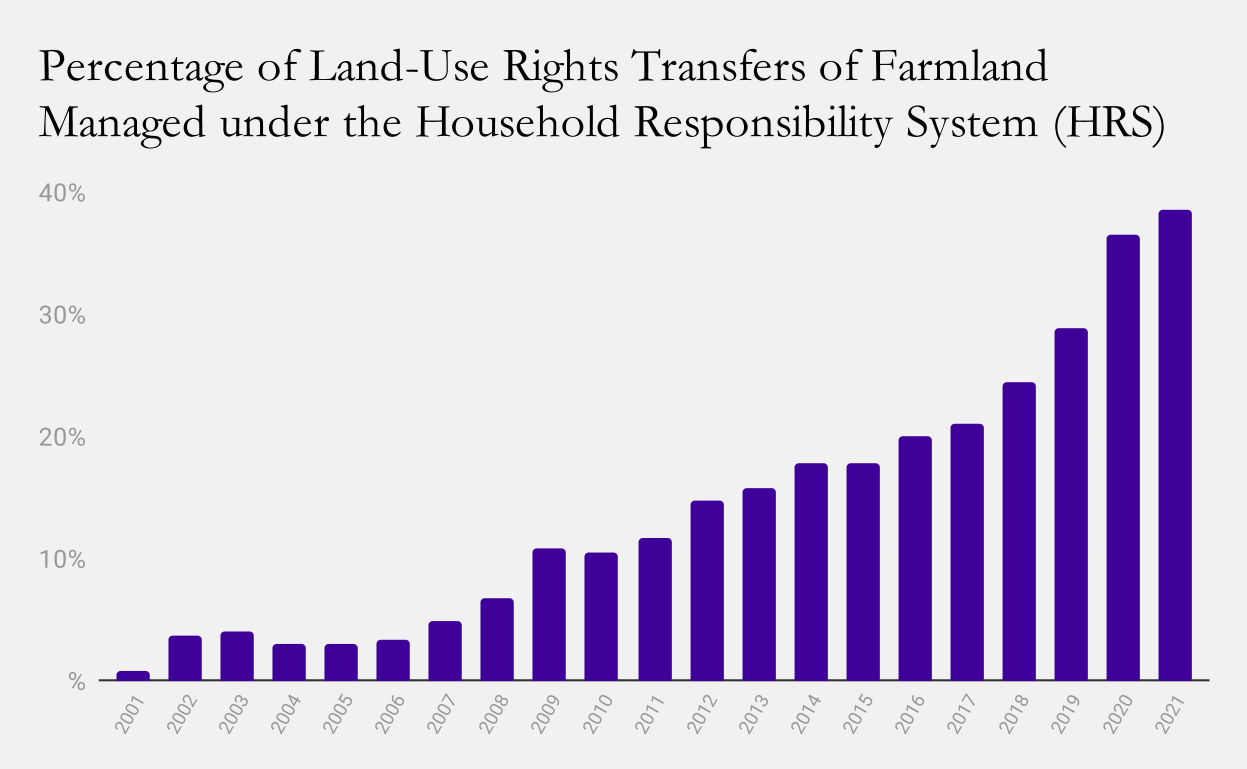

FIGURE 1: *Percentage of Land-Use Rights Transfers of Farmland Managed under the Household Responsibility System (HRS).*[197]

gratitude education," it specified all-out social mobilization efforts to "stimulate [people's] drive and determination to change [their] situation of poverty [and to] change [people's attitudes] from 'I am wanted to get rid of poverty' to 'I want to get rid of poverty.'"

Internal government documents show how state efforts to compel Uyghurs into poverty alleviation and employment measures further intensified after 2018. A July 2019 document on "Recent Key Work in Poverty Alleviation" in Yarkand County (Kashgar Prefecture) mandated that students and even elderly persons over 60 years had to pick crops such as cotton, vegetables, tomatoes, peppers, and marigolds, to instill in them a view that "as long as one is able to work, … [one] must stir up their inner motivation."[192]

The resulting impact of Xinjiang's policies to intensify agricultural industrialization was unprecedented. At the end of 2017, 0.44 million hectares or 21 percent of all farmland managed under the Household Responsibility System (HRS) had been subjected to transfers of land-use rights.[193] By September 2020, this share had spiked to 0.71 million hectares or 36.5 percent—jumping a full 7.6 percentage points between 2019 and 2020 alone—and now exceeded the national figure of 34.1 percent that year.[194] In southern Xinjiang, the share of land subjected to transferred use rights in 2020 exceeded 20 percent, an eight-fold increase from 2013.[195] The most drastic transformations were occurring in Uyghur heartlands. By 2025, Hotan Prefecture planned to transfer land-use rights of "over 40 percent" of all HRS farmland, a dramatic increase over the 2011 figure of less than one percent.[196] Between 2001 and 2021, land-use transfer shares in Xinjiang grew from 0.77 to 38.58 percent, a 50-fold increase.

Between 2013 and 2020, the share of transferred XUAR land that went to cooperatives had more than tripled, from 7.4 to 23.7 percent, and now slightly exceeded the national figure of 21.6 percent.[198] Since cooperatives tend to enforce collective land transfers, with individual peasants unable to choose

otherwise, these increases reflect extreme coercive pressures applied by the state in tandem with other oppressive policies.

3.2.4 XUAR Agricultural Policies 2021 to 2025

Since 2020 and especially under Xinjiang's new Party Secretary Ma Xingrui, a technocrat from Guangdong experienced in economic development, the region has been shifting from Chen Quanguo's highly mobilizational, campaign-style labor transfers to a more normalized, institutionalized strategy that emphasizes maintaining labor placement achievements through intensified monitoring and retention.[199] Whereas in the 2000s transferred Uyghurs often left their assigned workplaces, current implementation of labor transfers enforce worker retention, preventing workers from leaving their jobs. In 2021, Xinjiang sent 400,000 cadres to monitor the income situations of 12 million rural households through an "early prevention, early intervention, early assistance" campaign that identified 774,000 households for "real-time monitoring."[200]

Xinjiang's adoption of the National Rural Revitalization Plan (2018-2022) for the first time specified land transfer quotas, mandating that in the northern parts of the Tianshan mountain region, they must exceed 40 percent of all arable land. Xinjiang's 14th Five-Year Plan (2021-2025) extensively reiterates and expands on these goals and adds a new mandate for labor-intensive and export-oriented industries in southern Xinjiang. While integration of smallholder farmers into larger operations was clearly implied in prior mandates, the 14th Plan speaks more explicitly of "promoting the assimilation (or integration) of small rural households into modern agricultural development," including by linking their land and labor with the "new agricultural business entities." The plan called for a further expansion of industrial tomato and pepper production in the context of "specialty agriculture."

XUAR policies have been facilitating a drastic expansion in labor transfers. Between 2004 and 2018, the number of labor transfers in southern Xinjiang grew threefold, from 585,200 to 1,736,000 person-times.[201] In 2023 labor transfers reached a record 3.2 million person-times, likely as a result of intensified labor requirements stipulated in Xinjiang's 14th Five-Year Plan.[202]

3.3 Policy Impact Summary

Especially since the mid-2010s, and therefore concurrent with the state's increasingly coercive policies of de-extremification and social re-engineering targeting ethnic groups, Xinjiang's policies have largely eliminated spaces for traditional agricultural livelihoods to continue, promoting in its place a centralization of agricultural production and land use in the hands of large agribusinesses and state-run cooperatives.

The transformation of Xinjiang's agricultural production and land-use patterns, orchestrated by increasingly pressurized state-led campaigns, has effectively pushed ethnic peasants off their land, out of their organic communities, and into state-mandated, controlled factory work, resulting in increased family separation, intergenerational separation, assimilation, and secularization. While these transformations likely increase measurable wage incomes, they also promote large scale dispossession, coercive transformation of livelihoods, a profound disintegration of rural ethnic communities, and forms of forced labor as defined by the ILO.[203] Large-scale transfers of ethnic surplus populations also form part of state efforts to reduce Uyghur population density in their traditional heartland regions, thereby "optimizing" the ethnic population structure.[204] While recent state policies increase social security provisions and purport to combat worker exploitation by private operators, they at the same time significantly intensify coercive and assimilatory risks.

4. Xinjiang's Tomato *and* Pepper Production *and Its Links to Coercive Practices*

4.1 Xinjiang's Industrial Policy Related to Tomato and Pepper Products

4.1.1 Tomato Production

China is the by far largest tomato producer in the world, followed by India, Turkey, and the United States, as seen in Figure 2.[205] In 2023, China produced approximately 37% of the world's raw tomatoes, up from 31% in 2015. In 2022, it produced 25% of the world's tomato paste (identical with 2015).[206] Xinjiang is China's primary tomato-producing region. Table 1 compares the global, China, and Xinjiang raw tomato production quantities for 2015-2023, along with the percentages of China's production relative to the world and Xinjiang's production share within China. In 2023, Xinjiang accounted for 80% of Chinese raw tomato production and for approximately 30% of global production.[207]

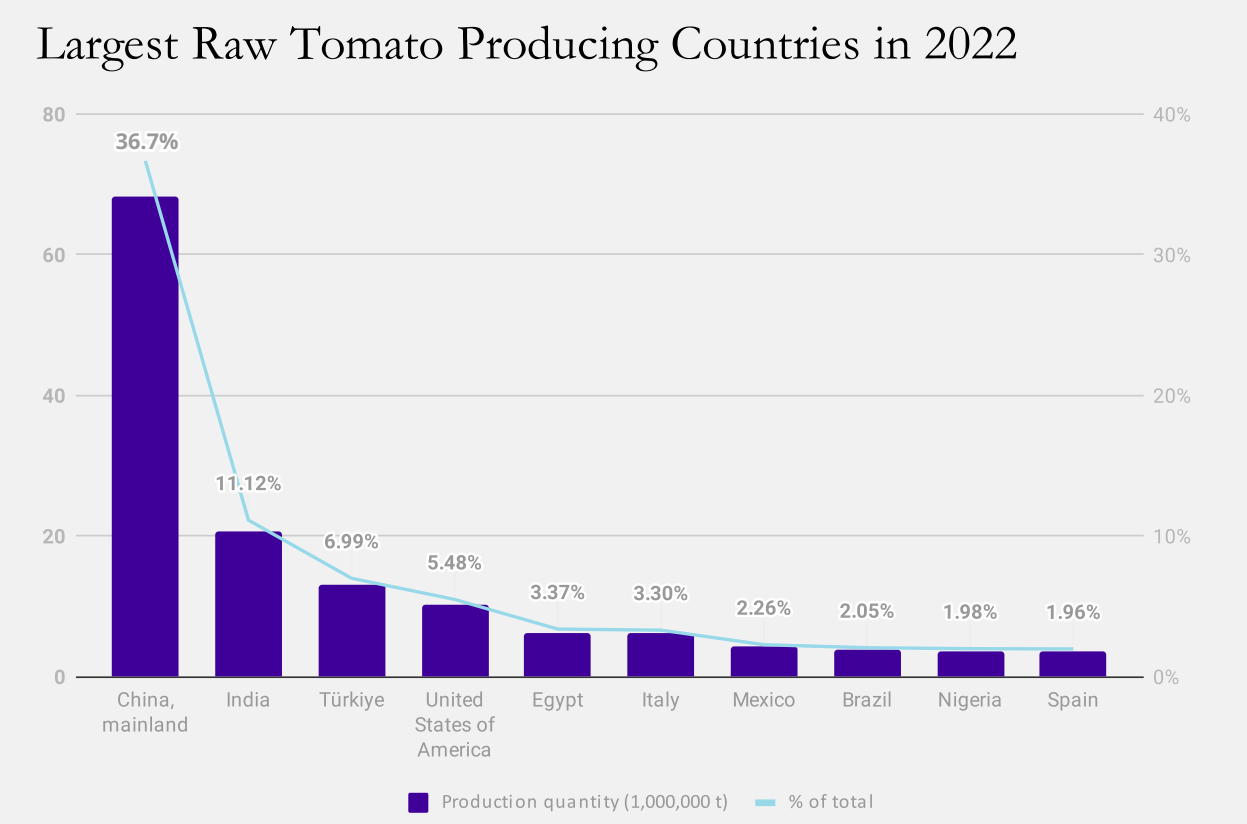

FIGURE 2: *Largest Raw Tomato Producing Countries in 2022. Data from FAO, 2023 (accessed May 9, 2024).*

	Global tomato production (1,000 tons)	China tomato production (1,000 tons)	Xinjiang tomato production (1,000 tons)	China/world	Xinjiang/ China	Xinjiang/ World
2015	177,580	55,590	9,109	31.3%	16.4%	5.1%
2016	178,470	57,430	9,180	32.2%	16.0%	5.1%
2017	179,530	59,220	7,925	33%	13.4%	4.4%
2018	182,250	61,030	7,920	33.5%	13.0%	4.3%
2019	181,830	62,970	8,047	34.6%	12.8%	4.4%
2020	185,230	64,780	8,242	35%	12.7%	4.4%
2021	189,280	66,600	n/a	35.2%	n/a	n/a
2022	186,110	68,340	n/a	36.7%	n/a	n/a
2023	190,570	71,250	n/a	37.4%	n/a	n/a

TABLE 1: *Production Quantity of Raw Tomatoes. According to FAOSTAT, production quantity is defined as the amount produced in the year. Data is from FAO, 2023 (accessed May 9, 2024, data up to 2022);* 智研咨询*, 2024, p.30;* 智研咨询*, 2021*

While Xinjiang produces only 4.4% of the world's raw tomatoes (2020), it is responsible for 14.7% of global tomato paste production (2018).[208] In 2023, China processed 8 million tons of raw tomatoes, an increase of 29% from the previous year, including 4.78 million tons in Northern Xinjiang, 1.63 million tons in Southern Xinjiang, 1.5 million tons in Inner Mongolia, and 0.08 million tons in Gansu.[209] That year, Xinjiang's processing volume rose by 27.2% to 6.41 million tons.[210]

Xinjiang's tomato production has a distinct advantage over other regions in China and worldwide, due to its low fruit-cracking rate and reduced vulnerability to mold and fungal issues.[211] These factors result in tomatoes with high lycopene content, high yields, and fewer diseases.[212]

Xinjiang's industrial strategy for tomato-related supply chains focused primarily on its low-cost labor environment, which enables highly competitive pricing on the global market.[213] In 1999, Xinjiang Tunhe embarked on a low-cost penetration strategy to undercut foreign production companies in an established global market.[214] The tomato production and processing industry is labor-intensive and relies heavily on seasonal labor.[215] Outside the growing and harvesting seasons, companies need only a small number of management and maintenance personnel, whereas the harvest and production period necessitates hiring large numbers of temporary workers. Chinese academic work from the 2010s confirms that the region continued its low-cost strategy of using cheap rural labor to undercut the global competition.[216] Presently, the region seeks to extend this low-cost advantage into the deep processing of raw tomatoes by attracting investment from large agribusinesses and mobilizing more rural surplus laborers into agricultural processing bases.

In July 2022, the Xinjiang government emphasized the role and active promotion of international trade involving tomato paste as one of Xinjiang's featured export products.[217] In November 2023, China unveiled the first Xinjiang Free Trade Zone, encompassing the regions of Urumchi, Kashgar, and Horgos.[218] The Kashgar zone was to focus on the development of export-oriented, labor-intensive industries such as agricultural and sideline products and textile manufacturing.[219] This included establishing a standardized system for the entire industry chain of "featured" products, including products related to tomatoes and cotton.[220] In 2023, XUAR foreign trade in agricultural products grew by 28.6 percent.[221]

Xinjiang uses raw tomatoes to produce tomato paste,[222] peeled tomatoes, diced tomatoes, tomato juice, tomato sauce, and tomato powder. Meanwhile, "deep processed" tomato products include lycopene,[223]

tomato fiber[224], tomato SOD[225], fermented drinks, and tomato seed oil.[226] Lycopene can be used in supplements, cosmetic products, food, personal care products, and medical products.[227]

4.1.2 Pepper Production

China is the world's largest producer and consumer of chili peppers, accounting for 41% of global production as of 2022. Table 2 presents global, China's and Xinjiang's[228] pepper production quantities and harvested areas from 2015 to 2022, along with the percentages of China's production relative to the world and Xinjiang's production share domestically and globally.

Between 2015 and 2020, Xinjiang's share of China's pepper production (by volume) grew from 15.1 to 23.1 percent, and its global production share rose from 7.1% to 9.8%.[229] For dried peppers, Xinjiang's planting area reached 78,000 hectares in 2022[230], producing 20% of China's output and 10% of the world's output in 2021.[231] About 70% of Xinjiang dried peppers are sold outside of Xinjiang for further deep processing.[232]

The development of the pepper industry is second only to tomatoes in Xinjiang's "red industry," establishing itself as a primary production and export hub for peppers in China.[233] In recent years, large-scale pepper production has been intensively promoted in the Uyghur heartland regions of Hotan and Kashgar.[234]

In 2022, Xinjiang planted 33,000 hectares of industrial pigment peppers,[236] making it the country's largest regional producer.[237] Chili peppers, *Capsicum annuum*, are widely used in food additives, pharmaceuticals, and medical products.[238] *Capsicum annuum* contains capsanthin and capsaicin.[239] Capsanthin is a bright red-colored pigment extracted and refined from capsicum annuum and used in food coloring, cosmetics, and medicine products.[240] Capsaicin, the primary pungent and irritant compound, is extensively utilized as a food additive, and is also employed in a variety of topical and nutritional supplements for its pharmaceutical and antioxidant properties.[241] Xinjiang's Bachu county, a Uyghur region, has become the world's largest production base for pigment peppers after Changing expanded its production there to 40,000 hectares.[242]

China produced 10,160 tons of capsaicin[243] in 2023.[244] Domestic market demand was 3,300 tons, with the majority of capsaicin-related products being exported.[245]

Production Quantity of Raw Chilli Pepper (1,000 t)

Year	World	China	China/ World	Xinjiang	Xinjiang/China	Xinjiang/World
2015	37,416.7	17,488.7	46.7%	2,645.1	15.1%	7.1%
2016	37,587.1	16,724.7	44.5%	2,890.2	17.3%	7.7%
2017	39,739.7	17,070.0	43.0%	3,441.6	20.2%	8.7%
2018	40,637.3	17,347.6	42.7%	n/a	n/a	n/a
2019	39,716.4	17,047.4	42.9%	3,699.9	21.7%	9.3%
2020	40,401.8	17,155.0	42.5%	3,954.4	23.1%	9.8%
2021	41,248.6	17,183.3	41.7%	n/a	n/a	n/a
2022	41,881.8	17,128.6	40.9%	n/a	n/a	n/a

TABLE 2: *Raw peppers production quantity. Data from FAO. (2024, May). Crops and livestock products.* https://www.fao.org/faostat/en/#data/QCL*;* 新疆统计年鉴*2021, 12-20;* 新疆统计年鉴*2020, 12-26;* 新疆统计年鉴*2019, 12-20;* 新疆统计年鉴*2017, 12-20;* 新疆统计年鉴 *2016, 12-20.* [235]

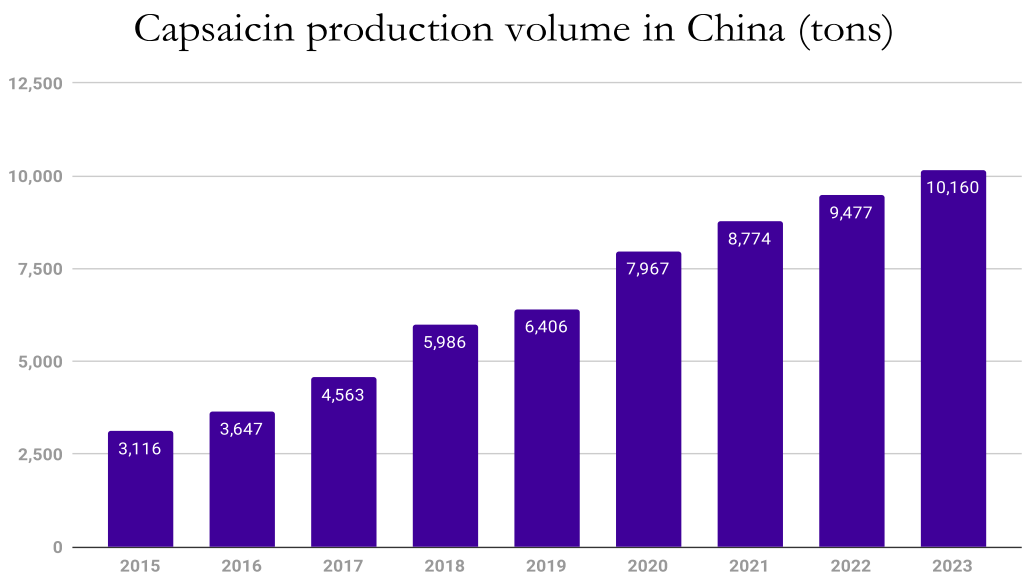

FIGURE 3: *Capsaicin Production Volume in China. Adapted from* 智研咨询 *(2024b), p.21.*

According to a 2021 Chinese state media report, Xinjiang is the world's largest pepper pigment producer, producing over half of the world's supply of red-pepper pigment, which is widely used in cosmetic products and food coloring.[246] Xinjiang's chili products mainly include dried chili peppers, chili seeds, chili powder, capsicum oleoresin, capsanthin, capsaicin, chili sauce, chili essence, and oil chili.[247]

As with tomatoes, Xinjiang's climate is ideal for growing peppers, featuring dry conditions, minimal rainfall, and long hours of sunlight, which reduces the impact of pests and diseases.[248] These conditions result in a bright appearance, high yields, and higher fiber and sugar content, making Xinjiang's peppers superior to those of other Chinese regions, in both quality and quantity.[249]

4.1.3 Tomato and Pepper Production Targets in Recent XUAR Industrial Planning Documents

Tomato and pepper production targets are integral to the Chinese government's economic development plans. The XUAR's 2018-2022 Rural Revitalization Plan emphasizes the cultivation of industrial tomatoes and peppers as key components of the region's state-assigned "characteristic agriculture."[250] The plan mandates steady development of the tomato processing industry, especially in the two main producing regions: the southern margin of the Junggar Basin, and the Yanqi Basin. It sets specific, time-bound goals, stating that by 2022, the area dedicated to processed-tomato cultivation should reach 53,333 hectares with an annual output of over 700,000 tons of tomato products.

The plan further calls for the development of pepper processing in Bayingolin, Tacheng, Hami, Kashgar, and Aksu. The target is to achieve a pepper cultivation area of 33,333 hectares (500,000 mu) and a processing rate of 60% by 2022. The 14th XUAR Five-Year Plan similarly carved out a key role for industrialized production of tomatoes and peppers and related processed products when discussing increased development of specialty agriculture.[251] It emphasized the need to build related labor-intensive industrial agricultural processing bases in Uyghur heartland regions, including Hotan, Kashgar, and Kizilsu.[252]

4.2 From Planting to Processing: Links Between Coercive Land and Labor Transfers and the Production of Tomatoes, Peppers, Stevia, and Marigolds

THIS SECTION EXAMINES evidence of coercion in the planting, harvesting, and processing of tomatoes, peppers, stevia, and marigolds. As in the cotton sector, the production of tomatoes and peppers is integral to Xinjiang's systematic, regionwide development of labor-intensive industries that target rural ethnic populations through coercive seasonal and non-seasonal labor transfers.[253] Recent evidence suggests that tomato harvesting, like cotton, is becoming increasingly mechanized. However, government and state media reports indicate that transferred laborers continue to be closely involved in planting, harvesting, and processing, just as the state continues to send many Uyghurs to pick cotton by hand, despite increased use of mechanized harvesting.[254]

In the 2000s and 2010s observers, including western authors, witnessed the use of child labor during the tomato harvest, and conducted interviews demonstrating that prisoners from Xinjiang's Re-Education Through Labor (RETL) camp system were being used for forced harvesting.[255] While it is unclear whether child labor continues, it is likely that prisoners and camp detainees continue to be involved in this arduous manual labor (see also section 2.5).

Xinjiang's 14th Five-Year Social and Economic Development Plan (2021-2025) has mandated closer cooperation between XPCC and other regions to pursue an "enlarged" promotion of seasonal agricultural labor transfers.[256] In 2019, Yarkand County required students and elderly persons over 60 years to pick crops such as cotton, vegetables, tomatoes, peppers, and marigolds.[257] The county stated that due to intensified government control, "farmers no longer need to think about what to grow," indicating a clear risk of forced labor resulting from agricultural production mandates.[258]

In an April 2022 article on Xinjiang's employment programs and labor transfers, Tianshan, a prominent media outlet co-sponsored by the XUAR propaganda department, confirmed that the "vast scale" of cotton, tomato, and other plantations in southern Xinjiang was continuing to "provide an abundance of short-term employment avenues."[259] Reports from county propaganda departments confirm this, noting for example that the cultivation, production, and processing of peppers represent primary industries for use of rural surplus labor transfers.[260] Reports further state that the establishment of labor-intensive enterprises in Southern Xinjiang has formed a natural coupling relationship with Uyghur surplus labor.[261] Sources as recent as March 2024 speak of employing transferred laborers to produce fruit and vegetables, including tomatoes and peppers.[262]

Evidence from Chinese state policy documents suggests that intensified policies and quotas for tomato and pepper production are linked to "thought transformation" efforts, whereby state officials and their various representatives "change" the "minds" of peasants to enforce agricultural production and industrialization policies. These efforts often involve major Chinese corporations, which actively participate in village-based work teams and use other mechanisms to "transform" people's thoughts when mobilizing

Sources as recent as **March 2024** speak of employing transferred laborers to produce fruit and vegetables, including tomatoes and peppers.

villagers to enter labor transfer arrangements.[263] Peasants are subjected to "thought education" to change their livelihoods from herding to growing vegetables, including tomatoes and peppers, through indoctrination meetings and intensive face-to-face interaction with officials.[264]

In this context, state reports at times use distinctly martial language to convey the intensity with which grassroots government entities are to mobilize surplus workers. A September 2023 report from Shawan (Tacheng Prefecture) describes the local party branch as a "battle fortress" in the "fight" to mobilize villagers to pick peppers: government workers went door-to-door, used social media apps, and made incessant loudspeaker announcements to get locals to join the pepper harvest.[265] In impoverished rural regions, villagers who seek employment opportunities typically do not need to be prodded into seizing them. The state's aggressive tactics for grassroots mobilization therefore indicate a risk that locals are being forced into work that they have not willingly chosen.

The sections below discuss the risks of forced labor through labor transfers throughout all stages of the production of tomatoes, peppers, marigold and stevia, from planting to harvesting to factory-based processing. Multiple sources from recent years confirm that this production combines full-time labor transfer employment with seasonal transfers of surplus laborers.[266] The sections on tomatoes and peppers are substantially longer than those on marigold and stevia, because there is far more evidence on the production and processing of the former two products.

4.2.1 Tomato Production and Coercive Labor Transfer Practices

4.2.1.1 Overall Production, Witness Testimonies and Prison Labor

Several victims of Xinjiang's forced production of tomatoes provided witness accounts to the BBC Eye Investigation. In 2014 and 2015, Abduweli Ayup, a Uyghur activist living in Norway, observed prisoners in Xinjiang working in tomato fields, watched by prison guards with electric batons and soldiers armed with rifles. One of these prisoners was Mamutjan Erkin, a Uyghur held in a detention camp in 2015. While detained, Mamutjan was forced to harvest tomatoes. Initially, he had to pick 450kg per day, but his quota was gradually increased to 650kg. When he failed to achieve his quota, Mamutjan was hung from the ceiling and beaten by prison guards with a cable. The beatings were so severe that he was unable to sit down or sleep. Another Uyghur prisoner, whose identity must remain anonymous, was forced to harvest 40 sacks of tomatoes per day. Prisoners who failed to achieve their mandated quota were severely punished, including by being shocked with electric prods, stripped to their underwear, and beaten. Prisoners were told that these tomatoes would be exported overseas.

Another victim was detained in 2017, sent from an internment camp to a prison and subsequently forced to grow tomatoes. Officials would tell detainees that they "could earn [their] freedom through labor." The authorities then told this detainee that there was a job for him at a tomato plantation, and he agreed to go in order to avoid being sent back to the camp. Between 2012 and 2016, Uyghur man Hebibulla Halik witnessed prisoners and Uyghur farmers being forced to work in XPCC-controlled tomato fields. The local village authorities rounded up farmers and forced them to first harvest the XPCC's crops before they were permitted to harvest their own crops. Farmers who refused were threatened with trump-up charges, loss of their land, and detention.

Together with the evidence discussed in section 2.5 (linking agricultural production to the recent campaign of mass internment in so-called VSETCs), the combined witness evidence suggests an ongoing risk of the forced labor of prisoners and detention camp detainees in the production of agricultural products, especially related to tomatoes.

Intermediary labor service companies run tightly organized labor-transfer operations for planting and harvesting tomatoes...in four months, **more than 200 laborers were transferred**.

4.2.1.2 Planting

Numerous accounts show how officials "encourage" peasants in predominantly ethnic regions to sign production contracts with companies for growing industrial tomatoes.[267] During this process, officials "guide" rural households to shift from traditional cultivation methods to facility-intensive agriculture in line with the state's rural revitalization strategy.[268]

Tomato planting is associated with labor transfer and profound livelihood changes promoted by the government. In Aqsu, the local government built a vegetable farming base and adopted the "company+base+nearby farmers" model to get peasants to plant tomatoes at the facility, and to train such surplus laborers for employment at processing bases.[269] Since 2020, about 900 peasants have been employed at the base. In Hutubi County (Changji Prefecture), the Xiangsheng Tomato Planting Farmer Professional Cooperative[270] in 2022 received around 4,000 seasonal surplus laborers.[271] In April 2024, it employed 3,500 surplus laborers from surrounding areas.[272]

One township in Luntai County explored an employment creation model of "party organ+labor service organization+cooperative+farmer," which promotes contracting services such as plowing, sowing, and harvesting using rural seasonal laborers.[273] Labor service companies coordinate job matching and ensure organized mobilization of targeted laborers to cooperatives for the production of industrial tomatoes, cotton, and fruits, in line with state mandates.[274] Similarly, a labor service company based in Luntai County transfers rural surplus labor using a tightly-organized "point-to-point" approach to Xinjiang Chenguang Tomato Corporation for planting tomatoes.[275] In five months, 200 individuals were transferred.[276] Another example from Yumin County (Tacheng Prefecture) shows that due to the large cultivation area and the need for manual labor alongside mechanized operations, local surplus laborers are transferred to participate in planting tomatoes through the "company+cooperative+farmer" model.[277] This indicates that transferred manual workers continue to be used despite increased mechanization.

4.2.1.3 Harvesting

Government and state media reports closely link the harvesting of tomatoes to intensified poverty alleviation and surplus labor transfer policies. For instance, the Manas County government (Changji Prefecture) proactively coordinates laborers for the tomato harvest.[278] Such efforts use village-based work teams to mobilize local labor transfers.[279] In Hejing County (Bayingolin Prefecture), local cadres and village-based work teams actively organize rural surplus labor into "labor export" groups to pick tomatoes and connect peasants with tomato processing companies.[280] A 2022 account from Luntai County speaks of adopting the "party organ+labor service organization+cooperative+farmer" labor transfer model, describing how a labor service company facilitated a daily transfer of 160 rural surplus laborers to harvest industrial tomatoes for Xinjiang Chengguang Tomato in a "point-to-point" fashion,

indicating tightly organized transfer and close supervision.[281]

On August 16, 2017, more than 600 surplus laborers from Southern Xinjiang were sent to XPCC farms for two months to assist with tomato and pepper harvesting.[282] An August 2023 article details how intermediary labor service companies run tightly organized labor-transfer operations for planting and harvesting tomatoes. Located in Luntai County (Bayingolin Prefecture), the company transfers workers in a supervised "point-to-point" fashion. Through government coordination and support, Xinjiang Chenguang Tomato contracted with the labor service company to hire workers to plant and harvest a large tomato plantation.[283] In four months, more than 200 laborers were transferred. Another account from August 2023 states that during the 2023 tomato-picking season, Halayugong Township (Bayingolin Prefecture) organized over 100 workers to harvest nearly 266.7 hectares (4000 mu) of tomato plantation for 17 days.[284]

4.2.1.4 Processing

State media reports emphasize that the processing of raw tomatoes requires substantial numbers of rural surplus laborers.[285] Such laborers are engaged in manually sorting, grading, and packaging raw tomatoes.

An example is Aksu City's vegetable production base, where local surplus laborers are employed every winter for these tasks.[286] A production base operated by a cooperative in Ili Prefecture has been promoting industrialized agriculture involving tomato production, at a processing base employing 400 surplus laborers.[287] In 2023, the president of the cooperative stated that they hired 80 surplus laborers to pick and package 30 tons of tomatoes daily, and that another 200 surplus laborers would be needed.[288] In Changji City, a tomato processing factory was projected to create approximately 170 jobs for transferred surplus laborers.[289]

Like harvesting, the processing of raw tomatoes requires a seasonal increase in manual laborers. For example, during the peak tomato production season in August and September, a factory run by Shawan Jiahe Tomato Products employs over 170 part-time workers annually.[290] The company recruits rural surplus laborers to contribute to advancing state policy goals for rural revitalization.[291]

As indicated in the Yarkand county internal government document, the state requires elderly persons to participate in agricultural harvesting and production. For example, a 64-year-old villager in Haerwusu Village (Hejing County, Bayingolin Prefecture), stated that "at our age, it is not suitable to work elsewhere, but working here [at the tomato drying factory] is very close to home, my wife and I together can earn 160 yuan per day,... income is increasing... and life is more energetic."[292] The propaganda story that highlights this account is focused on village work teams' efforts to stimulate inner motivation in order to intensify organized rural labor transfers.

4.2.2 Pepper Production and Coercive Labor Transfer Practices

4.2.2.1 Overall production

The planting, picking, and processing of peppers have remained labor-intensive work, making the industry a key target for state-arranged surplus labor transfers.[293] A report from Yanqi County (Bayingolin Prefecture) confirms that over 13,000 surplus agricultural laborers participate in various stages of pepper production each year, including cultivation, field management, harvesting, and sales.[294] The explicit aim is to promote "prosperity" through "hard work." A propaganda video released by New China TV quoted a manager of Xinjiang Kaydu Food Co., Ltd[295] stating that while 70% of its production processes have been mechanized, the remaining 30 percent use manual labor[296]: "We didn't mechanize our whole production for the sake of offering more jobs."

Local government accounts describe "vigorous" state efforts to mobilize villagers into transplanting, tending, and harvesting peppers, as reflected in accounts from Kashgar Prefecture, a Uyghur heartland region.[297] Reports by the Xinjiang Academy

of Agricultural Sciences confirm that local peasants are first subjected to land transfers and then, having become landless surplus laborers, are transferred to work at pepper processing bases as part of the region's upscaled and industrialized planting and production.[298] A recent April 2024 account of villagers from Hejing County being organized to plant, pick, and process peppers at XPCC farms in the 223rd Regiment contains images showing even older villagers engaging in this manual labor.[299] The report confirms that in 2023, pepper-based products from these farms were exported to the United States, Germany, and other EU countries.

4.2.2.2 Planting

Numerous sources link surplus labor transfers to the planting of peppers. In Yanqi County (Bayingolin Prefecture), a major pepper production area, the annual planting of pigment peppers used for cosmetics products requires substantial manual labor and heavily relies on transferred surplus laborers.[300] In Bohu County (Bayingolin Prefecture), village-based work teams established multiple labor transfer stations to systematically organize and dispatch village surplus laborers for planting work in large pepper farms.[301] An April 2023 account from Wensu County (Aksu Prefecture) highlights a comprehensive approach to managing rural surplus labor, designed to address labor shortages during the peak pepper cultivation season: the county conducted a comprehensive survey of the rural surplus labor force, and transferred idle villagers into assigned tasks such as transporting seedlings, digging, planting, and watering pigment peppers.[302]

Local governments also actively "encourage" peasants to plant peppers, given its significance for Xinjiang's production and employment plans. In Kuqa City, Aksu Prefecture, village-based work teams and committees "encouraged" and "guided" villagers to utilize idle land around their property for experimental cultivation of pigment peppers.303 The city also adopted order-based production that includes standardized training, unified management, and unified sales provided by the village committees. Such arrangements create a risk of forced labor through agricultural production mandates. Uyghur and other ethnic peasants who refuse orders from village committees and village-based work teams are liable to be detained for "extremism" and to be subjected to re-education.

4.2.2.3 Harvesting

Surplus labor continues to play a dominant role in the labor-intensive work of harvesting peppers.304 Harvesting often involves sorting and bagging peppers for further processing.

An August 2023 report emphasized that surplus laborers "eagerly" joined pepper-picking efforts.305 A September 2023 report describes how a group of 45 workers was organized by a village committee in Toli County306 (Tacheng Prefecture) to harvest peppers in Anjihai Town (Shawan County, Tacheng Prefecture) for 50 days. This process was also described as beneficial for "transforming their views," in line with state discourses that highlight the use of labor transfer employment to "de-extremify" and assimilate ethnic groups into mainstream society.307 In 2022, over a three-month pepper harvesting and drying period, more than 10,000 surplus laborers in Wensu County (Aqsu Prefecture) were transferred to harvest peppers.308 Some reports describe manual and mechanized pepper harvesting occurring in tandem, such as in Korla's Halayugong Township (Bayingolin Prefecture), where the government coordinated 200 surplus laborers for this task.309 These examples confirm that use of such workers is ongoing, despite increased mechanization efforts.

Some sources directly indicate that agricultural labor transfers target elderly populations, which are less suited to factory work. For example, a propaganda account from Anjihai Town, Shawan City (Tacheng Prefecture), quotes a villager as saying:

> [I am] too old to go out to work. I can earn one or two hundred a day by picking pepper. It is close to home and the work is relatively easy.[310]

> China's stevia industry has become the fastest-growing in the world, with an estimated growth rate of **12.5% for 2020-2027**.

Reports from Bohu County similarly speak of an 80-year-old villager participating in annual seasonal labor by sorting dried peppers, to earn money through work closer to home.[311]

4.2.2.4 Processing

The processing of peppers, including procedures like packing, drying, transportation, and bagging, uses local transferred surplus labor.[312] Because this work is seasonal in nature, it involves significant volumes of seasonal labor transfers. One Xinjiang pepper processing factory established by a local party committee together with an agribusiness in Wusu (Tacheng Prefecture) employed 60 local surplus laborers between 2022 and 2024.[313] A report from October 2023 states that 60 female surplus laborers were transferred daily to work at the pepper drying factories in a town in Gongliu County, Ili Prefecture.[314] In Bayingolin Prefecture's Bohu County, a pepper processing cooperative implemented the "company+cooperative+farmer" model, employing at least 20 seasonal laborers.[315] Kelaya village in Kashgar's Shule County established an export-oriented pepper processing factory with the help of village-based work teams, which transferred 50 surplus laborers.[316]

One local account reports that the 1,000 workers in a pepper processing factory are mostly women and elderly people.[317] One of the women shared that her work placement at the factory was arranged through a government agency, and that the work allowed her to increase her income and take care of her family. Another propaganda story speaks of a son and his elderly mother both working at a pepper processing factory.[318]

4.2.3 The Role of Land Transfers in Tomato and Pepper Production

The XUAR government's campaigns to promote agricultural industrialization have led to large-scale land-use rights transfers in the context of expanding tomato and pepper production. Numerous XUAR government and media sources published between 2018 and 2023 confirm that such transfers play a central role.

In 2019, Baicheng County (Aksu Prefecture) boosted the "spontaneous and voluntary land transfer of the broad masses of peasants," primarily to cooperatives and companies.[319] Some 1333.3 hectares (20,000 mu) of land were transferred to a tomato-producing company, including 286.7 hectares (4,300 mu) from so-called poor households. The company had to promise the state to give priority to employing these now-landless peasants as wage laborers.

In 2021, Hoxud County (Bayingolin Prefecture) oversaw the transfer of 18,000 hectares of land, establishing larger areas of so-called "high-standard farmland" and boosting various forms of "optimized" agriculture.[320] For 2023, the region was focusing on "six major industries," including production of peppers and tomatoes in the context of a "modern agricultural production system."[321] The region completed the transfer of 270 hectares (18,000 mu) in 2022, and planned to construct another 5,336 hectares of "high-standard farmland" while seeking to "increase land transfer efforts," and to construct an agricultural industrial park in 2023.

4.2.4 Stevia Production

Stevia extract and its derivatives have become a popular natural sweetener in beverages and food products worldwide. They are also used in skin products. China's stevia industry has become the fastest-growing in

the world, with an estimated growth rate of 12.5% for 2020-2027 compared to 8.4% for the global average.[322] Stevia is mainly grown in Shandong, Gansu, Xinjiang, Inner Mongolia, Jiangsu, Anhui, and Hebei, with 8% of Chinese stevia-producing companies being located in Xinjiang.[323] Between 2016 and 2020, stevia extract was the top one export product in the plant extract industry.[324] The stevia industry has previously been linked to forced labor. In October 2020, the US Customs and Border Protection (CBP) determined that stevia extracts and derivatives produced by Inner Mongolia Hengzheng Group Baoanzhao Agriculture, Industry, and Trade Co., Ltd. involved the use of forced labor.[325]

Similar to other agricultural products, stevia production is very labor-intensive and involves significant numbers of transferred surplus laborers. For example, rural surplus laborers in Qigexing town (Yanqi County, Bayingolin Prefecture) were organized to plant, tend, and harvest stevia cultivation, which is labor-intensive.[326] Some sources state that the stevia planting process, which lasts three to four days, requires about 200 laborers daily and therefore draws on local surplus laborers.[327] A local media report from 2018 describes a village-based work team implementing labor transfers to meet the labor needs of XPCC. During the peak planting season of stevia and peppers, the village-based work team in Barunhaermodun Town[328] (Hejing County, Bayingolin Prefecture) surveyed every household to mobilize surplus laborers, poor households, and challenging families to engage in large-scale planting of stevia and peppers in XPCC farms.[329] A 2019 media article stated that due to the labor-intensive nature of stevia cultivation, commercial farmers in Tacheng city hired large numbers of rural surplus laborers to plant stevia.[330] Another article, also from 2019, noted that the labor-intensive work of growing stevia has involved the use of hundreds of surplus laborers.[331] A 2023 account states that Gongliu County (Ili Prefecture) has implemented the "company+cooperatives+production base+farmer" cultivation model and employs local surplus laborers.[332]

Other sources describe a social transformation process that is virtually identical to that found with tomato and pepper production: peasants find themselves in a coercive policy environment where they end up transferring their land-use rights and are then employed as now landless surplus laborers at company-established stevia cultivation bases.[333] In the case of Haerwusu village (Hejing County), the intensive mobilization efforts of village-based work teams, which involved home visits, village meetings, and indoctrination during weekly flag-raising ceremonies, land-use rights for 90% of all farmland were transferred.[334] The individual plots were then consolidated for large-scale commercial stevia cultivation by a professional cooperative that the work team brought to the village. In 2019 alone, the village work team oversaw the transfer over 26.7 hectares of land to the cooperative.

4.2.5 Marigolds Production

In Xinjiang, marigolds are one of the state-designated "characteristic" or "featured" crops that state policy documents emphasize as key to realizing state-mandated poverty alleviation targets. One reason for this is that similar to other agricultural products, marigolds cultivation is labor-intensive, from planting and growing to maintaining and picking.[335] Xinjiang recently established the world's largest marigolds planting base.[336] Currently, the marigold cultivation area in Yarkant and Hotan, located in southern Xinjiang, has expanded to over 13333.3 hectares (200,000 mu), making it the world's largest marigold planting base.[337] One company, Chenguang Biotech, a leading company in marigolds cultivation and manufacturing, procures raw marigolds at fixed prices from rural ethnic peasant households in southern Xinjiang as part of state-mandated poverty alleviation schemes.[338]

Xinjiang's marigolds production involves significant use of transferred surplus laborers. One report from a Uyghur heartland region indicates that even elderly persons and children participate in the marigolds harvest. Yarkant County (Kashgar Prefecture) designated marigold flowers as its characteristic crop, issuing in 2019 a project implementation plan for marigolds "Quality Improvement and Efficiency Enhancement," which asserts "the important role of the marigold

industry in assisting poverty alleviation."[339] The plan states that by developing the marigold industry, poverty-stricken households' "inner motivation" is strengthened, terminology that is directly associated with coercive employment policies and enforced livelihood changes. Yarkant County also promoted the development model of "company+production base+cooperatives+farmers. The 2018-2020 Poverty Alleviation Implementation Plan for Aersilanbage Township's (Yarkand County) includes organizing skill training for marigolds as part of the special action plan on transferring surplus laborers.[340]

A Xinjiang Daily article from 2020 July states that a village-based work team from Yutian County visited households by households to convince villagers to grow marigolds.[341] Similarly, reports from several regions describe village officials organizing local villagers to harvest them.[342] A town[343] in Yarkant County (Kashgar Prefecture) states that to reduce the cost of harvesting [marigolds], the village makes use of idle labor.[344] Disturbingly, even the elderly and children were alleged to "participate of their own accord in the harvesting."

5. Major Tomato- and Pepper-Producing Companies *and their* Connections *to* Coercive State Policies

This section shows how at least six major Chinese producers of tomato, pepper and stevia products are directly implicated in coercive state policies targeting ethnic groups. These companies are COFCO Tunhe Tomato, Xinjiang Guannong, Xinjiang Chalkis, Chenguang Biotech Group, Xinjiang Tianjiao Hong'an Seed Technology, and Zhucheng Haotian Pharm. In 2023, COFCO, Guannong and Chalkis together contributed around half of China's tomato paste production.

The evidence presented below highlights strategies and initiatives these companies have undertaken to implement coercive state policies, thereby materially aiding oppressive government efforts to transform and forcibly assimilate ethnic communities. Much of this information comes directly from these companies' own annual and quarterly reports. These contain designated sections detailing company efforts to meet their political obligations to aid state efforts related to poverty alleviation, rural revitalization, and employment practices targeting lower-income rural ethnic regions. This and other publicly-accessible material confirms that these companies participate in and benefit from state-directed forced labor and coercive transfers of land-use rights. Many of them also actively joined village-based work teams that penetrate deep into ethnic communities to enforce state policies, spy on individual households, and identify persons for re-education internment or coerced livelihood changes. Two of the companies, Guannong and Chalkis, are owned by the XPCC and, as such, are part of executing its oppressive policies in the region.

In recent years, as human rights abuses in Xinjiang have become increasingly well documented, Chinese companies have become more cautious about publicizing their involvement in coercive state policies. For several smaller XUAR-based tomato producers, there appears to be no publicly-available evidence linking them to coercive state policies. These include Xinjiang Xinliang Yanyantian, Xinjiang Nongfa Group, and Tacheng Hongxiang. However, the evidence presented in sections 2 and 4 of this report confirms that the widespread use of state-led land and labor transfers for the production of agricultural products, including tomatoes and peppers, is ongoing.

Readers who do not wish to peruse this section's comprehensive review of Chinese companies, their domestic market shares, and how they are implicated in coercive state policies including forced labor, can skip ahead to section 6, which discusses how Xinjiang's agricultural products are linked to global supply chains, or to the conclusion (section 7).

5.1 An Overview of Major Chinese and Xinjiang Companies Producing Tomato and Pepper Products

5.1.1 Overview of Tomato-Producing Companies

China has the highest concentration of tomato processing facilities in the world, with 31 factories operated by eight companies.[345] As of 2022, these factories had a combined tomato processing capacity of 4.5 million tons per year.[346] Of the top 50 tomato processing companies in the world, seven are Chinese, and six are located in Xinjiang: COFCO, Xinjiang Guannong Group, Xinjiang Chalkis, Xinliang Yanyantian, Xinjiang Nongfa Group, and Tacheng Hongxiang. Only one such company is based outside the XUAR: Inner Mongolia FuYong. Xinjiang's COFCO Tunhe is among the top five players worldwide that make up over 25% of global supply, alongside Morning Star, Conesa, Ingomar Packing, and Sugal Group.[347] Other major Chinese companies based in other provinces source their tomatoes from Xinjiang, including Hebei Tomato Industry (see section 6.2).

COFCO ranks third (2,080,000 tonnes) in the world by annual tomato processing capacity, followed by Xinjiang Guannong at 16th (660,000 tonnes), and Xinjiang Chalkis at 18th (650,000 tonnes).[348] In terms of annual production quantity of tomato paste (Table 4), COFCO produced 6.2% of the global supply in 2022, followed by Guannong (3.1%), and Chalkis (2%). In 2023, COFCO, Guannong and Chalkis, all Xinjiang-based and state- or XPCC-owned, constituted 50.5% of China's tomato paste production output, up from 40.6% in 2020.

Chenguang Biotech, although not among the

China Company	Rank by annual capacity (global)	Location	Ownership
COFCO Sugar 中粮屯河糖业股份有限公司	3	Changji City, Changji Prefecture, Xinjiang	State-owned
Xinjiang Guannong Fruit & Antler 新疆冠农果茸集团股份有限公司	16	Bayingol Prefecture, Xinjiang	XPCC
Xinjiang Chalkis 新疆中基红色番茄产业有限公司	18	XPCC 6th Division (Wujiaqu City, Xinjiang)	XPCC
Xinjiang Xinliang Yanyangtian 新疆新粮艳阳天番茄股份有限公司	19	XPCC 6th Division (Wujiaqu City, Xinjiang)	XPCC (103团)
Xinjiang NongFa Group (Xinjiang Agricultural Development Group) 新疆农发集团有限公司	26	XPCC 3rd Division (Tumxuk City, Xinjiang)	XPCC
Tacheng HongXiang 新疆鸿翔番茄制品有限责任公司	35	XPCC 9th Division (Tacheng City, Xinjiang)	Private
Inner Mongolian FuYong Agriculture Development 内蒙古福永农业发展股份有限公司	36	Bayannur, Inner Mongolia	Private
DB Tomato (Xiamen) Industry 帝邦番茄（厦门）实业有限公司	n/a	Xiamen	Private
Xinjiang Rising Sun Tomato 新疆东方红番茄股份有限公司	n/a	XPCC 8th Division (Shihezi City, Xinjiang)	Private
Xinjiang Hongjing Halal Food 新疆宏景清真食品有限公司	n/a	Hoxud County, Bayingol Prefecture, Xinjiang	Private

TABLE 3: *Key players in the Chinese tomato industry. Sources:* 农小蜂数智云, *(2022, April 14)* 2020年中国番茄产业数据分析简报. https://zhuanlan.zhihu.com/p/272008772 *or archived:* https://archive.ph/eJhZI; 中国罐头协会. *(2023, May 10).* 2022产季 | 世界50强番茄加工企业名单. http://www.topcanchina.com/hyzx/15499

global top 50 tomato processing companies, is the world's second-largest producer of tomato lycopene, predominantly used in cosmetics and nutritional supplements.[349] Chenguang Biotech sources its raw tomatoes from Yanqi, Xinjiang.[350] Other significant Chinese tomato producers are listed in the table below.

5.1.2 Overview of Pepper-Producing Companies

In 2022, Xinjiang had 14 pepper processing companies.[351] Key XUAR producers of pepper-derived pigments and related products are Xinjiang Tianjiao Hong'an Seed Technology, Xinjiang Chenguang Biotech Natural Pigment, and Bohu Wanfu Pepper Products. Major XUAR-based producers of chili sauce are Xinjiang Heshuo Dingding Food, Urumchi Sirdan Food Trading, and Xinjiang Urumchi Central Asia Food (R&D Center). These six companies are listed in Table 5. Other Chinese companies source raw materials from Xinjiang to process them in other provinces, including Guilin Layn Natural Ingredients, Neihuang Xinglong Agricultural Products, Jinan

Year		2015	2016	2017	2018	2019	2020	2021	2022	2023
Output (1,000 tons)	Global	4173.9	4065.6	4003.9	4057.6	4439.9	4374.8	4207.3	4132.5	n/a
	China	1044.3	988.5	915.6	960.0	1008.2	924.6	842.8	1026.4	1327.0
	Xinjiang	825.2	794.5	850.6	597.4	n/a	n/a	n/a	n/a	n/a
	COFCO	249.7	206.2	249.6	198.3	224.6	253.4	221.0	254.7	299.4
	Guannong	132.4	112.2	121.2	97.1	112.3	122.4	84.3	126.4	255.0
	Chalkis	13.0	128.6	142.3	0.0	0.0	0.0	58.3	83.0	115.9
	China/ Global	25.0%	24.3%	22.9%	23.7%	22.7%	21.1%	20.0%	24.8%	n/a
	Xinjiang/ China	79.0%	80.4%	92.9%	62.2%	n/a	n/a	n/a	n/a	n/a
	Xinjiang/ Global	19.8%	19.5%	21.2%	14.7%	n/a	n/a	n/a	n/a	n/a
% of Global	COFCO%	5.98%	5.1%	6.2%	4.9%	5.1%	5.8%	5.3%	6.2%	n/a
	Guan-nong%	3.17%	2.8%	3.0%	2.4%	2.5%	2.8%	2.0%	3.1%	n/a
	Chalkis%	0.31%	3.2%	3.6%	0.0%	0.0%	0.0%	1.4%	2.0%	n/a
	Total	9.47%	11.0%	12.8%	7.3%	7.6%	8.6%	8.6%	11.2%	n/a
% of China	COFCO%	23.9%	20.9%	27.3%	20.7%	22.3%	27.4%	26.2%	24.8%	22.6%
	Guan-nong%	12.7%	11.4%	13.2%	10.1%	11.1%	13.2%	10.0%	12.3%	19.2%
	Chalkis%	12.4%	13.0%	15.5%	0.0%	0.0%	0.0%	6.9%	8.1%	8.7%
	Total	49.0%	45.2%	56.0%	30.8%	33.4%	40.6%	43.1%	45.2%	50.5%
% of Xinjiang	COFCO%	30.3%	26.0%	29.3%	33.2%	n/a	n/a	n/a	n/a	n/a
	Guan-nong%	16.0%	14.1%	14.2%	16.3%	n/a	n/a	n/a	n/a	n/a
	Chalkis%	1.6%	16.2%	16.7%	0.0%	n/a	n/a	n/a	n/a	n/a
	Total	47.9%	56.3%	60.3%	49.4%	n/a	n/a	n/a	n/a	n/a

TABLE 4: *Tomato paste production output quantity. Source: Global production quantity from FAO. (19 July 2024). Supply Utilization Accounts (2010-). https://www.fao.org/faostat/en/#data/SCL. Accessed 24 July 2024. China data from* 智研咨询 *(2024a). Xinjiang data from Xinjiang Statistical Yearbooks:* 新疆统计年鉴*2017, 13-10;* 新疆统计年鉴*2019, 13-10; Company data from respective company annual reports.*

Companies	Ownership	Location
Xinjiang Tianjiao Hong'an Seed Technology 新疆天椒红安种业科技股份有限责任公司 (Formerly: Xinjiang Longping Hi-Tech Hong'an Seed Industry Co., Ltd. 新疆隆平高科红安种业有限责任公司)	Private	XPCC 8th Division (Shehezi Zongchang, Xinjiang)
Xinjiang Chenguang Biotech Natural Pigment Co., Ltd 新疆晨光天然色素有限公司	Private	Yanqi County, Bayingol Prefecture, Xinjiang
Bohu Wanfu Pepper Products Co., Ltd. 博湖县万福辣椒制品有限责任公司	Private	Bohu County, Bayingol Prefecture, Xinjiang
Xinjiang Heshuo Dingding Food Co., Ltd. 新疆和硕丁丁食品有限责任公司	Private	Hoxud County, Bayingol Prefecture, Xinjiang
Urumchi Sirdan Food Trading Co., Ltd. 乌鲁木齐西尔丹食品商贸有限公司	Private	Urumchi, Xinjiang
Xinjiang Urumchi Central Asia Food (R&D Center) Co., Ltd. 新疆乌鲁木齐中亚食品 (研发中心)有限公司	Private	Urumchi, Xinjiang
Guilin Layn Natural Ingredients Corp. 桂林莱茵生物科技股份有限公司	Private	Guilin City, Guangxi. Sources pepper from Ili Prefecture, Xinjiang.

TABLE 5: *Key pepper manufacturing companies located, operated or sourcing in Xinjiang. Source:* 崔巍平 *et al (2022), p.196.*

Bright Sunshine Imp. & Exp. and Qingdao Hairunfeng Foods.

All of these companies may be considered to incur forced labor risk, through their association with locations, industries, and policies that are directly implicated in human rights violations. However, only Chenguang and Xinjiang Tianjiao Hong'an can be directly implicated in coercive state policies through documentary evidence (see below). In 2023, Chenguang Biotech held dominant shares in the global production of capsaicin[352] (65%) and capsicum oleoresin (40%), both made from peppers, and of lutein (30%) which is produced from marigold flowers.[353]

Tianjiao Hong'an has over 33,333 hectares of pepper raw materials cultivation bases in Xinjiang and an annual production capacity of 100,000 tons of dried peppers.[354]

The five leading enterprises in the Chinese capsaicin industry are[355]: Chenguang Biotech Group, Qingdao Tongxing Natural Pigment Co., Ltd[356], Qingdao Red Star Chemical Group Natural Pigment Co., Ltd[357], Jilin Province Jinta Industry (Group) Co. Ltd[358], and Guangzhou Lidaer Biotechnology Co., Ltd[359] In particular, Qingdao Tongxing Natural Pigment has established cultivation bases in Xinjiang's Korla, Kashgar, Qira County, and Chaoyang City.[360]

5.2 Chinese Companies Implicated in Coercive State Policies

5.2.1 COFCO Sugar Holding Co., Ltd.

COFCO Sugar Holding Co., Ltd (COFCO Sugar)[361] is a state-owned enterprise based in Xinjiang's Changji Prefecture and China's largest producer of both sugar and tomatoes.[362] Its subsidiary, COFCO Tunhe Tomato Co. Ltd, is one of the world's top producers and exporters of tomato-based products. Its main product is large-packaged tomato paste, and other products include fresh tomatoes, tomato juice, tomato lycopene, ketchup, whole peeled tomatoes, and diced tomatoes.[363] COFCO's tomato plantations and processing factories are located in Manas,

Changji, Wusu, Emin, Yanqi, and Wushi. Of these, Changji and Yanqi are XPCC locations.

COFCO Sugar has developed an integrated industrial chain for its tomato products that includes seed research and development, cultivation, pretreating, deep processing, and sales.[364] In 2022, it produced 254,700 tons of tomato paste, representing about 25% of China's total and 6.2% of the world's production.[365] COFCO Tunhe's production is directly supported by local XUAR prefecture and county governments. According to its 2022 government work report, Manas County is backing major agricultural companies like COFCO Tunhe, and plans to focus on strengthening essential agricultural supply chains, including those for processed tomatoes.[366] Yanqi Hui Autonomous County's 14th Five-Year Plan (2021-2025) includes plans to expand COFCO's production.[367] Bayingolin Prefecture's 2021 state work report explicitly encourages COFCO Tunhe, Chenguang Biotech, and Hongfan Biology to enhance its processing capability for tomatoes and pigment peppers.[368] COFCO Group maintains a close cooperative relationship with XPCC, supporting the latter's tomato, cotton, and sugar industries.[369] As of 2024, COFCO Sugar continued to report a strategic partnership with Kraft Heinz Company, maker of the popular Heinz brand ketchup, as a long-term supplier and collaborating partner for development, cultivation techniques, and training.[370]

As of 2024, COFCO Sugar continued to report a strategic partnership with Kraft Heinz Company, maker of the popular Heinz brand ketchup, as a long-term supplier and collaborating partner.

COFCO Group produces tomatoes and related products through several models: (1) the order-based contract model; (2) the company+cooperative+company model; and (3) the "company+base+farmer" model, a state-mandated industry-based poverty alleviation strategy.[371]

5.2.1.1 COFCO's Participation in Labor Transfers

The U.S. government added COFCO Sugar to the UFLPA (Uyghur Forced Labor Prevention Act) Entity List on December 8, 2023, citing evidence that the company has participated in government-sponsored poverty alleviation programs, and cooperated with local governments to carry out labor transfers.[372]

COFCO Sugar's 2017 annual report asserted that the company should fully implement the Party's decision and policy to fight against poverty through transfers of rural surplus labor, vocational skills training, and establishment of production bases run by local cooperatives.[373] It pledged support for county governments in carrying out targeted identification of prospective rural laborers and implementing targeted poverty eradication efforts. In March 2017, COFCO Tunhe participated in a special job fair focused on transferring rural surplus laborers.[374] In 2018, a COFCO factory[375] processing tomatoes and apricots in Wushi County (Aksu Prefecture) employed over 200 transferred rural surplus laborers.[376]

In 2020, COFCO Group's website confirmed it continues to cooperate with government labor transfer programs.[377] For example, COFCO's Changji factory received 10 impoverished Uyghurs from Yutian County (Hotan Prefecture) in southern Xinjiang's Uyghur heartland. COFCO Yanqi Sugar[378] similarly targeted local Uyghurs and other minorities for sea-

sonal employment as part of implementing poverty alleviation policies.[379] A French book on Xinjiang's tomato production describes an account of a tomato farmer who received transfers of Uyghur tomato pickers sent by COFCO via a labor export company, as part of the state's coercive "order-based farming" model.[380]

An October 2016 media article from Jimsar County describes the harvesting season at "the country's largest concentrated, contiguous [Kraft] Heinz tomato base," where the county authorities had been implementing mechanized harvesting by transferring land-use rights away from farmers.[381] The state then brought in COFCO Tunhe to construct a modern demonstration base for the processing of Heinz tomatoes. Despite the fact that the tomato planting base was "fully mechanized," the effort still required "a large amount of labor," and the county used the labor transfer mechanism to provide the required workers: "By encouraging peasants to transfer their land to enterprises, while [thereby] liberating peasants from their land, peasants are guided to work in nearby industrial parks."

5.2.1.2 COFCO's Participation in Land Transfers

Xinjiang Jiasheng Agricultural Development[382] transfers large amounts of land-use rights away from peasants, consolidates these land plots, and then leases large contiguous tracts of land to cooperatives, large-scale farmers, and agricultural enterprises.[383] Jiasheng established agreements with COFCO Tunhe Yanqi, Chenguang, Guannong, and Xinjiang Longping Hi-Tech for large-scale planting of peppers and tomatoes on transferred land.

5.2.1.3 COFCO's Participation in Coercive State Policies

The evidence presented in this section shows that as a state-owned enterprise, COFCO Group is extensively involved in propagating and enforcing coercive state policies. It conducts training in political ideology and Chinese language for ethnic farmers, sends staff to participate in village-based work teams that promote labor transfers, and actively participates in the propagation of CCP agricultural and industrial policies.

Reports from COFCO Sugar state that the company has always adhered to the Party's leadership, taken on related political responsibilities, and aligned its corporate development with the rural revitalization strategy.[384] Its 2017 company report emphasized the importance of implementing directives contained in the important speeches of Xi Jinping concerning Xinjiang's policies, with a focus on the primary goals of social stability and deepening village-based work team campaigns.[385] This mention of Xi's speeches evidently refers to the General Secretary's secret speeches in 2014, contained in the "Xinjiang Papers," that redirected Xinjiang's policy orientation toward "de-extremification," paving the way for the campaign of mass internment in 2017. COFCO is also part of the state's "Pairing Assistance" program for targeted poverty alleviation.[386] Pairing assistance is closely linked to both systems of Uyghur forced labor through investment in camp-linked factories and through the direct promotion of transfers of surplus laborers within Xinjiang and to other provinces.[387]

According to a July 2023 Xinjiang Daily article on "ethnic unity," COFCO Tunhe was directly involved in village-based work teams linked to the government's social control efforts and assimilatory activities around the time of the Kurban Festival.[388] In October 2022, COFCO Sugar's Xinjiang village-based work team organized ethnic groups to watch Xi's speech at the 20th CCP Congress.[389] In 2021, COFCO Group expressed its commitment to rural revitalization and poverty reduction policies by formulating a rural revitalization work plan, selecting rural revitalization staff, and visiting its seven targeted assistance counties, including Wushi County in Aksu Prefecture, thus aiding the state with policy enforcement.[390]

In its 2021 Corporate Social Responsibility (CSR) Report, COFCO Sugar emphasized its commitment to aligning corporate policy with the central gov-

ernment's directives and policies.[391] The company engages in rural revitalization and poverty reduction through village-based work teams and the establishment of satellite factories in villages to employ rural surplus laborers for agricultural processing.[392] In 2022, COFCO Tunhe Yanqi Tomato carried out ideological education among factory workers who are members of the Youth League to "establish correct worldviews, outlook, and values" within them.[393] In 2019 and 2021 respectively, party cadres at COFCO Tunhe Wushi Fruits and Vegetables organized poor households to cultivate tomatoes and carried out "one-on-one assistance" in villages to facilitate labor transfers, a highly targeted approach that involves a very high risk of coercion.[394] Between 2016 and 2021, COFCO dispatched around 150 poverty alleviation cadres in its paired assistance counties, referring to persons who are authorized to coercively enforce state policy and assign ethnic villagers new livelihoods.[395]

According to a May 2020 article, COFCO Tunhe Sugar's village-based work team in Kumuqiwusitang Village in Wushi County carried out propaganda and mobilization efforts to organize poor locals into construction teams and encourage villagers to plant vegetables.[396] Another example describes how a COFCO Group staff member stationed in Aktohai Village, Wushi County (Aksu Prefecture)[397] led a village-based work team and carried out extensive mapping tasks to collect population data, poverty levels, reasons for poverty, and numbers of surplus laborers.[398] This resulted in the transfer of over 300 persons, to "ensure that poor households who should be put to work were all put to work." The company organized villagers to work in COFCO Sugar and other companies, subjecting them to Chinese language, skills, and discipline training, as well as sending party cadres to monitor them.[399] After completing the required training, villagers were then transferred to work at COFCO Group's local factories.[400] A similar report from 2018 described COFCO Sugar engaging in village-based work teams to "transform" people's thoughts, and to mobilize reticent villagers to join labor transfers, including to work placements at COFCO Yanqi's subsidiaries.[401]

In short, COFCO Sugar and its subsidiaries are directly and strongly implicated in the propagation and enforcement of coercive and assimilatory state policies.

5.2.2 Xinjiang Guannong Tomato Products Co., Ltd

Xinjiang Guannong Tomato[402], a subsidiary of Xinjiang Guannong Fruit & Antler, is an XPCC state-owned enterprise based in southern Xinjiang's Uyghur heartland regions, producing cotton, tomato, sugar, and related products.[403] In 2023, Guannong had a daily processing capacity of 15,000 tons of raw tomato material, and an annual processing capacity of 300,000 tons of various tomato products, including large- and small-packaged tomato paste, diced tomatoes, tomato juice, and tomato sauce.[404] In 2022, the company's output of tomato paste represented 12.3% of China's and 3.1% of the world's production. In 2023, Guannong's export earnings from tomato products increased by 139.3% compared to 2022.[405]

Xinjiang Guannong sources its raw tomatoes from the Yanqi Basin.[406] Production follows the state's order-based model.[407] In 2022, the company invested 4.7 million yuan in an order-based production project designed to advance state-led rural revitalization and poverty alleviation efforts, with local peasants supplying raw tomatoes.[408] The company has contracted over 6666.7 hectares of land for tomatoes and sugar beet with farmers.

5.2.2.1 Xinjiang Guannong's Participation in Labor Transfers

Guannong has continuously employed ethnic seasonal and surplus laborers for tomato production, and was given an XPCC award for "poverty alleviation innovation" in 2020.[409] An article from October 2019 states that the village-based work team and village committees in one village in Tekes County (Ili Prefecture) transferred laborers to Guannong Tomato, confirming state involvement in the process.[410]

Between 2018 and 2020, Guannong employed approximately 500 ethnic workers.[411] In its 2020 Social Responsibility Report, Guannong states that it hired a large number of ethnic minority laborers for seasonal labor for three consecutive years (2018-2020) to lift them out of poverty.[412] This timeframe closely corresponds to the years when a particular coercive state policy targeting Uyghur and other ethnic surplus laborers was carried out under the Xinjiang Party Secretary Chen Quanguo.[413] In 2020, the company carried out organized labor transfer schemes, employing 140 seasonal workers from Yingjisha County, Kashgar prefecture.[414] Company reports admit that these labor transfer schemes mobilized the "enthusiasm" of local ethnic groups for flexible employment and enabled them to become skilled industrial workers, language that closely mirrors state policy documents outlining coercive labor transfers. In 2021, Guannong provided nearly 600 temporary jobs to the surrounding area during harvesting and processing periods, and received over 200 seasonal laborers from southern Xinjiang.[415] In 2023 the company's tomato and sugar industries recruited over 500 seasonal workers from Yarkand County, Yingjisha County, and Kashgar.[416]

A July 2020 Guannong press release detailed how 235 seasonal workers arrived from southern Xinjiang by train to Hoxud County (Bayingolin Prefecture), to be transported to Guannong's two factories prior to the start of the production season.[417] The company also recruited 129 local seasonal laborers.[418] These labor transfer programs were coordinated by the company's internal CCP committee.[419]

5.2.2.2 Xinjiang Guannong's Participation in Land Transfers

Guannong is actively involved in the transfer of land usage rights, a practice that is widely linked to state-induced dispossession and subsequent coercive labor transfers of farmers into factory work. The company's 2022 Annual Report indicates that land transfer and order-based cultivation can ensure "stable supply" and "greater control" over the processing of agricultural produce at the production base.[420]

A company notice details plans to transfer 13,333 hectares (200,000 mu) of farmland between 2023 and 2027 for the cultivation of tomato, cotton, beats, pepper and other crops.[421] The initiative initially prioritized Bayingolin Prefecture, and subsequently plans to focus on southern Uyghur heartland regions. Remuneration for peasants for transferring their use rights is capped at 800 yuan per mu annually, below average market prices. An August 2023 update disclosed that a Guannong subsidiary had leased 2,887 hectares of farmland for tomato cultivation in four Luntai County villages (Bayingolin Prefecture), an ethnic region, for a period of 15 years.[422] As stated above, Guannong has land-use agreements with Jiasheng, a company based in Yanqi County in Bayingolin Prefecture that transfers large amounts of land-use rights away from local peasants for upscaled agricultural production.[423]

Guannong is actively involved in the transfer of land usage rights, a practice that is widely linked to **state-induced dispossession and subsequent coercive labor transfers of farmers** into factory work.

5.2.2.3 Xinjiang Guannong's Participation in Coercive State Policies

Guannong is vigorously engaged in CCP party-building and related ideological education activities.[424] Company reports detail how company staff participate in village-based work teams, organizing locals to attend training sessions for tomato cultivation and helping village committees conduct daily household visits to understand locals' living and financial situations. In 2022, the company utilized weekly flag-raising ceremonies and household visits to conduct outreach and educational events.[425] These activities constitute an integral part of grassroots mechanisms by which the state coerces ethnic peasants into mandated work and transforms local social structures and livelihood approaches.[426] Company reports openly state that Guannong actively transfers ethnic surplus laborers by "stimulating" their motivation, increasing their flexibility, and transforming them into industrial workers.[427] This represents highly coercive language associated with transfers that constitute a high risk of forced labor.

Guannong's submission for the National Poverty Alleviation Award provides further details of how it manages transferred laborers, stating that two officials from the XPCC's 51st Regiment "manage" these laborers' political views, their stability and security, ensuring a "diligent" work attitude, and conducting physical examinations and check-ups to ensure that transferred laborers adhere to family planning policies.[428] Such physical examinations have been used in the XUAR to obtain biometric data from populations for surveillance purposes, and to enforce birth suppression policies among targeted ethnic groups through coercive IUD insertions and mandatory sterilization procedures.[429]

In a May 2019 application submitted for the National Poverty Alleviation Award, Guannong detailed a Labor Export Assistance Plan[430] for the XPCC's 51st Regiment.[431] The plan intended to employ 60 workers at Guannong Sugar and Guannong Tomato to meet seasonal labor demands. Guannong collaborates with government village-based work teams and village committee cadres to identify persons targeted for poverty alleviation. In August 2018, Guannong implemented the "labor export+poverty alleviation" project, recruiting 60 surplus laborers from the 51st Regiment to harvest and transport tomatoes.[432]

Being an XPCC entity, Guannong is directly involved in the securitization of Xinjiang, operating a company-based armed militia. Its 2022 audit report shows that it received funding from the government for "Militia Armament Funds."[433] In Xinjiang, such militia forces are involved in joint drills and armed patrols together with police forces and the People's Armed Police (PAP), in order to perform "counterterrorism" tasks and to enforce the state's highly intrusive securitization and surveillance policies.

In short, Guannong's activities directly support the implementation of coercive and assimilatory state policies, including policies that may be contributing to the enforcement of population management and birth prevention practices designed to reduce ethnic population growth.

5.2.3 Chalkis Health Industry Co., Ltd

Chalkis Health Industry (Chalkis)[434], designated as a national-level "agricultural industrialization dragonhead enterprise," is owned and controlled by the XPCC's 6th Division.[435] It has nine factories, which in 2023 produced nearly 116,000 tons of bulk-packaged tomato paste, the company's main product.[436] Recently, Chalkis has also been producing small-packaged tomatoes (diced tomatoes, crushed tomatoes, peeled whole tomatoes) and lycopene.[437] Xinjiang Chalkis Red Tomato[438], a subsidiary based in Wujiaqu, an XPCC location in northern Xinjiang, mainly produces and sells high-volume packaged tomato paste. Xinjiang Chalkis experienced a complete production shutdown from 2018 to July 2021 due to self-reported profitability issues, and resumed production in 2021.[439] In 2022, the company's output of tomato paste represented 8.1% of China's and 2% of the world's production.[440]

Chalkis adopts the "company+peasant+cooperative" and "company+XPCC production base+peasant"

production models for unified planting, management, and selling, a production approach that integrates peasants into a top-down, streamlined production process.[441]

5.2.3.1 Chalkis's Participation in Labor Transfers

According to company reports, Chalkis's tomato business routinely employs seasonally-transferred laborers. It provides 8,000 seasonal work positions each year with the stated purpose of "facilitating the transfer of the rural surplus labor workforce during the agricultural slack period."[442] In 2023, Chalkis employed over 1,500 such laborers for both harvesting and processing.[443]

5.2.3.2 Chalkis' Participation in Land Transfers

Chalkis has carried out land transfers to establish standardized production bases for raw materials, exploring a long-term land operation rights cooperation model that includes "enterprise +land transfer +farmland construction."[444] The goal is to establish a high-quality raw material base that the company can independently control, thereby increasing production efficiency and ensuring increased income for farmers. In October 2023, Xinjiang Chalkis leased 892 hectares (13379.27 mu) of arable land from Xinjiang Xinhu Xinsheng Company[445], a state-owned entity, for a 20-year period.[446] According to the contract, Xinhu Xinsheng coordinates the tomato planting process based on Chalkis's instructions. The stated aim of this effort is to convert land into "high-standard farmland" in line with state goals of commercial farming and agricultural industrialization.[447] The approach is said to enable unified planting and management in company-owned production bases, representing an "XPCC farm+company+production base+peasant" model. This strategy aims to solve challenges of instability in supply and inconsistency in quality associated with more traditional, individualized farming.[448]

5.2.3.3 Chalkis' Participation in Coercive State Policies

Under its ownership by the XPCC, Chalkis has participated in multiple coercive state policies directly associated with ethnic assimilation and increased state control. Chalkis implemented the state's "ethnic unity - becoming family"[449] activity that pairs Han Chinese officials or workers at state-owned entities with ethnic families for "ethnic integration" activities.[450] These "becoming family" activities, which started in February 2017 immediately prior to the campaign of mass internment, are used by the state to surveil ethnic households and to identify household members for potential re-education internment. Chalkis also established village-based work teams and carried out related activities for "stability maintenance" and society-wide security, including in southern Xinjiang's Uyghur heartland regions.[451]

In April 2022, Chalkis advertised a leading CCP position in its company for applicants with party membership and experience in "grassroots organization."[452] This person would be responsible for leading the company's "ethnic unity - becoming family" and "poverty alleviation" work, and supervise development of its Communist Youth League. Such job positions form an integral part of enforcing state-led mandates linked to labor and land-use rights transfers. The advert noted that prospective candidates must have a track record of "opposing ethnic separatism and illegal religious activities."

Overall, the evidence suggests that as an XPCC entity, Chalkis closely cooperates with the party-state and aligns its activities to implement state policies in Xinjiang, including coercive and assimilatory policies targeting ethnic groups. There is therefore a high risk that Chalkis directly enforces state policies that promote forced labor.

5.2.4 Chenguang Biotech Group Co., Ltd.

Chenguang Biotech Group,[453] a private enterprise headquartered in Hebei province, produces plant-based extracts, food additives, natural dyes, pigments, and supplements from agricultural products.[454]

Chenguang describes itself as a leading global player for derivatives used in food, pharmaceutical and cosmetic industries. It has consistently ranked among the top two in the "Top Ten Exporters of the Chinese Extract Industry" and commands the largest market share in the plant extract industry.[455]

Despite being a private company, Chenguang and its subsidiaries operate in close partnership with the XPCC. The company has a long-term partnership with the XPCC in pepper production, and repeatedly received financial subsidies from the XPCC, including in 2022 and 2023.[456] Specifically, Chenguang sources dried pepper from XPCC regions to manufacture pepper pigments.[457] Local governments actively support Chenguang's production and development. Yanqi County's 14th Five-Year Plan calls for "vigorous support" to develop the pepper industry and expand both domestic and international market shares, naming Chenguang Biotech as the leading enterprise in this endeavor.[458]

Chenguang Biotech's procurement model involves establishing raw-material production bases in Xinjiang, using a "farmer+government+company" model to cultivate and procure pigment peppers, tomatoes, cotton, and marigold flowers.[459] Company annual reports discuss official poverty alleviation and rural revitalization policies and note that Chenguang adopted the "company+base+cooperative+farmer" model to further these policies.[460] In Xinjiang, Chenguang sources raw materials from Kashgar, Bayingol, and Hotan.[461] Additionally, it assists farmers in establishing professional cooperatives.[462] It also developed specialized agricultural bases for peppers, marigolds, and stevia.[463] In poverty alleviation "focus regions" such as southern Xinjiang's Kashgar Prefecture, Chenguang actively "guided" Uyghur peasants to grow crops such as marigold flowers, indicating a specific risk of forced labor through agricultural production mandates.[464]

Chenguang actively "guided" Uyghur peasants to grow crops such as marigold flowers, indicating a specific risk of forced labor through agricultural production mandates.

5.2.4.1 Chenguang Biotech's Participation in Labor Transfers

Reports show how Chenguang has routinely received transfers of ethnic surplus laborers in Uyghur and other ethnic-majority regions. These transfers often take place with the help of intermediary labor service companies. In August 2022, Chenglian labor service company coordinated the daily transfer of 160 local surplus laborers to Chenguang during that year's tomato-picking season.[465] In addition, 27 surplus laborers were transferred to Chenguang's processing factory. A July 2022 report states that during the labor-intensive season, Xinjiang Chenguang Tomato recruited more than 200 workers through Chenglian.[466]

An April 2023 article published on China News stated that Xinjiang Chenguang and another tomato-processing company received 150 workers for seasonal labor in an ethnic township in Luntai County (Bayingolin Prefecture).[467] Chenguang participated in Luntai county's "party branch + labor service + company" model to recruit seasonal labor, confirming that the company is part of a systematic, state-assisted labor mobilization strategy.[468] An August 2023 article describes Chenguang's partnership with Chenglian for "point-to-point" surplus labor transfers, to send workers to Chenguang for planting and harvesting tomatoes.[469] These transfers took place with the "vigorous support" of the Taerlake Township Party Committee and the local government.[470] Local propaganda accounts cite a local villager with an ethnic name expressing his gratitude to the village com-

mittee for this employment placement.[471] Extensive research into forced labor practices has shown that such accounts represent a key indicator of a coercive employment placement.[472] At Chenguang Biotech Yarkand, a Chenguang subsidiary based in Yarkand County producing capsicum red pigment and lutein, over 100 of its 148 employees as of 2020 came from local poor households, a population group at highest risk of forced labor transfers and other coercive state poverty alleviation policies.[473]

5.2.4.2 Chenguang Biotech's Participation in Land Transfers

With the assistance of a village-based work team, a farmers' professional cooperative in Bositan village located in Yecheng County, Kashgar Prefecture, transferred all land-use rights from peasants to itself.[474] As discussed earlier, such all-out transfers of entire regional farmland areas come with a high risk of coercion. Chenguang Biotech then partnered with this cooperative to practice "order-based" cultivation of marigold flowers and various vegetables.

As stated above, Chenguang Biotech also has land-use agreements with Jiasheng, a company that transfers large amounts of land-use rights away from local peasants for upscaled agricultural production.[475] The primary crops Chenguang grows on these transferred plots are pigment peppers used in cosmetics products, along with tomatoes and fresh peppers.

5.2.4.3 Chenguang Biotech's Participation in Coercive State Policies

A 2023 Chenguang Biotech document outlines the company's connections with the XPCC, and documents its receipt of multiple related subsidies, including for in-company party-building activities.[476] Company annual reports affirm an active commitment to government policies for poverty alleviation and rural revitalization that are strongly associated with coercion.[477] State authorities have designated Chenguang Biotech and its subsidiary Xinjiang Chenxi Jiaoye[478] and Chenguang Yarkand as National Key Leading Enterprises in agricultural industrialization[479], and Chenguang Yarkand[480] is also designated as a key agricultural "poverty alleviation enterprise"[481] in Kashgar.[482] Companies that receive such designations—which are given only to companies that actively promote or support implementation of state policies among targeted populations—are primary receivers of state-mandated rural surplus labor transfers.

A state media article from May 2023 noted that Yanqi County is "focused on cultivating leading enterprises such as Chenguang Biotechnology, Chenxi Pepper Industry, and Chenguang Agriculture [all Chenguang subsidiaries], continuously increasing production and capacity, [and] directly driving more than 10,000 farmers of all ethnic groups in Yanqi County and surrounding counties and cities to plant peppers."[483] Such a large-scale concerted effort points to significant risks of forced labor through association with agricultural production mandates, and to coercive work risks outlined in the ILO's new guidelines on measuring state-imposed forced labor.[484]

A January 2023 article stated that Chenguang's CCP branch has "actively carried out ethnic unity and becoming family" activities, visiting ethnic groups during religious festivals and holding party-building activities.[485] Such activities are used to surveil ethnic families and promote assimilatory state policies.

5.2.5 Xinjiang Tianjiao Hong'An

Xinjiang Tianjiao Hong'an Seed Technology (Tianjiao Hong'an), formerly known as Xinjiang Longping Hi-Tech Hong'am Seed Industry, is a crucial player in the pepper industry in Xinjiang, engaging in production, processing, and trading.[486] In 2017, Xinjiang Longping was renamed Xinjiang Tianjiao Hongan Agricultural Technology Co. Ltd. and was renamed again in 2023 to Xinjiang Tianjiao Hong'an Seed Technology Co. Ltd.[487] As of May 2024, Chenguang Biotech Group is a shareholder of Xinjiang Tianjiao Hong'an.[488]

Xinjiang Tianjiao Hong'an operates cultivation bases across 11 XPCC farms and 8 counties and cities,

including in ethnic regions such as Bayingolin and Hotan.[489] The company produces dried pepper, chili powder, chili granules, chili sauce, capsicum oleoresin, and paprika oleoresin. Tianjiao Hong'an pepper production receives strong support from the XPCC and is part of the XPCC's characteristic resource conversion projects with the goals of promoting "rural stability [and] increased agricultural efficiency."[490] In 2021, the XPCC recognized Tianjiao Hong'an as a "Key Leading XPCC Enterprise for Agricultural Industrialization." [491] The company states that within the XPCC it has promoted pepper production across over 333333.3 hectares (5 million mu) of farmland and driven over 30,000 local peasant or farmer households to be involved in pepper production.[492] A 2020 company report states that Tianjiao Hong'an operates a 2,000 hectare pepper cultivation base, which has "driven" over 8,600 farmers in three townships in Hotan County to engage in pepper planting, harvesting, and field management.[493] This suggests that the company is involved in the enforcement of state policies in the areas of agricultural industrialization, poverty alleviation and employment that are linked to risks of forced labor arising from coercive agricultural production mandates and labor transfers.

5.2.5.1 Tianjiao Hong'an's Participation in Labor Transfers

On its company website, Tianjiao Hong'an states that it has cumulatively used "more than 200,000 idle laborers" for its pepper production, a term that refers to rural surplus laborers.[494] No time frame is given for this claim. The company was established in 2010. Given that the company claims to have promoted pepper production across over 333333.3 hectares (5 million mu) of farmland, this figure is very realistic for such a labor-intensive process.

5.2.5.2 Tianjiao Hong'an's Participation in Land-Use Transfers

In 2020, Tianjiao Hong'an applied for a loan from the Agricultural Development Bank of China for a "large scale land transfer operation."[495] In 2021, Xinjiang Tianjiao Hong'an reached a land transfer agreement with Xiaquhao Village (Yanqi County, Bayingolin Prefecture),[496] and the company took over the land-use rights of approximately 39% of all village farmland.[497]

5.2.5.3 Tianjiao Hong'an's Participation in Coercive State Policies

Besides its collaboration with the XPCC and other regions in Xinjiang, Tianjiao Hong'an collaborates with government village-based work teams stationed in Hotan County (Hotan Prefecture) to develop the local pepper industry and establish the "leading enterprise+cooperatives+farmers" pepper cultivation model.[498] In short, the company works closely with XPCC and local authorities to implement and enforce Xinjiang's agricultural industrialization policies.

5.2.6 Zhucheng Haotian Pharm Co Ltd. ("Howtian")

Zhucheng Haotian Pharm Co Ltd (Howtian), which refers to itself in English as "Howtian," is China's largest producer and supplier of processed stevia, headquartered in Shandong.[499] Its subsidiary, Dongtai Haorui Biotechnology,[500] established in 2017, boasts an annual steviol glycosides production capacity of 10,000 tons and stevia processing capacity of 50,000 tons.[501] This subsidiary alone accounts for half of China's total production of stevia-related products and, according to a local Dongtai newspaper, for 40% of the global production of steviol glycosides.[502]

Howtian sources stevia from Xinjiang. According to an article on 21food.cn, Haotian operates a stevia cultivation base covering approximately 360 hectares in Xinjiang.[503] A 2018 news article cites the vice president of Dongtai Haorui Biotechnology stating that the company's stevia raw materials are primarily sourced from Xinjiang, Gansu, and Inner Mongolia.[504] Many of the seeds produced at its stevia seedling cultivation base in Shandong are used in Xinjiang.[505]

Howtian cultivates stevia in Wenquan County (Bortala Prefecture) with the direct involvement of coercive government village-based work teams.[506] The report highlights that in order to "broaden the horizons of village leaders and residents," transform their thoughts, and to optimize the local planting structure, the village work team collaborated with Haotian to introduce and cultivate stevia in the village. To optimize land use for cultivating stevia and other agricultural products, the work team enforced the transfer of land-use rights for 867 hectares of farmland. In the process, the team had to visit 16 households that showed "resistant attitudes" to land-use rights transfers, conducting "patient work" to "overcome various obstacles." Since the cultivation region is located in an XPCC region, the poverty alleviation work was supervised by the commander of the local militia forces. In short, Howtian's stevia production directly benefited from coercive state policies.

5.3 Conclusions

In sum, COFCO Tunhe Tomato, Chenguang Biotech, Xinjiang Guannong, Xinjiang Chalkis, Xinjiang Tianjiao Hong'an, and Zhucheng Haotian are implicated in numerous coercive state policies, including transfers of both land-use rights and rural surplus laborers that place targeted ethnic groups at a high risk of forced labor. In addition, all of these companies are actively engaged in promoting and enforcing coercive and assimilatory state policies in ethnic regions, aiding perpetration of the state's atrocities.

All of these companies are **actively engaged in promoting and enforcing coercive and assimilatory state policies** in ethnic regions, aiding perpetration of the state's atrocities.

6. Implicating Global Supply Chains

6.1 Xinjiang's Exports of Tomato and Peppers, 2015-2023

6.1.1 Exports of Tomato-Related Products[507]

Xinjiang produces approximately 14-15% of the world's processed tomatoes.[508] In 2023, Xinjiang was China's largest tomato exporting region, exporting 528.18 million kg of fresh and processed tomatoes or 38% of the PRC total, valued at $634.16 million USD.[509] Nearly 90% of Xinjiang-produced tomato paste is produced for export.[510] In the first six months of 2024, Xinjiang exported 231.24 million kg of tomato products to 88 countries, worth US$288.54 million, accounting for 36% of China's tomato exports by value.[511] However, besides direct exports from Xinjiang, tomatoes that are grown in the region heavily dominate exports from other Chinese provinces. In 2023, Xinjiang accounted for 80% of China's tomato products, and the region accounts for the majority of exports of large-package triple-concentrate tomato paste, the product of greatest significance for global supply chains.[512]

Xinjiang's export shares peaked in 2019 but decreased significantly by 2021. Shares recovered in 2022 and 2023 but remain below pre-2020 levels. The declines are linked to the production stop at Xinjiang Chalkis (see section 5.2.3), as well as COVID-19 disruptions and the U.S. import ban on XUAR tomatoes and related products in January 2021.[513] COFCO's 2021 and 2022 annual reports spoke of rising "geopolitical risks" and noted that "trade protectionism" posed significant challenges to exports.[514] The reports stated

	Export Value (million USD)			Export Quantity (million kg)		
Year	China	Xinjiang	Xinjiang/Total	China	Xinjiang	Xinjiang/Total
2015	1,100.0	430.9	39.2%	1,215.2	476.9	39.2%
2016	932.1	363.5	39.0%	1,171.2	477.9	40.8%
2017	902.5	374.0	41.4%	1,145.9	497.2	43.4%
2018	905.5	395.2	43.6%	1,134.8	547.1	48.2%
2019	941.7	439.0	46.6%	1,161.1	580.2	50.0%
2020	983.3	346.8	35.3%	1,136.7	437.6	38.5%
2021	1,082.1	296.8	27.4%	1,112.4	369.9	33.3%
2022	1,268.9	460.9	36.3%	1,231.7	482.2	39.2%
2023	1,632.1	634.2	38.0%	1,463.7	528.2	36.1%
2024 1-6	818.3	288.5	35.3%	700.9	231.2	33.0%

TABLE 6: *Exports value and quantity of tomato-based products in China and Xinjiang. Data from General Administration of Customs PRC.* http://stats.customs.gov.cn/indexEn

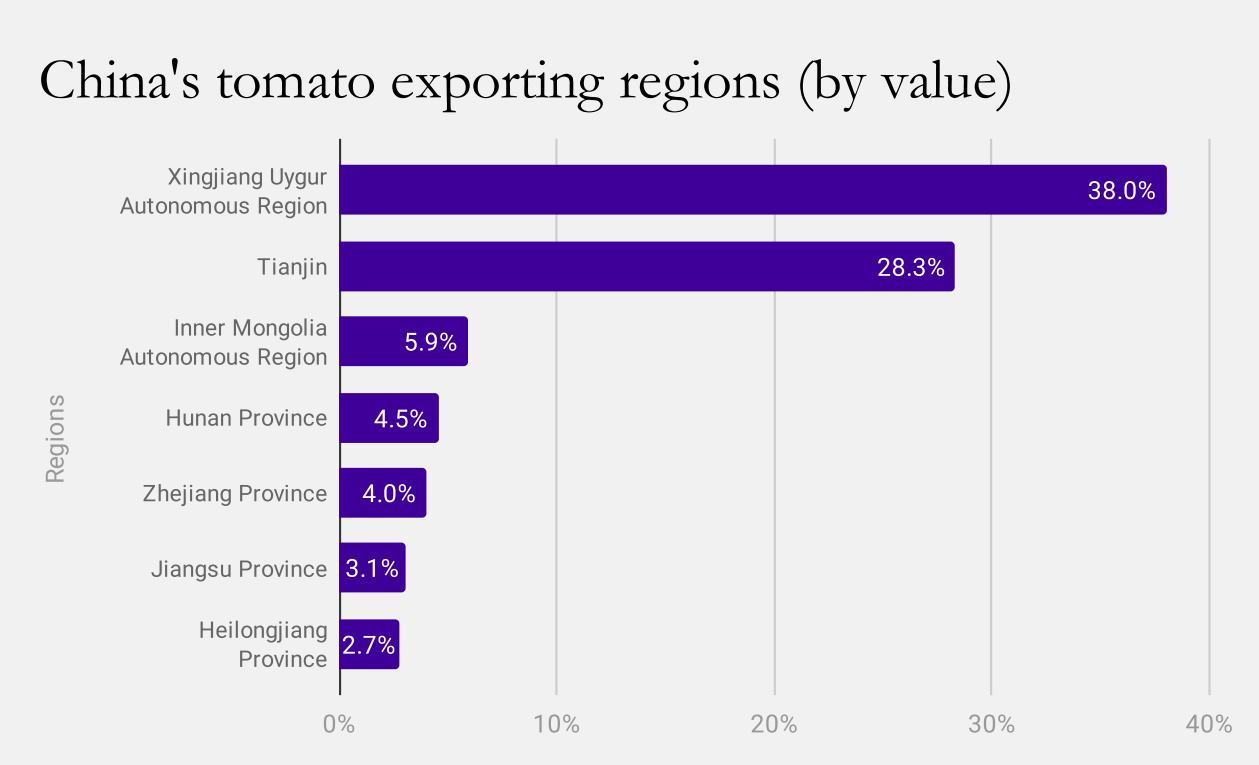

FIGURE 4: *China's tomato exporting regions in 2023. Data from General Administration of Customs PRC.* http://stats.customs.gov.cn/indexEn

that the company was compensating by expanding domestic market shares. In Guannong's 2021 annual report, the company attributed export challenges to "unfair global trade competition" caused by "certain countries' malicious actions of tarnishing Xinjiang's tomato industry."[515]

Following Xinjiang in export volume and value were Tianjin and Inner Mongolia. However, especially Tianjin mostly exports Xinjiang-linked tomato products. For instance, Xinjiang Yanyangtian transported its large-packaged tomato paste to Tianjin port for export.[516] Similarly, Guannong launched a dedicated freight train route from Korla to Tianjin.[517]

In 2023, Xinjiang accounted for 70.6% of China's exports of large-package tomato paste, which represents the primary form in which Chinese tomato products enter global supply chains for use in end products sold by other brands.[518] An examination of supply chain data shows that related tomato exports usually come in the form of triple concentrate in airtight drums weighing 200-250kg. For example, Chalkis exports large-package tomato paste in blue or gray conical metal drums weighing around 240kg.[519] In 2023, large-package tomato paste represented 96.1% of Xinjiang's total tomato-related exports by value (Appendix C- table 7).[520] The importance of Xinjiang's tomato industry for the region's exports has been increasing in recent years, rising from 3-4% of all exports by value (2016 to 2019) to 7-11% (2020 to 2023).[521]

In 2023, Xinjiang exported tomato products to over 100 countries, in particular Italy, Russia, Saudi Arabia, the Philippines, and Portugal. Italy has been a top export destination, and in 2023 imported tomato products valued at $84 million, or 13.2% of all tomato-related XUAR exports. In 2022, almost half of Italy's processed tomatoes came from China, a share that increased from 39.1% in 2015 to 48.9% in 2022.[522]

6.1.2 Exports of Pepper-Related Products

China is the world's third largest exporter of chili peppers.[523] In 2023, it exported dried and fresh pep-

FIGURE 4: *COFCO Tunhe large-package tomato paste drums are being inspected in Aksu Prefecture prior to export. Source:* 搜狐. *(2023, August 18).* 新疆大桶装番茄酱生产如火如荼，锥形桶供不应求. https://www.sohu.com/a/712766034_121123770 *or archived:* https://archive.ph/lWYc8

pers valued at USD$1,104 million, accounting for 7.6% of all vegetable exports.[524] Top importers were Spain (15.8%), Malaysia (9.4%), Mexico (9.3%), US (8.5%), and Hong Kong (7.9%).[525]Appendix C lists Harmonized System (HS) codes and terminology of pepper-related export products.

In 2023, Xinjiang exported 12.8 million kg of pepper-based products, 2.7% of the PRC total. In 2020, Xinjiang's share of global chili pepper production stood at 9.8%.[526] Compared to previous years, Xinjiang's share of all PRC exports has been declining, especially between 2020 and 2021, a time period when forced labor allegations became prominent and when the U.S. enacted bans on cotton and tomatoes.

About 70% of Xinjiang dried peppers are sold outside of Xinjiang for further deep processing, meaning that most pepper products made from Xinjiang-grown peppers are exported via other regions.[527] This suggests increased supply chain obfuscation, meaning

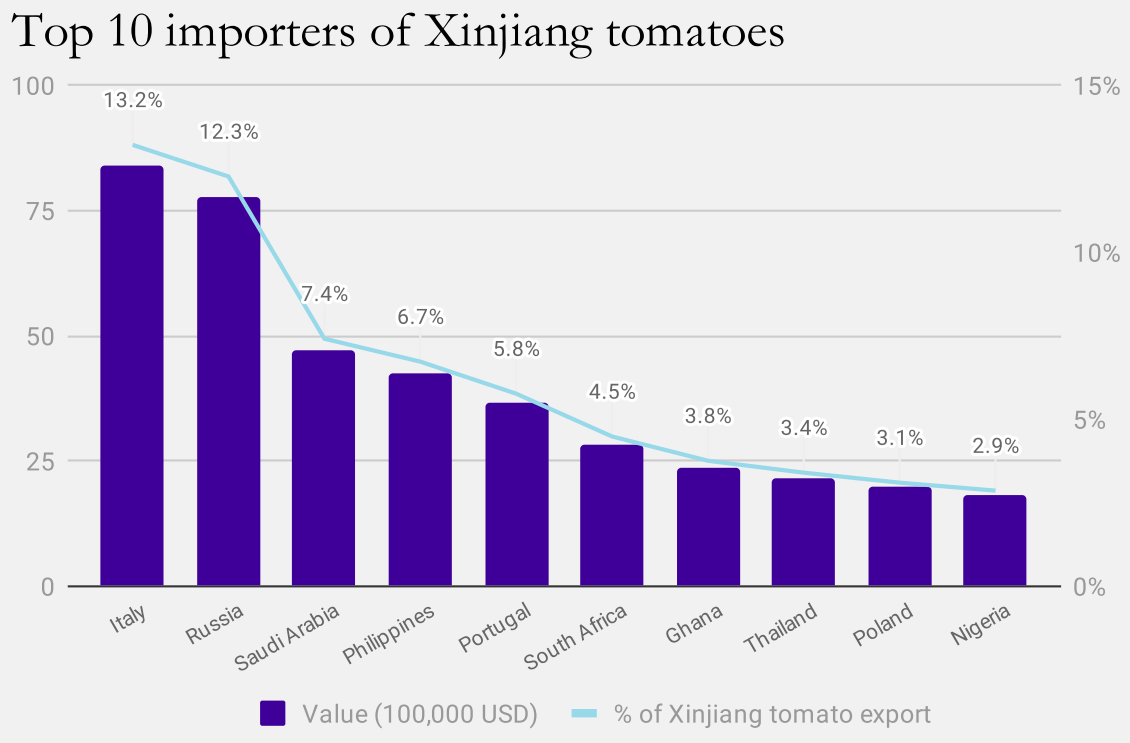

FIGURE 5: *Top 10 importers of fresh and processed tomatoes directly from Xinjiang in 2023, by value (USD). Data from General Administration of Customs PRC. Note that many tomatoes from Xinjiang are exported via other Chinese regions.* http://stats.customs.gov.cn/indexEn

	Export Value (million USD)			Export Quantity (million kg)		
Year	China	Xinjiang	Xinjiang/Total	China	Xinjiang	Xinjiang/Total
2015	375.9	12.9	3.4%	204.2	9.6	4.7%
2016	514.9	12.9	2.5%	269.8	8.8	3.3%
2017	541.1	13.6	2.5%	275.9	8.8	3.2%
2018	611.0	17.2	2.8%	310.2	10.1	3.2%
2019	627.3	14.6	2.3%	318.7	9.6	3.0%
2020	673.2	15.5	2.3%	343.8	12.1	3.5%
2021	698.3	8.6	1.2%	324.3	7.3	2.2%
2022	861.2	11.7	1.4%	367.8	12.1	3.3%
2023	1,103.7	12.0	1.1%	467.5	12.8	2.7%

TABLE 7: *China and Xinjiang's pepper exports. Data from PRC General Administration of Customs. Accessed May 30, 2024.*

that exported Chinese pepper products are at risk of being tainted with forced labor and other ethical risks arising from coercive and assimilatory state policies.

Currently, the Chinese customs system does not have separate import and export trade statistics for pepper-derived products such as capsanthin and capsaicin.[528] Instead, pigments are included in "other coloring matter of vegetable origin and preparations based thereon" (HS code 32030019). Xinjiang is one of the primary export regions of coloring matter derived from vegetables, accounting for 8.1% of the export volume in 2023, ranking the fourth largest in China.[529] China's total plant extract[530] exports, which include extracts from peppers, tomatoes, grapes, marigolds, stevia and monk fruit, amounted to 23.88 billion yuan in 2023, capturing over 20% of the global market share and ranking first in the world.[531] Major Chinese producers of plant extracts examined in this section are Chenguang and Layn.

6.2 The Global Supply Relationships of Xinjiang-Based Chinese Companies

Our supply chain research shows that several western and US-based companies directly import products made from Xinjiang-grown tomatoes, peppers, stevia and marigolds.[532] We also found instances of companies trading with producers that source products grown and manufactured in Xinjiang. The findings suggest there is a high risk that select shipments entering these countries contain Xinjiang products, either directly or through international subsidiaries of several Western multinational corporations. These subsidiaries are often situated in Southeast Asian countries and serve markets in the United States, Canada, or the United Kingdom. Subsidiaries of Unilever, Nestle, Del Monte, Kraft Heinz, Pepsico Holdings, and McCormick have purchased tomato products from COFCO Tunhe Tomato. Detailed shipment information with bill of lading numbers can be found in Appendix D.

6.2.1 COFCO

COFCO Sugar is the world's third-largest producer of tomatoes and tomato products.[533] It operates over a dozen tomato-related enterprises,[534] of which 10 are based in Xinjiang and four in Inner Mongolia.[535] The company also has active subsidiaries based in the US: COFCO Capital Corporation and COFCO Americas Resources

COFCO Tunhe Tomato → COFCO Tunhe Tomato
Main products: Tomato paste, tomato powder, chili paste

Destination countries	Number of shipments in 2023	Destination countries	Number of shipments in 2023
Indonesia	315	Norway	16
Philippines	141	Thailand	16
South Korea	85	Sweden	15
Germany	82	Ghana	14
New Zealand	64	India	8
Malaysia	49	Denmark	4
Australia	40	Costa Rica	1
Vietnam	36	Poland	1
Oman	29	United Kingdom	1
Latvia	18		

TABLE 8: *Shipments from COFCO Tunhe Tomato to COFCO Tunhe Tomato in other countries in 2023. Shipment data from Sayari Graph, accessed 2024, August 16.*

Corp.[536] Although smaller in scale, COFCO Tunhe also manufactures pepper-based products. For example, COFCO Tunhe Tomato manufactures big barrels of tomato paste, tomato powder, tomato oleoresin, and chili sauce.[537] The table in Appendix E lists its subsidiaries in Xinjiang.

COFCO Sugar's core business focuses on manufacturing bulk tomato paste, with a capacity of 250,000 tons annually, representing 30% of China's total output.[538] The company supplies tomato paste to global companies such as Heinz, Unilever, Kagome, Del Monte Foods, and McCormick & Company.[539] COFCO Tunhe Changji Tomato exports 60% of its output.[540] COFCO Tunhe Yanqi Tomato primarily focuses on the production, processing, and sale of tomato paste and chili sauces, with over 95% of its products being exported to countries in Europe, America, Japan, and Korea.[541]

COFCO exports its large-packed tomato paste to 80 countries, including Southeast Asia, Japan, Korea, Russia, and European countries.[542] In 2023, at least 82 shipments of COFCO tomato paste arrived in Germany.[543] The table below lists shipments sent from COFCO Tunhe in Xinjiang to one of its overseas subsidiaries.

6.2.1.1 COFCO-Related Supply Chain Evidence

Unilever Pakistan Foods regularly purchases tomato products from COFCO Tunhe Tomato for further processing in its food products, as evidenced by at least 33 shipments between 2012 and 2023.[544] The company then exports these food products from Pakistan to companies in the United States, Canada, and the UK. In 2012, COFCO Group's vice president met with Unilever's global procurement vice president to discuss "consolidate existing business and further expand cooperative relationships," including in relation to tomato paste.[545] The COFCO-Unilever supply chain relationship is highlighted in COFCO Sugar's 2023 first quarter prospectus, and described as a "close cooperative" and "long-term supply" relationship.[546]

The data shows that in 2023, at least seven shipments of tomato paste, weighing 754,240kg in total, were delivered from COFCO Tunhe Tomato to Unilever Pakistan Foods. Unilever Pakistan Foods's shipments to the U.S. include Knorr brand noodles, which according to the U.S. Food and Drug Administration include tomatoes as an ingredient.[547] Between 2023 and 2024 July, Unilever Pakistan Foods exported

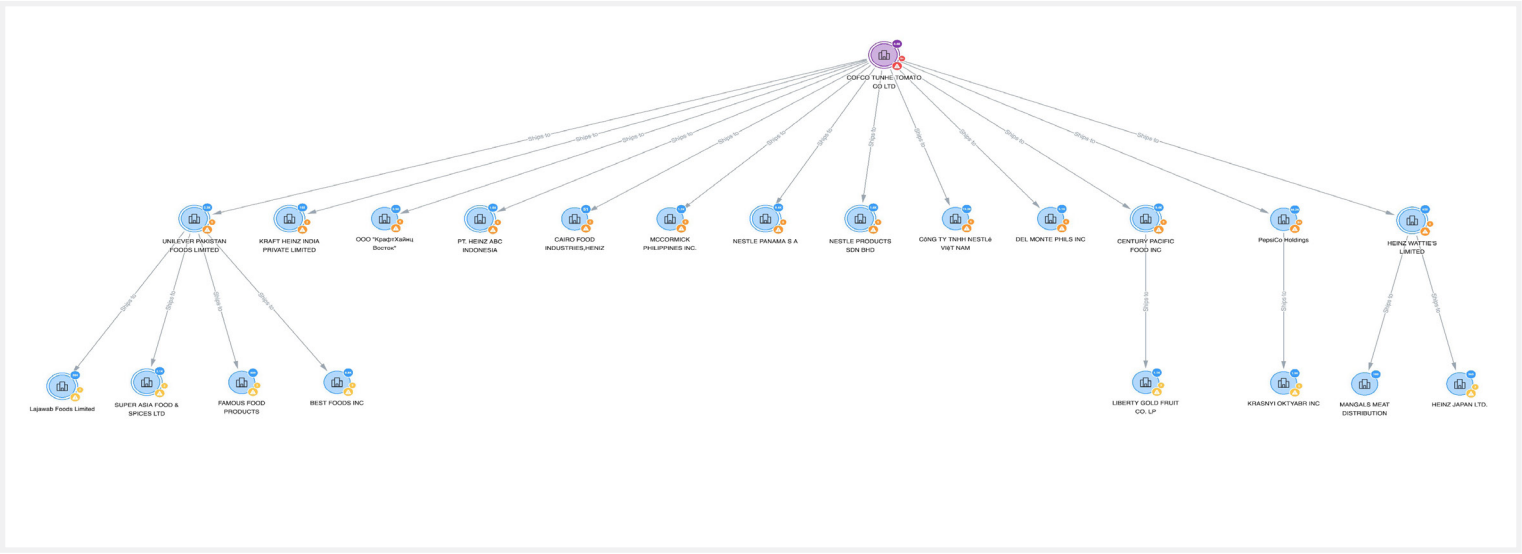

FIGURE 6: *COFCO supply chain connections. Source: Sayari Graph, created November, 2024*

over ten shipments of Knorr noodles to Best Food, a food distribution company based in New Jersey. For example, on 12th July, 2024, Best Food imported 2,230 cartons of Knorr brand noodles, weighing a total of 11.267kg from Unilever Pakistan Foods. Similarly, on 31th May, 2024, Famous Food Products, an importer of Asian food based in Texas, imported 11,387 kg or 2,239 cartons of Knorr Chatt Patta Noodles from Unilever Pakistan Foods. On 13th April, 2023, Famous Food Products received 2,221 cartons of Knorr noodles from Unilever Pakistan Foods weighing 12,354 kg. Knorr Chatt Patta Noodles, which contain tomato flakes as an ingredient, are sold by Walmart, Amazon, eBay, and Uber Eats.[548]

Unilever Pakistan Foods shipments to Canada include Knorr brand "Chatt Patta" noodles.[549] In addition, Unilever Pakistan Foods shipped Knorr noodles to Super Asia Food & Spices Ltd, a wholesale company located in Toronto. Unilever Pakistan Foods also shipped Knorr brand tomato ketchup and Knorr Chatt Patta noodles to the United Kingdom, both of which contain tomatoes.[550]

In sum, there is a risk that Xinjiang tomatoes enter global supply chains through Unilever Pakistan Foods' supply chain relationship with COFCO Tunhe. Direct proof of this would require testing, which we did not conduct.

Other multinationals involved in COFCO Tunhe Tomato's supply chains include Kraft Heinz, Nestlé, Del Monte, PepsiCo, and McCormick.[551] Kraft Heinz is discussed in section 6.3.1. Between November 2022 and March 2023, COFCO Tunhe Tomato delivered multiple shipments of tomatoes to Nestlé subsidiaries in Vietnam, Panama, and Malaysia. In addition, COFCO Tunhe Tomato delivered shipments of tomato paste to a subsidiary of Del Monte in the Philippines. Between 2023 and 2024, McCormick Philippines Inc. accepted at least 78 shipments of COFCO tomato paste.[552] In their reply to us, Del Monte Pacific Limited effectively confirmed that its affiliated companies use multiple COFCO Tunhe subsidiaries suppliers (see Appendix G). McCormick told us that they prohibit forced labor in their supply chain, and that they will contact McCormick Philippines directly to look into the matter (Appendix G). PepsiCo Holdings, as of June 2024 still a Russian subsidiary of American multinational PepsiCo, received at least 18 shipments of tomato paste, weighing 1,110,252 kg from COFCO Tunhe Tomato in 2022 and 2023. Trade data reveals that PepsiCo Holdings (Russia) exports a mixture of juices and fruit puree to the United States, including multiple shipments of tomato juice, which can be made from tomato paste. The buyer is Krasnyi Oktyabr Inc., a leading importer of Russian and European food products based in Brooklyn, NY.

Ligo sardines in tomato sauce, an American brand sold by Liberty Gold Fruits, may have used COFCO Tunhe tomato through its supply chain relationship with Century Pacific Food, a manufacturer based in Philippines. In 2023, COFCO Tunhe exported at least seven shipment of tomato paste, totaling 4,240 drums, to Century Pacific Food. Between January 2023 and August 2024, Century Pacific Food exported 214 shipments to California-based Liberty Gold Fruit, including Ligo sardines in tomato sauce. On the product's label, it is listed as a product from the Philippines. The product is sold at Walmart and Amazon as of November 2024.

In addition to tomatoes, some of COFCO Sugar's Xinjiang subsidiaries also produce pepper-based products.[553] We identified a steady flow of vitamin E oil shipments from COFCO Tech Bioengineering Tianjin to Kemin Industries, a biotechnology research company and global ingredient supplier based in Iowa.[554] Vitamin E can be extracted from Capsicum peppers or tomatoes.[555] Given COFCO's related operations in Xinjiang, there is a substantial risk that its Tianjin subsidiary sources vitamin E from that region.

Kemin Industries produces industrial inputs related to human nutrition and health, animal nutrition and health, animal vaccines, pet food and rendering technologies, aquaculture, biofuels and bio solution, crop technologies, food technologies, hemp, and textiles.[556] The company has customers in over 120 countries.[557] On 24th July, 2024, Kemin Industries received 18 packages of natural vitamin E oil, weighing 18,072 kg from COFCO Tech Bioengineering Tianjin.[558]

Between 2022 and 2024, COFCO Hebei International Trade Co. Ltd., a sister company of COFCO Tunhe Tomato, sent multiple shipments containing various foodstuffs to the US-based Five Goods Inc.[559] For example, on 18th March, 2024, Five Goods received various commodities including crushed and dried chili. On 6th August, 2022, Five Goods received a shipment of vinegar chili powder, crushed and dried chili, preserved vegetables, and other foodstuffs (Table 15).[560] Testing would be required to verify the actual presence of Xinjiang peppers in these shipments. However, the mere use of COFCO Hebei International Trade as a supplier creates an elevated risk of these goods being linked to Uyghur forced labor and other rights abuses.

6.2.2 Xinjiang Guannong Tomato

Xinjiang Guannong Tomato manufactures large and small-packaged tomato paste, diced tomatoes, tomato juice, and tomato sauce.[561] While its diced tomatoes and tomato juice are intended for the domestic market, 90% of the company's tomato products are export-oriented.[562] Specifically in 2023, foreign trade accounted for 47% of the company's revenue, while domestic was 53%.[563] Guannong's large and small-packaged tomato paste is exported directly to Italy, Germany, France, Russia, Czech Republic, Denmark, Ukraine, Romania, Libya, United Arab Emirates, South Africa, Iran, India, Serbia, and Nigeria.[564]

Guannong's exports have been on the rise. In 2020, it exported a total of $90 million USD, 2.73% more than the previous year.[565] The company has worked with the Chinese government to develop a sea-rail intermodal freight route between Korla and Italy.[566] In 2020, Xinjiang Guannong dispatched 11 freight trains carrying 16,000 tons of tomato products along this route, representing 50% of the total shipments of the southern Xinjiang-Europe train services that year.[567]

In Guannong's 2017, 2018 and 2019 reports, Italy's Antonio Petti, a large producer of processed tomato products, is listed as one of the top customers.[568] In 2019, Antonio Petti was Guannong's largest tomato product buyer, purchasing large-packaged tomato paste valued at USD$25.9 million and contributing 5.7% of the company's total revenues. While we were not able to identify specific supply chain links between Guannong and non-Chinese companies, the BBC Eye Investigation identified one shipment of tomato paste from Guannong to Antonio Petti on July 7, 2020, weighing 1.7 million kg.

Guannong also supplies tomato paste to GB Foods Africa Holding Company, based in Ghana, which

Year	Domestic	Foreign
2015	23.68%	76.32%
2016	28.64%	71.36%
2017	43.73%	56.27%
2018	87.26%	12.74%
2019	100%	0%
2020	100%	0%
2021	100%	0%
2022	100%	0%
2023	88.22%	11.78%

TABLE 9: *Chalkis' income composition. Source: Chalkis annual reports*

owns the brand Gino.[569] Gino tomato mix, tomato seasoning, and tomato paste are advertised on Amazon.com for sale in the U.S.[570] IMAD International LLC, a company based in New Jersey, imported at least three shipments of Gino tomato paste from GB Foods Africa, on 26th December, 2023, 12th May 2024, and 23nd July 2024.

6.2.3 Chalkis Health Industry

Xinjiang Chalkis Tomato Industry[571], a subsidiary of Chalkis Health Industry, sources tomatoes from Xinjiang and manufactures large-packaged tomato paste, whole peeled tomatoes, diced tomatoes, ketchup, and tomato lycopene.[572] Chalkis is China's 3rd-largest producer, and its tomato products represent 8.7% of China's total production.[573] In 2023, bulk tomato paste contributed to 89.1% of the company's total revenue.[574] The company's tomato-based products are traditionally export-oriented (Table 9).[575] Export destinations include Italy, Lebanon, Poland, Kenya, Sudan, the United Arab Emirates, France, Germany, Portugal, Spain, Russia, Kazakhstan, Indonesia, Vietnam, Mongolia, Myanmar, and Bangladesh.[576]

American Chalkis International Food Corp. is an active California-based subsidiary of Xinjiang Chalkis Tomato.[577] Its products include natural lycopene, canned tomato products, tomato powder, sun-dried tomatoes, and diced, chopped, and whole tomatoes.[578] According to a company page listed on 21food.com, the tomatoes used in its products are grown and processed in Xinjiang.[579] There is no trade data showing where American Chalkis' receives its tomato products from - a deeply concerning intransparency. As of 2024, American Chalkis continues to be an active subsidiary, with data trade showing that between February and August 2024 it received at least four shipments of paprika powder (totalling 102,152kg) from China-based Qingdao Ruby Zhongda Trade Co., Ltd.[580] On 4th July, 2023, Tradewinds Foods, a company based in Puerto Rico received a shipment of tomato paste from American Chalkis International Food.

6.2.4 Chenguang Biotech Group

Chenguang Biotech Group is one of China's pioneers in producing plant-based extracts used in food additives, natural dyes, pigments, and supplements from agricultural products.[581] The company produces paprika oleoresin, marigold oleoresin, capsicum oleoresin, and tomato lycopene.[582] Pepper-based products are the company's first-tier products, while tomato lycopene represents a secondary product.[583] Chenguang is a leading global player in capsanthin, capsicum oleoresin, and lutein, selling derivative products for use in the food, pharmaceutical, and cosmetic industries.[584]

Main products		Descriptions	Origins of raw materials
Natural pigments	Capsanthin/Paprika oleoresin (capsicum annuum red paprika pigment; 辣椒红色素)[585]	Used for food coloring (condiments, hotpot bases, meat products, seafood, biscuits, pickles, cream products), pharmaceuticals, cosmetics, and animal feeds. Global market share reaches 65%.[586]	Dried pepper[587]: Xinjiang, Zambia
Natural spice extract and essential oils	Capsicum Oleoresin (Chili extract) 辣椒油树脂（辣椒精)[588]	Used in seasoning spicy foods and condiments, as well as in restaurants and home cooking. Global market share reaches 40%.[589]	Pepper: India
Natural pigments and Nutritional supplements	Lutein (叶黄素)	Lutein can be extracted from marigold flowers. Global market share reaches 30%.[590]	Marigold flowers: Xinjiang, Yunan, India, Zambia
Natural nutritional and pharmaceutical extracts	Tomato lycopene (番茄红素)	It has a protective effect on the cardiovascular and prostate systems, prevents DNA cell damage, resists radiation, and improves skin health. Chenguang Biotech is the world's second-largest lycopene producer.[591]	Tomato: Xinjiang
Natural sweetener	Stevia	Natural sweetener used in beverages and foods	Stevia: Xinjiang, Hebei, Yunan

TABLE 10: *Chenguang Biotech's pepper and tomato products. Sources: Adapted from* 晨光生物 *(2024, April 18);* 中邮证券 *(2023, March 21).* [592]

Chenguang Biotech advertised on its website that since 2008, its sales and production of capsanthin have accounted for more than half of the global market.[593] In 2023, Chenguang Biotech's paprika oleoresin, capsicum oleoresin, and lutein dominated global sales, with respective sales shares of about 65%, 40%, and 30%.[594] In 2022, Chenguang Biotech sold 9,000 tons of paprika oleoresin, representing 65% of the global market share, of which 5,000 tons (55.6%) were exported.[595] The company's exports of natural extract products enjoy national value-added tax incentives, further enhancing its international competitiveness and facilitating the rapid expansion of its exports.[596] In 2023, 18.62% of Chenguang's revenue was from

Chenguang Biotech subsidiaries	Location	Business areas
Xinjiang Chenguang Natural Pigment Co., Ltd. 新疆晨光天然色素有限公司	Yanqi County, Bayingolin Prefecture, Xinjiang	Produce capsicum oleoresin, pigment by-products, peppers, and pepper-based products.
Xinjiang Chenxi Chilli Co., Ltd. 新疆晨曦椒业有限公司	Yanqi County, Bayingolin Prefecture, Xinjiang	Process red pepper and tomato peels to produce capsicum red pigment and tomato red pigment
Chenguang Biotech Group Yanqi Co. Ltd. 晨光生物科技集团焉耆有限公司	Yanqi County, Bayingolin Prefecture, Xinjiang	Process dry pepper, tomato peels, granule plant extraction, chrysanthemum, stevia leaf, and red chili pigment.
Xinjiang Chenfan Fruit and Vegetable Products Co., Ltd. 新疆晨番果蔬制品有限公司	Yanqi County, Bayingolin Prefecture, Xinjiang	Produce tomato paste and chili pepper sauce
Chenguang Biotech (America) LLC 晨光生物科技（美国）有限公司	California, USA	Produce, process, and sell lycopene

TABLE 11: *Selected subsidiaries of Chenguang Biotech. Source: Sayari Graph, accessed May 2024.*

FIGURE 7: *Subsidiaries or branches of Chenguang Biotech Group. Source: Sayari Graph, created November, 2024*

foreign trade.[597] In 2019, Europe, Japan, and Korea received 60%-70% of the company's exports.[598]

Chenguang has multiple XUAR subsidiaries manufacturing pepper- and tomato-based products (Table 11).[599] One of its cotton-processing subsidiaries, Chenguang Biotechnology Group Karamay, is located in the XPCC Seventh Division's industrial park.[600] Chenguang also has a US-based company registered in California that is responsible for the production, processing, and sales of tomato lycopene.[601]

6.2.5.1 Chenguang Biotech: Direct Supply Chain Evidence

Trade data shows that US-based companies have procured pepper-based products from Chenguang Biotech Group that are typically used in food coloring and cosmetics industries.[602] Between January and May 2023, Chenguang also sent multiple shipments to its subsidiary, Chenguang Biotech (America), based in California, including tomato extract and marigold oleoresin. The last shipment contained in the records was received on 12th May, 2023.[603] On 2nd August, 2023, Chenguang Biotech Group Co., Ltd. and its subsidiary Chenguang Biotechnology Group Yanqi Co. Ltd. were added to the UFLPA Entity List.[604]

International Flavors & Fragrances (IFF) Inc., a publicly traded US company, has a history of trading with Chenguang Biotech. IFF is one of the largest flavors and fragrances companies engaging in the global food, beverage, beauty, household and personal care, and pharmaceutical supply chains.[605] On 6th August, 2022, IFF received a shipment of 639 kg (29 cartons) of paprika oleoresin from Chenguang Biotech Group. In 2023 alone, Chenguang Biotech delivered at least 68 shipments to IFF's Mexico subsidiary.[606]

Flavors	Fragrances
P&G	P&G
Nestle	L'Oréal
Unilever	Colgate
Heinz	Gillette
Coke	Estee Lauder
Campbell Soup	Ralph Lauren
Hershey	Avon
McDonalds	Hugo Boss
PepsiCo	Davidoff
Kellogg	Calvin Klein
Yum Brand	Valentino
Philip Morris	

TABLE 12: *Major clients of IFF, adapted from Manglani & Gurusamy (2019), p.6*

Previously, C4ADS found that since 2018, three subsidiaries of IFF based in the US, Mexican, and the Philippines imported at least 62 shipments of pepper products worth over $1.3 million from Chenguang Biotech.[607] IFF has supplied major global companies, including Procter & Gamble, Colgate-Palmolive, Estée Lauder, Coca-Cola, Nestle, Unilever, Heinz, Hershey, McDonald's, Calvin Klein, Valentino, Ralph Lauren, and L'Oréal.[608]

On 6th December, 2022, Spicin Foods Inc., a sauces and condiments manufacturer based in Kansas, received 2,122 kg (96 cartons) of paprika oleoresin from Chenguang Biotech Group.[609] On 27th January, 2023, Chenguang Biotech Group exported 6,368kg (29 drums) of paprika oleoresin to Sensient Colors LLC, a leading global manufacturer and supplier of natural and synthetic color solutions for food, beverage, cosmetic, pharmaceutical, and industrial markets.[610] In response, Sensient stated that Chenguang was not placed on the UFLPA entity list until August 2023 and that it no longer purchases from Chenguang. However, the UFLPA bans all imports from Xinjiang, not just from companies on the entity list, and this shipment also may have violated Sensient's own Uyghur Forced Labor Policy.[611]

In sum, the evidence indicates that Chenguang products made from peppers, tomatoes, and marigold flowers, most of which are made in Xinjiang, have entered US supply chains—at times even after the UFLPA came into effect.

6.2.5.2 Chenguang Biotech: Indirect Supply Chain Evidence

Trade records indicate a risk that McCormick & Co. has sourced paprika oleoresin and capsicum oleoresin from Xinjiang. Chenguang Biotech and Xinjiang Tianjiao Hong'an Pigment supplied these products to Indian companies Mane Kancor Ingredients and Avt Natural Products, which in turn supplied paprika oleoresin and capsicum oleoresin to McCormick in the US and UK. While only testing can confirm whether McCormick did in fact receive products made from Xinjiang-based raw materials, these supply chain relationships indicate a clear risk that this could have been the case. McCormick did not directly comment on these allegations, instead pointing us to their policy prohibiting forced labor in their supply chains (Appendix G).

In 2023, Mane Kancor Ingredients Private Ltd., a major Indian flavor company, accepted at least 14 shipments of capsicum oleoresin from Chenguang, worth $5,352,640 USD, with the latest shipment on 27th September, 2023. Sayari records show that Chenguang Biotech is Mane Kancor Ingredients' fifth largest supplier by number of shipments as of 19th August, 2024. In addition, Mane Kancor Ingredients has been receiving paprika oleoresin shipments from Xinjiang Tianjiao Hong'an Pigment.[612] Mane Kancor Ingredients has in turn been delivering a large volume of shipments of paprika oleoresin and capsicum oleoresins to McCormick & Co.

McCormick is linked to Xinjiang through another India-based company engaging in oleoresins pro-

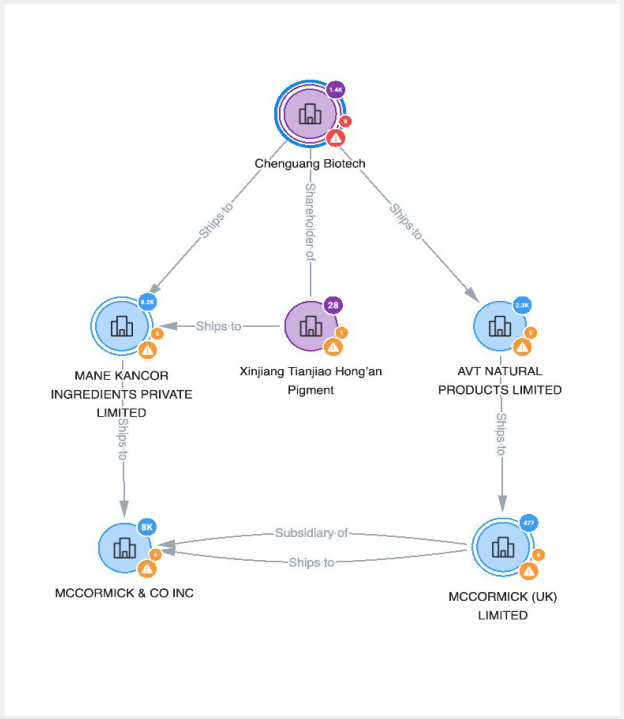

FIGURE 8: *Linking McCormick to Xinjiang. Source: Sayari Graph, created November, 2024*

duction and distribution. Avt Natural Products Ltd has purchased paprika oleoresin from Chenguang Biotech, with the latest shipment dated 8th July, 2023. In 2023, McCormick (UK) received at least five shipments of paprika oleoresin from Avt Natural Products.

In addition, Mane Kancor Ingredients has supplied related products to its US subsidiary, Mane Inc. (US). For example, on 31th December, 2023, Mane Inc. (US) received a shipment of paprika oleoresin deodorized from Mane Kancor Ingredients, which in 2023 received multiple shipments of capsicum oleoresins from Chenguang Biotech. When asked for comment, Mane Kancor Ingredients stated that the shipment they sent to Mance Inc. on August 17th, 2024 did not contain material sourced from either Chenguang or Xinjiang Tianjiao Hong'an.

Pacific Blends, a Canadian spice-blending company, imported 4,150kg of paprika oleoresin from Mane Kancor Ingredients on 17th June, 2023. Moreover, Nestlé Lanka Plc, a Sri Lankan subsidiary of Nestlé S.A., received color paprika oleoresin from Mane Kancor Ingredients on 12th December, 2023, and 17th January, 2024, as well as capsicum oleoresin on 6th December, 2023. When asked for comment, Pacific Blends simply stated that they are not aware of Mane Kancor's sources.

Synthite Industries Private Ltd. (Synthite), a leading global producer of oleoresin extraction located in India, is a major customer of Chenguang. In 2023, Chenguang delivered at least 29 shipments of paprika oleoresin, worth $18,871,291 USD, to Synthite Industries Private Ltd.[613] Synthite also operates a subsidiary directly in Xinjiang, a paprika oleoresin production facility located in Bayingol Prefecture called Synthite (Xinjiang) Biotech Co. Ltd.[614] Its website boasts that the facility has 101 employees, planned to source 10,000 metric ton of dried sweet paprika chili, and a planned production of 570 MT of high color paprika oleoresin.[615]

Synthite has shipped paprika oleoresin to Unilever Lipton Ceylon (Sri Lanka), Givaudan Flavors Corporation (US), and Synthite USA Inc. (Table 23). In 2023, Synthite (Xinjiang) Biotech delivered at least 38 shipments to Proveedores De Ingenieria Alimentaria S.A. de C.V (PIASA), a Mexican food solutions company with a global presence, including in the

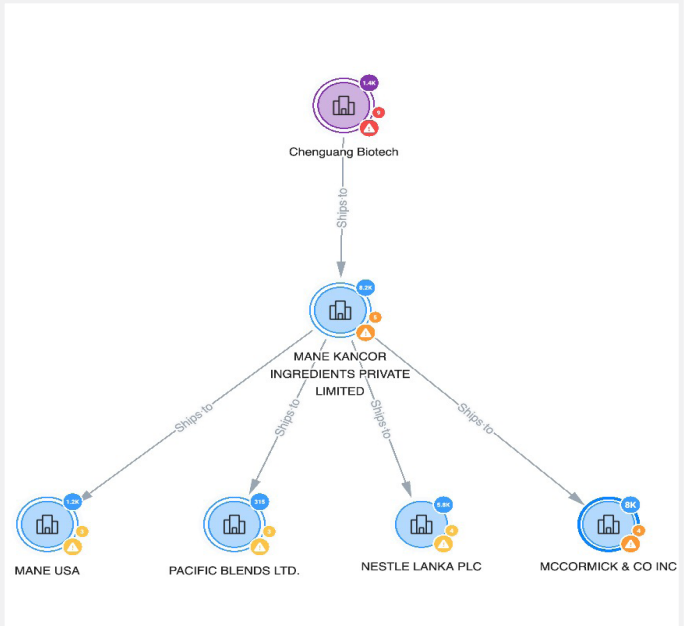

FIGURE 9: *Linking Chenguang Biotech to US Markets and Multinationals through Mane Kancor Ingredients (India). Source: Sayari Graph, created November, 2024*

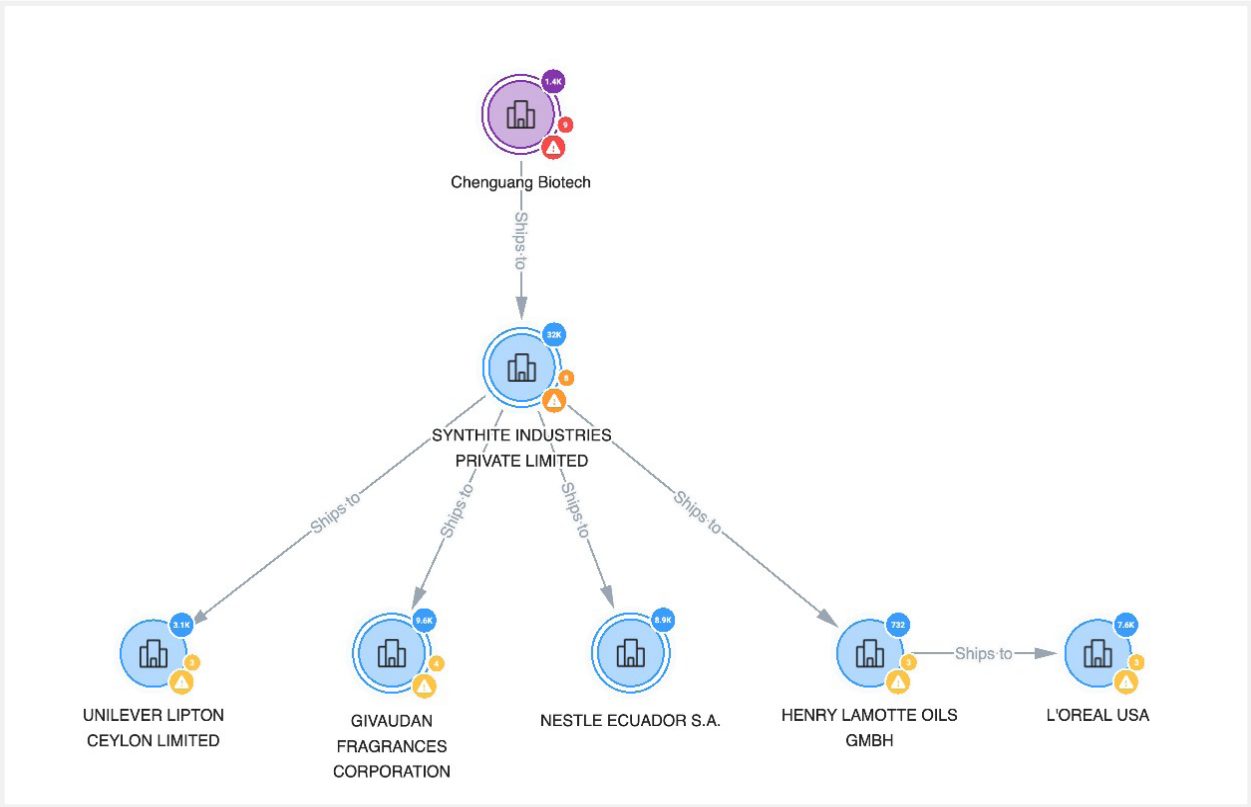

FIGURE 10: *Supply chain involving Chenguang Biotech and Synthite Industries. Source: Sayari Graph, created November, 2024*

6.3 Supply Chain Links Between XUAR Tomato and Pepper Production and Global Companies

6.3.1 Kraft Heinz in China and Xinjiang

Kraft Heinz has decades-long connections to Xinjiang. Its primary production facility in China is operated by its eastern Chinese subsidiary, Heinz Qingdao Food Co. Ltd. Incorporated. However, many of its tomatoes have long been sourced from Xinjiang. In their reply to us, Kraft did not comment on its partnerships with Xinjiang or COFCO.

Heinz's strategic partnership with COFCO began in 2005.[616] In August 2005, COFCO Tunhe and Heinz signed a cooperation agreement to establish an experimental tomato cultivation base, covering 75.5 hectares.[617] In 2008, Reuben Peterson, director of Heinz's global supply chain, stated that COFCO was Heinz's "important raw tomato supplier."[618] In 2016, the state "encouraged" peasants in Jimsar County (Changji Prefecture) to transfer land-use rights to agribusinesses, "liberating" them from the land.[619] They were then immediately "guided" by the authorities to be transferred to work in a nearby industrial park. In this context of enforced industrialized and upscaled agriculture through land and labor transfer, the county authorities then directed COFCO Tunhe to establish a tomato processing demonstration base producing Kraft's Heinz products. Kraft Heinz itself has been extensively collaborating with COFCO in the development of tomato seeds, via the Heinz Seed China Program, and the promotion of scientific tomato cultivation approaches.[620]

In a March 2023 interview with the *Guangzhou Daily*, Wang Xiaoyin, Kraft Heinz Asia's Vice President of Food Safety and Quality stated that Kraft Heinz's tomato sauce is made from locally sourced Xinjiang tomatoes, using seeds developed by Kraft

Heinz.[621] As of May 2024, Kraft Heinz China's company website stated that approximately 34% of the global tomatoes are derived from the company's self-developed seeds, an effort that has had "notable success in Xinjiang."[622] The website asserts that all raw materials for Heinz tomato ketchup sold in China originate from the Heinz Seed China Program, which is particularly successful in Xinjiang.[623] COFCO Sugar's 2024-2026 prospectus continues to list Heinz as a strategic partner involved in a "close cooperative relationship" related to the sale of raw materials, the development of cultivation techniques, and training.[624] A 2023 state media article states that Changji prefecture grows industrial tomatoes on 18,333 hectares of farmland, planting tomato seeds developed by Kraft Heinz, COFCO Tunhe, and other companies.[625] This points to the importance of Kraft Heinz' involvement in Xinjiang's tomato production.

6.3.1.1 Kraft Heinz-Related Supply Chain Evidence

In 2023 and 2024, at least five of Kraft Heinz's global subsidiaries received COFCO tomato paste shipments, indicating that the COFCO-Heinz supply chain relationship has the potential to taint international supply chains.[626] One of these Kraft Heinz subsidiaries in turn shipped tomato paste and sauce to the US during that time period. Kraft responded to us asserting that COFCO-supplied ingredients had not been shipped to the US (Appendix G).

Kraft Heinz further told us that they use COFCO-supplied tomato products only in China and Central Asia. However, between January and April 2024, PT. Heinz ABC Indonesia, a subsidiary of Kraft Heinz based in Jakarta, purchased from COFCO Tunhe Tomato. We identified at least seven shipments of tomato paste between the two companies. Between July and September 2023, New Zealand-based Heinz Wattie's Ltd. received at least seven shipments of tomato paste from COFCO Tunhe Tomato.[627] Heinz Wattie's Limited in turn trades with Mangals Meat Distribution (US) and Heinz Japan. On July 8, 2023 California-based Mangals Meat Distribution received a tomato sauce shipment from Heinz Wattie's. Between February and August 2023, India-based subsidiary Kraft Heinz India Private Ltd received at least eight tomato paste shipments from COFCO Tunhe Tomato. In 2023, the Russian subsidiary Kraft Heinz East[628] received at least 22 tomato paste shipments from COFCO Tunhe Tomato, while Cairo Food Industries (acquired by Heinz in 2009) received at least 50 such shipments between August 2022 and June 2023.[629]

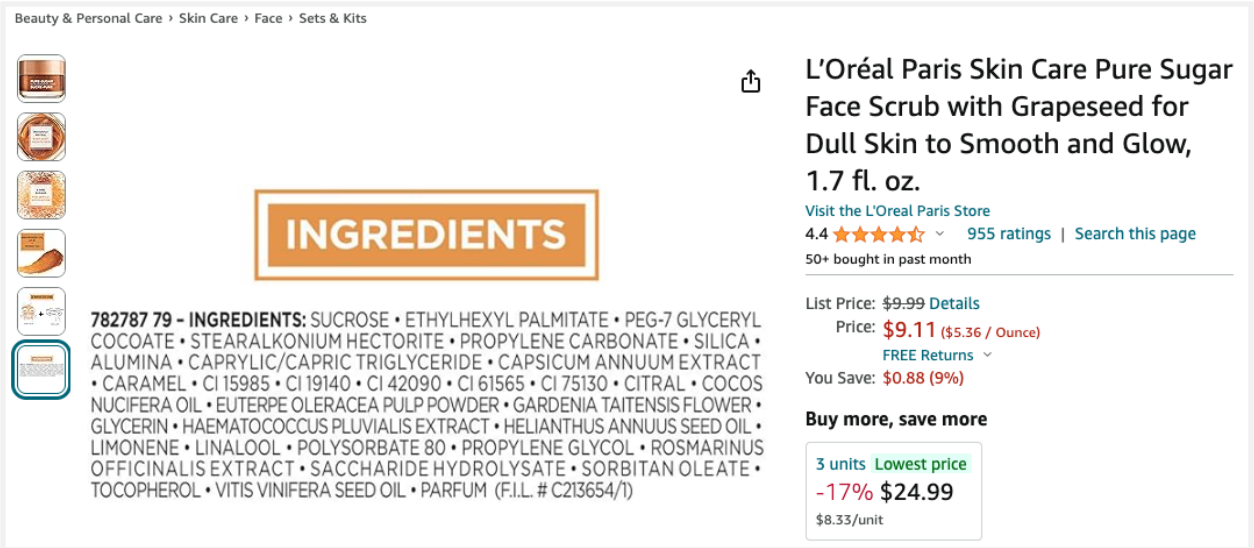

FIGURE 11: *L'Oréal skin care product containing capsicum annuum. Source: Amazon USA,* https://www.amazon.com/LOréal-Paris-Sugar-Grapeseed-Smooth/dp/B074M9YL99?th=1 *or archived:* https://archive.is/bpov5*, accessed November 19, 2024.*

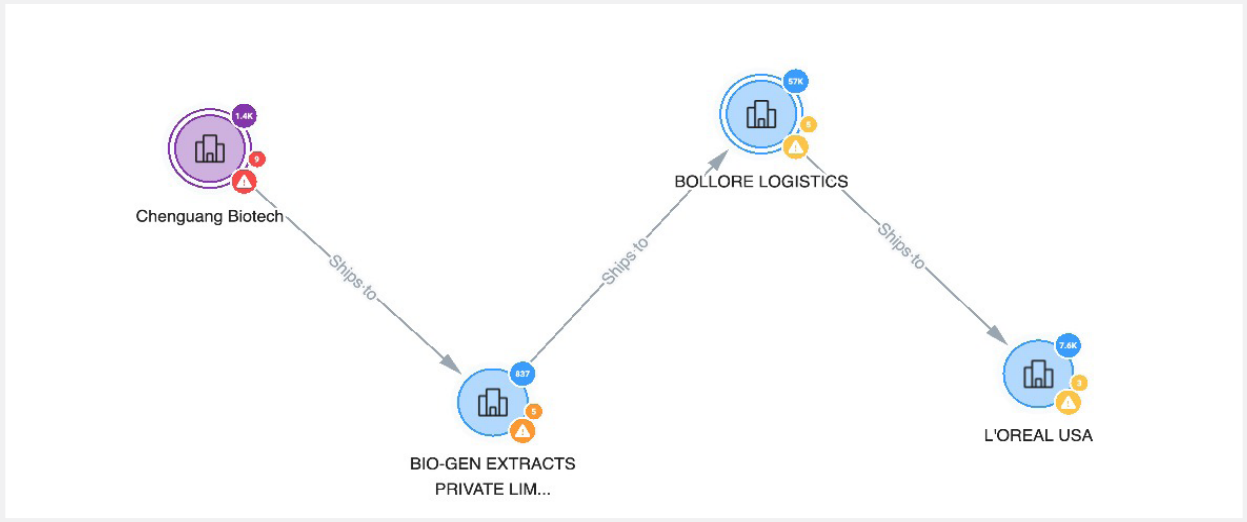

FIGURE 12: *Linking Chenguang Biotech with L'Oréal USA. Source: Sayari Graph, created November, 2024*

6.3.2 L'Oréal

L'Oréal USA has several indirect supply chain relationships with Chenguang Biotech and Xinjiang Tianjiao Hon'an Pigment that potentially involve pepper-based extracts, pointing to a risk that some of its products may end up containing ingredients from Xinjiang that are implicated in Uyghur forced labor and related rights abuses.[630]

Trade records show that L'Oréal USA received cosmetic products from Bollore Logistics, including makeup and skin care preparations. The harmonized system code listed in one of the bill of lading starts with 3304, which refers to skin care preparations and can include facial and body exfoliants, body scrubs, skin creams and similar products likely includes lip makeup preparations, eye makeup preparations, powders, and manicure or pedicure preparations.[631] These types of products can include capsicum annuum extracts. For example, L'Oréal Paris' Skincare Pure Sugar Face Scrub, sold on Amazon, includes capsicum annuum extracts as an ingredient (see image below). L'Oréal Paris' Pure Sugar Lip Scrub also contains capsicum annuum extract.[632]

L'Oréal USA's supply chain connection to Xinjiang's Chenguang Biotech is shown in Figure 12: Bollore Logistics is supplied by Bio-Gen Extracts Private Ltd (India), which is in turn supplied by Chenguang Biotech. We identified a January 2023 shipment between Chenguang and Bio-Gen Extracts containing procyanidins, but could not identify shipments containing pepper derivatives. When contacted, Bio-Gen replied that they will stop all procurement from Chenguang, implying that such procurement has been taking place. L'Oréal USA did not comment on their supply relationship with Bollore and stated that they "never received shipments from either Bio-Gen Extracts or Chenguang Biotech" (Appendix G). This reply does not directly clarify whether or not they received products from Chenguang via Bio-Gen and Bollore.

Furthermore, there is an indirect supply chain connection between L'Oréal, Xinjiang Tianjiao Hong'an Pigment, and Chenguang Biotech through India's Akay Natural Ingredients. Shipment data shows that Xinjiang Tianjiao Hon'an ships paprika oleoresin to Akay Natural Ingredients, which supplies Cosmelor Ltd (Japan), a L'Oréal Group subsidiary that in turn supplies L'Oréal USA and L'Oréal Canada. Similarly, between 2023 and 2024, Chenguang Biotech sent at least 24 shipments of paprika oleoresin to Akay Natural Ingredients.

L'Oréal's Cosmelor subsidiary states that it operates the only factory in Asia that produces luxury products for L'Oréal, with 90% of its production being used for Lancôme and Shu Uemura brands (other brands made

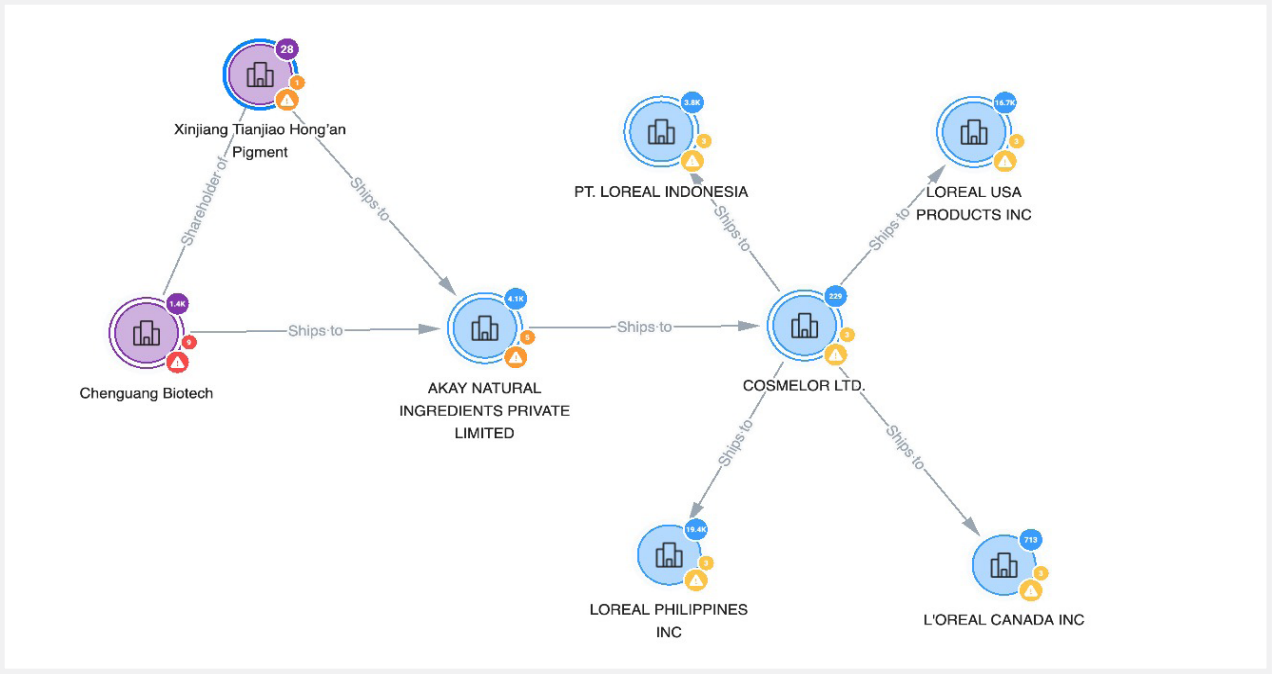

FIGURE 13: *Linking Xinjiang Tianjiao Hong'an Pigment and Chenguang Biotech to L'Oréal, through Akay (India) and Cosmelor (Japan, subsidiary of L'Oréal). Source: Sayari Graph, created November, 2024*

at the factory include Giorgio Armani Cosmetics, Biotherm, and Helena Rubinstein).[633] Between 2021 and 2024, Cosmelor sent at least 64 shipments containing skincare, lip makeup preparations, and other unspecified cosmetic products to L'Oréal USA. Between 2021 and 2024, Cosmelor also sent at least 47 shipments of unspecified cosmetic products to L'Oréal Canada. Cosmelor ships cosmetic products, including lip makeup preparations that often contain capsicum annuum extracts, to L'Oréal USA.[634]

Although we were unable to identify shipments of products involving capsicum annum from Akay Natural Ingredients to Cosmelor, we identified one shipment for other fruit-based extracts. Because of Akay India's trade history with Xinjiang Tianjiao Hong'an and Chenguang Biotech, because Cosmelor's production involves the use of pepper extracts, and because shipment records show that Cosmelor exported cosmetics products to L'Oréal USA that frequently contain capsicum annuum, there is a risk that Cosmelor may have used Xinjiang-based pepper derivatives for its cosmetic products, and subsequently exported them to US and Canadian markets. L'Oréal USA's reply denied a supply chain relationship with Xinjiang Tianjiao Hong'an and Chenguang. However, the company again did not comment on whether their direct supplier, Cosmelor, may have provided L'Oréal with products from Akay and therefore indirectly from Xinjiang Tianjiao Hong'an and Chenguang. It therefore remains unclear to what depth the company examines its supply chains for potential links to Xinjiang.

6.3.3 Sephora

Our research shows that Sephora received shipments of cosmetics products from an cosmetics manufacturer with a supply relationship with a Shanghai-based cosmetics company. This supplier sells products containing capsicum annuum in the U.S., including through Sephora stores. Given the dominant share of Xinjiang's red pepper pigments in China and globally, with Chenguang alone producing two-thirds of the world's red pepper pigments, Sephora is broadly speaking at risk of selling products made with Uyghur forced labor. Sephora did not reply to our request for comment.

Huda Beauty LLC is a global beauty brand headquartered in Dubai that sells directly to Sephora. Its prod-

ucts are sold in the U.S., including through Sephora stores. According to Sephora's website, Huda Beauty's GlowWish Cheeky Vegan Soft Glow Powder Blush contains capsicum annuum extract. As of July, 2024, the product was listed for sale on Sephora's website.[635]

One of Huda Beauty's suppliers is A&H International Cosmetics Co. Ltd, an American subsidiary of Shanghai Zhenchen Cosmetics Co. On 2nd September, 2022, Huda Beauty (Dubai) imported eyeshadow palettes from A&H International Cosmetics Co. Ltd (this product does not typically contain capsicum annuum).[636] We could not establish whether Huda Beauty imports products containing capsicum annuum from China or Xinjiang. However, this supply chain relationship by itself constitutes an inherent risk that requires enhanced due diligence.

6.3.4 Antonio Petti

Petti Antonio Fu Pasquale Spa (Antonio Petti) imported at least 30 shipments between April 2023 and April 2024, weighing 799,005, of tomato paste from Tianjin Shinhoo Food Company, a Tianjin-based tomato manufacturer. Tianjin Shinhoo, established in 2021, has an annual production capacity of 60,000 and exports to Europe, Africa, Middle East, and South America.[637] In a company promotional video, it advertises that the "company established a tomato planting base and primary processing production base in Xinjiang of China."[638]

Antonio Petti is linked to two of the largest tomato enterprises in China, COFCO Tunhe Tomato and Xinjiang Guannong. The BBC Eye Investigation provided us with data showing three shipments from COFCO Tunhe Tomato to Antonio Petti between October 2022 and January 2023, amounting to a total of 2.6 million kg. These shipments occurred within just two months, February and March 2022, with quantities of 1.65 million kg, 582,000 kg, and 401,000 kg. As discussed earlier, Antonio Petti has a historical trade relationship with Xinjiang Guannong. A total of 1.7 million kg was shipped to Antonio Petti on 7th July 2020. Antonio Petti imported a massive amount of tomato paste from Bazhou Red Fruit, a company established in 2020 by Guannong for the purpose of "protecting export trade."[639] This wording can conceivably be interpreted as reflecting a strategy to circumvent export restrictions placed on Guannong. Publicly available data shows that there are zero staff in the company.[640] The BBC found that between October 2020 and January 2023, Bazhou Red Fruit sent 28 shipments, totaling 34.3 million kg to Antonio Patti.

FIGURE 14: *Tianjin Shinhoo sources and processes tomatoes from Xinjiang. Source:* 新禾食品 *(n.d.)* 企业视频. https://gb.shinhoofood.com/

When asked for comment, Antonio Petti's legal representation stated that since 2020, the company had not purchased from Guannong but from Bazhou Red Fruit (Appendix G). They further stated: "In light of recent media attention on suspected human rights violations by other companies in China, Antonio PETTI FU PASQUALE has determined to suspend any further commercial negotiation with China" (Appendix G).

6.4 Global Supply Chain Connections to Other Chinese Producers

Our research shows that several smaller Chinese companies with links to Xinjiang have shipped pep-

per-based products to the US. This includes Hebei Tomato Industry, Guilin Layn Natural Ingredients, Neihuang Xinglong Agricultural Products, Jinan Bright Sunshine Imp. & Exp., and Qingdao Hairunfeng Foods.

6.4.1 Hebei Tomato Industry Co., Ltd.

Hebei Tomato Industry Co., Ltd.,[641] headquartered in Hebei, is a manufacturer, supplier, and exporter of various types of tomato paste and tomato ketchup.[642] The manufacturer has a monthly production capacity of 6,000 tons, with 100% of its products destined for export.[643] Hebei Tomato Industry states on its website that its products are made from tomatoes from Xinjiang, and some from Gansu. For instance, one product listed on Made-in-China.com states that its tomato paste is made from raw material from Xinjiang.[644] Their products are generally supplied to large domestic Chinese supermarkets.

Trade data shows that between May 2023 and February 2024, Hebei Tomato Industry sent four shipments of tomato paste to two US-based companies, Monaco Foods Inc, and Golden Seed LLC. It also ships tomato paste to Toptropics Ltd, a UK-based company that sells food and beverages.[645]

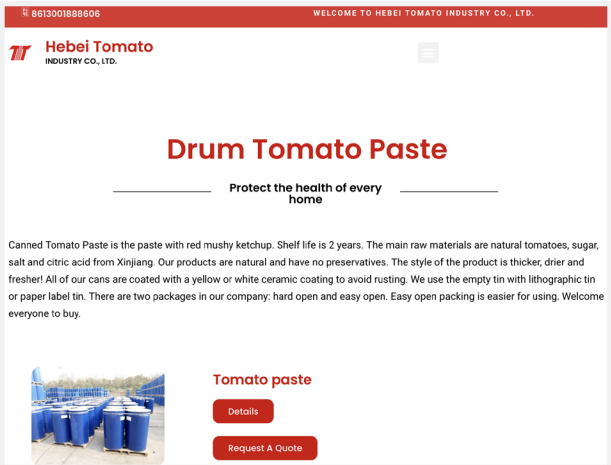

FIGURE 15: *Hebei Tomato sources tomatoes from Xinjiang. Source: Hebei Tomato (n.d.) Drum Tomato Paste.* https://web.archive.org/web/20240517171539/https://hbtomatopaste.com/drum-tomato-paste/

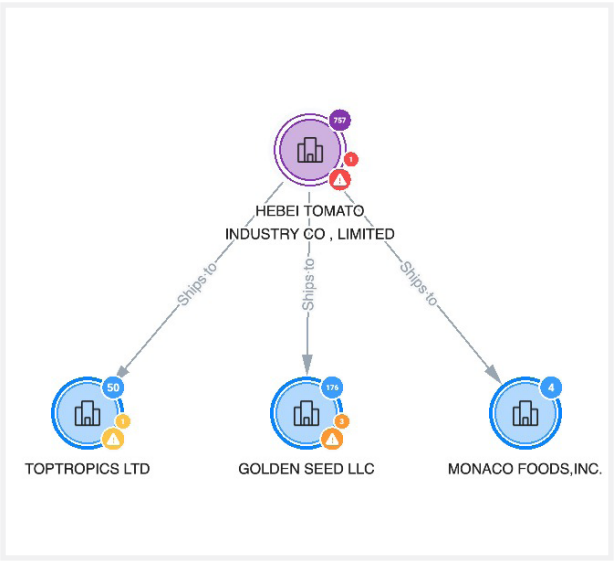

FIGURE 16: *Hebei Tomato's US and UK buyers. Source: Sayari Graph, created November, 2024*

On 18th February, 2024, Monaco Foods Inc. received 2,357 cartons of tomato paste, weighing 47,611 kg, from Hebei Tomato Industry. The bill of lading lists the paste as "Monaco Brand." Monaco Foods is a wholesale distributor based in Miami, and lists "China" as the origin of its tomato paste and puree.[646] Similarly, in 2023, Golden Seed LLC, a Florida-based importer and distributor, received three shipments of tomato paste from Hebei Tomato Industry, weighing 70,201kg (6,268 cartons) in total. Golden Seed's tomato products include tomato paste, tomato puree, and peeled tomatoes.[647]

A February 2024 Forbes article revealed that Hebei Tomato Industry produces the tomato brands Nina, Gino, and Zehrat Safa brands, which according to Forbes are stocked by third-party sellers operating on Amazon, Walmart and Etsy's marketplaces.[648] The product page for Gino canned tomato paste (a Nigerian brand) on the Hebei Tomato Industry website states that its raw materials are sourced from Xinjiang.[649] We verified that as of 15th July, 2024, Gino canned tomato paste continues to be advertised by US online retailers such as Amazon and Etsy. Similarly, Safa tomato paste's page on Hebei Tomato's website boasts that it is made from Xinjiang tomatoes.[650] Safa is manufactured for sale in the Arab Emirates. Trade data also shows that Hebei Tomato Industry shipped

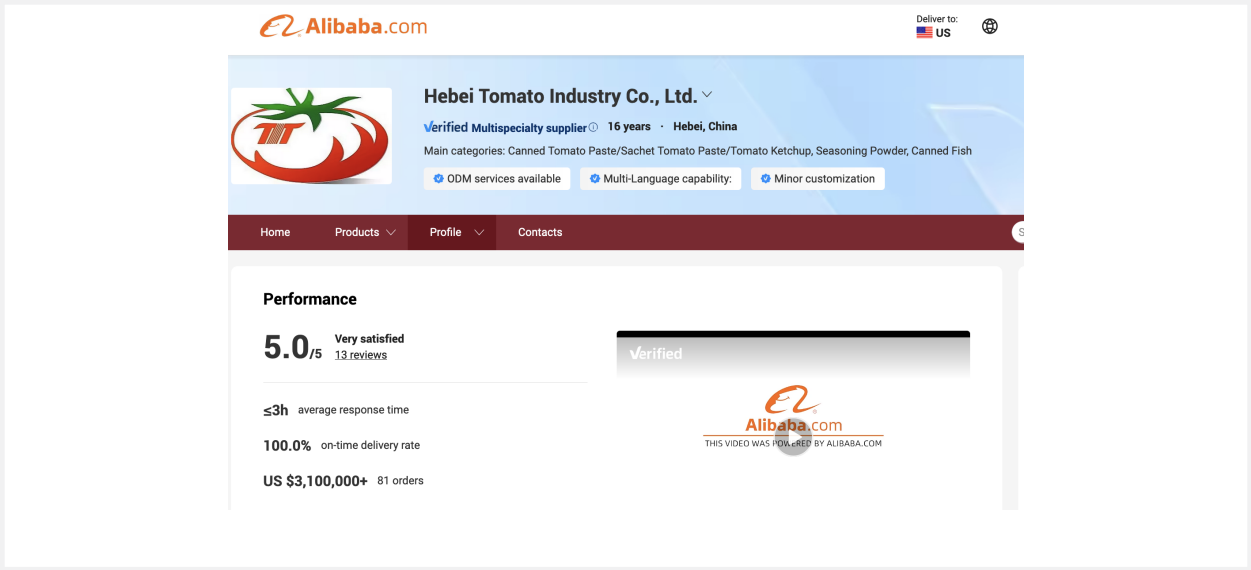

FIGURE 17: *Hebei Tomato Industry profile on Alibaba's US website. Source:* https://web.archive.org/web/20240820144146/https://www.alibaba.com/trade/search?spm=a2700.product_home_newuser.home_new_user_first_screen_fy23_pc_search_bar.associationItem_pos_0&tab=all&SearchText=hebei+tomato+industry+co.+ltd

tomato paste to at least one UK-based company, Toptropics Ltd (46,838kg of tomato paste received on 29th October, 2022).[651]

Alibaba's US website (www.alibaba.com) offers to ship Hebei Tomato's products to the United States. Alibaba also offers to ship tomato products from Hebei Tomato Group, which offers the same products listed by Hebei Tomato Industry, lists an identical website in its company profile. Both entities operate dedicated Alibaba subdomains.[652] Alibaba also offers a large variety of large-packed concentrated tomato paste without branding (OEM) that lists different Chinese provinces as the place of origin. There is a significant risk that these products contain tomato paste from Xinjiang. All of them can be imported into the U.S. via Alibaba, including in commercial quantities.

6.4.2 Xinjiang Tianjiao Hong'an Seed Technology Co. Ltd

Xinjiang Tianjiao Hong'an Seed Technology (Tianjiao Hong'an) produces dried pepper, chili powder, chili granules, chili sauce, capsicum oleoresin, and paprika oleoresin. The company has a paprika oleoresin production capacity of 5000 tons, ranking second in China by production and sales volume.[653] About 60% of its production is exported to India, Spain, Germany, and the US.

6.4.2.1 Xinjiang Tianjiao Hong'an-Related Supply Chain

Xinjiang Longping Hong'an Biotech[654], a subsidiary of Tianjiao Hong'an, is a supplier to McCormick Philippines. On 15th February, 2024, it delivered a shipment carrying 960 bags of paprika powder, worth $48,000 USD and weighing 24,552kg.[655]

Xinjiang Tianjiao Hong'an Pigment Co. Ltd, a subsidiary of Xinjiang Tianjiao, trades with Akay Natural Ingredients Private Ltd, a manufacturer of spices extracts and nutraceutical ingredients based in India. Akay's pepper-related products include red pepper (chili) spices, roasted oleoresins, oleoresins, and natural colors using paprika.[656] The company operates a branch in the United States, Akay USA LLC. In 2023, Akay Natural Ingredients Private Ltd. (India) received multiple shipments of paprika oleoresin crude from Xinjiang Tianjiao Hong'an Pigment. That year, Akay Natural Ingredients shipped paprika oleoresin and capsicum oleoresin to Akay USA LLC,

creating a risk that products made with Uyghur forced labor were imported into the US.

Between April 2023 and April 2024, Xinjiang Tianjiao Hong'an Pigment delivered at least 16 shipments of paprika oleoresin, worth $7,860,960 USD, to Mane Kancor Ingredients in India. As discussed earlier, Mane Kancor Ingredients is a supplier for McCormick & Co.

6.4.3 Guilin Layn Natural Ingredients Corp.

Guilin Layn Natural Ingredients Corp,[657] a private Chinese company that manufactures plant extracts such as stevia, is China's third largest plant extract producer by revenue.[658] Layn produces natural sweeteners, tea extract, industrial hemp extract, and monk fruit. In 2022, 68% of its production was exported.[659] According to its own company website, Layn sources raw stevia from Xinjiang, Inner Mongolia, Anhui and Gansu.[660] In August 2024, Layn removed the reference to "Xinjiang" from its website.

According to the Sayari database, Layn is linked to a high risk forced labor due to its subtier trade histories with Xinjiang-based entities, including Chenguang Biotech and Xinjiang Longhuiyuan.[661]

Layn is also directly involved in the region's agricultural production processes. In Xinjiang, Layn adopted the "company+production base+farmers" model to organize standardized cultivation.[662] A 2022 propaganda account from a township in Korgas City (Ili Prefecture) states that in using order-based production, Layn provides the seeds, fertilizers, cultivating skills support, and product procurement, while local cooperatives overseen by officials are responsible for transferring land-use rights away from peasants and for organizing production management.[663] That year, the township transferred 667 hectares of land-use rights to local stevia cultivation cooperatives, which employ 300 long-term workers and 1,000 "seasonal" laborers.[664] The produced stevia extracts are used in foods, beverages, nutritional supplements, and pharmaceuticals.

Supply chain evidence

Layn operates subsidiaries in the US (Layn USA) and Europe (Layn Europe) to manage sales, logistics, and marketing, resulting in a risk that these markets import products linked to Xinjiang.[665]

Origin

Stevia extract is a plant based sweetener sourced from the leaves of the plant species, Stevia Rebaudiana. The plant originated in South America and has been used as a natural sweetener by the natives for hundreds of years.

Region

Layn stevia comes primarily from Northern part of China: Xingjiang, Inner Mongolia, Anhui and Gansu Province. We have established long standing relationships with farmers enabling us to maintain full control over our supply chain.

FIGURE 18: *Layn company website sourcing information, May 2024. Source:* https://web.archive.org/web/20240522131257/https://layncorp.com/stevia/

On 13th January 2023 Guilin Layn (China) sent a shipment of 1,000 cartons, weighing 23,300kg of stevia leaf extract to Layn USA. On 18th May 2024, Guilin Layn also exported 930kg (40 cartons) of stevia leaf extract to International Flavors and Fragrances (IFF) Inc., an American Corporation that specializes in food, beverage, health, biosciences, and scent. IFF is one of four major companies in the flavors and fragrances industry.[666] In 2023, Guilin Layn sent at least eight shipments of stevia leaf extract to US-based Givaudan Flavors and Givaudan Fragrances, one of largest multinational manufacturers of flavor, fragrances, and active cosmetic ingredients.[667] Givaudan manufactures skin immunity boosters using stevia and tamarindus.[668] On 8th January, 2024, Givaudan Flavors Corporation received a shipment of 165kg of stevia leaf extract from Layn. MCP Foods, Inc. (US), a wholesaler and distributor of chemicals and allied products received a shipment of 1,170 kg of stevia leaf extract from Layn on 15th June 2023.

Guilin Layn is the largest Chinese supplier to Firmenich Aromatics Production, an India-based subsidiary of Firmenich that produces fragrances, flavors, and ingredients such as natural extractions and synthetics.[669] On its company website, Firmenich, a Swiss entity, confirms that "stevia leaves are mainly sourced in China."[670] Firmenich subsidiaries in other countries also purchase directly from Layn, including Firmenich S.A. (Mexico), Firmenich (Minnesota, US), and Firmenich (California, US). Between January 2023 and February 2024, Guilin Layn sent at least 175 shipments of steviol glycosides, the sweet substances found in stevia, to Firmenich Aromatics Production (India), valued at $5,233,320 USD.[671] Firmenich (Minnesota) also received six shipments of mostly steviol glycosides and other extracts from Guilin Layn between 2022 and 2024. Of these, four were received after the UFLPA came into effect in June 2022. Firmenich (California) received two shipments of 685 cartons of steviol glycosides from Guilin Layn in February, 2022. In their response, Firmenich told us that "Guilin Layn has given us official assurance that, since at least January 2022, their stevia products are not sourced from Xinjiang."

While testing is required to verify the actual presence of Xinjiang-grown stevia, these supply chain relationships point to a clear risk that Xinjiang-produced stevia is entering western supply chains.

6.4.4 Neihuang Xinglong Agricultural Products Co. Ltd.

Neihuang Xinglong Agricultural Products, registered in Henan and established in 2001, has been exporting chili peppers since 2007.[672] The company primarily engages in the cultivation, manufacture, and export of pepper-based products, such as dried chili peppers, chili pepper segments, shredded chili peppers, crushed chili peppers, and chili powder.[673] According to Made-in-China.com, the company exports more than 90% of its products.[674]

While Neihuang Xinglong states that its cultivation base is located in Henan, its product descriptions on the Made-in-China website make clear and direct references to Xinjiang: for example, Xinjiang Sweet Red Paprika, Sweet Xinjiang Paprika Pods, Xinjiang Sweet Pepper Paprika Pods with Stem, and Xinjiang Red Whole Chili Paprika. [675] Neihuang Xinglong supplies several US-based companies, including Miravalle Foods Inc., Taurus Spice Inc., Jinlifu (USA), and Rehan Spices.

Miravalle Foods is a spices and herbs company with distribution centers in California, Utah, Denver, and Las Vegas.[676] Between August 2024 and December 2022, Miravalle imported at least 36 shipments of dry chili from Neihuang Xinglong. Taurus Spice Inc, a California trading company. Between 2022 and May 2024, Taurus Spice imported at least 42 shipments of chili related products from Neihuang Xinglong. Records indicate that Jinlifu (USA) Inc, a wholesale company of agricultural raw materials, has purchased chili from Neihuang Xinglong as recently as January 2024.[677] Rehan Spices, a California-based wholesaler, imported dry chili and chopped chili from Neihuang Xinglong in 2022 and July 2024.[678]

6.4.5 Jinan Bright Sunshine Imp. & Exp. Co., Ltd

Jinan Bright Sunshine Imp. & Exp. Co., Ltd. is a Shandong-based company specialized in manufacturing and exporting fresh and dehydrated vegetables from China. Its product line includes tomato, pepper, garlic, onion, and more. The company exports more than 90% of its products, with its main markets located in North America, South America, Europe, and Southeast Asia.[679] According to Made-in-China.com, the company manufactures sweet paprika powder and chili powder from raw materials sourced from Xinjiang.[680]

Between 2022 and July 2024, Jinan Bright Sunshine shipped at least 26 shipments of dried vegetables to the US. This includes shipping 24,530 kg of paprika powder to Mythical Brands of North & South America, a company based in NY manufacturing and distributing beverages and greek foods, on 29th June 2024.[681] On 23th April 2022, the company shipped dried chili and dehydrated garlic to Kimberley & Co., (USA) Inc.[682]

6.4.6 Qingdao Hairunfeng Foods Co., Ltd.

Qingdao Hairunfeng Foods Co., Ltd., located in Qingdao, produces and exports hot chili and sweet paprika products.[683] It mainly manufactures dried chili peppers, chili powder, crushed chili peppers, dried bell peppers, bell pepper powder, crushed bell peppers and other products. According to Made-in-China.com, the raw materials for Qingdao Hairunfeng Food's paprika powder comes from Xinjiang.[684] The company states on its website that it exports its products to the US, Japan, Korea, Germany, the Netherlands, Hungary, Spain, Africa, and the Middle East.[685] We identified at least one Qingdao Hairunfeng shipment to the US: 19,314 kg of ground paprika on 18th August 2022, sent to Harper Foods T/A Blind Salamande.[686]

6.4.7 Haidilao

Xinjiang-grown tomato and pepper products may be entering US supply chains through Haidilao, a global Chinese hotpot restaurant chain with 13 restaurants in the US. Haidilao's products, such as tomato soup base, spicy flavor soup base, and spicy hot pot seasoning are sold by a wide range of US retailers, including Amazon, Walmart, Etsy, 99 Fresh, H-Mart, Weee!. These products are made by Yihai.[687]

Haidilao's products are linked to Chenguang Biotech, COFCO Tunhe, and potentially Guannong. Chenguang Biotech describes Haidilao as an "important strategic customer," and supplies it with pepper oleoresin, capsicum oleoresin, and paprika oleoresin.[688]

Between January and April 2024, Yihai Food Co, Ltd. (China) sent 23 shipments of hot pot seasoning to Yihai (US) Food Inc.[689] For example, on 6th February, 2024, a shipment of 1,042 cartons (11,564kg) of tomato-flavored hot pot seasoning, spicy-flavored hot pot seasoning, dried chili, and other hot pot ingredients arrived in California. On 20th March, 2024, Yihai (US) Food received 1,072 cartons, weighing 15,728kg, of tomato hotpot soup base, spicy flavor hot pot seasoning, and other ingredients. On 26th May, 2022, Yihai (US) Food accepted a shipment of tomato flavor hot pot seasoning weighing 17,152kg (1280 cartons) from Yihai (Zhengzhou) Food.

Besides chili peppers, Haidilao's tomato products are also linked to Xinjiang. Both Yihai and Haidilao's Chinese websites advertise that its soup base is "made from Xinjiang tomatoes with abundant sunlight" (Figure 19).[690] We found two shipment records of COFCO Tunhe Tomato shipping tomato paste and tomato ketchup to Yihai (US) in February and March of 2022.[691] In 2017, Xinjiang Guannong and Haidilao had discussed long-term collaboration for tomato supplies.[692] While recent trade data is not available, this points to forced labor and other ethical risks in Haidilao's imports of tomato products.

产品信息 我要购买 >>

品　　名：酸香番茄火锅底料
品　　牌：海底捞
规　　格：200g
口　　味：酸香味
特　　色：日晒充足的新疆红熟番茄制酱炒制
储藏方法：常温条件下，密封保存于阴凉、通风、干燥处；开袋后需冷藏保存，并尽快食用；如有胀包，请勿食用
用　　途：加入适量水，将本品放入锅中，待水煮沸后即可涮食各种菜品，搭配海底捞火锅蘸料食用，口味更佳
一料多用：本品亦可用于番茄烧牛腩的烹制

FIGURE 19: *Haidilao tomato hot pot soup base made from Xinjiang tomatoes. Screenshot from Yihai. (n.d.) Haidilao Recipes.* https://web.archive.org/web/20240515202655/http://www.yihchina.com/recipe/detail/239.html

6.4.8 Zhucheng Haotian ("Howtian")

Howtian sources stevia from Xinjiang. It has shipped stevia to Givaudan Flavors Corporation, Givaudan Fragrances Corporation, Pepsico India Holdings, and Nestle Lanka PLC.[693] In 2023, Howtian also sent at least 17 stevia shipments to Howtian LLC, its subsidiary in the US. Howtian also has a stevia brand named SoPure which is sold on Amazon (US). In April 2024 Howtian (US) sent one shipment of stevia extract to Pepsico India Holdings. In 2024, Zhucheng Haotian sent six shipments of stevia extract, totalling 3,576 kg, to Givaudan Flavors, and another three shipments of stevia extract (5,068 kg) to Givaudan Fragrances Corporation.[694] Both of these companies are US-based subsidiaries of a Swiss parent company.[695] In early 2024, Zhucheng Haotian sent three shipments of steviol glycoside (500kg) to Nestle Lanka PLC.

Howtian also supplies Coca Cola with inositol, a form of sugar found in human bodies that the company produces from corn. We have no evidence that Howtian's inositol is connected to Xinjiang.

7. Conclusions

This report has shown that agricultural products from Xinjiang are tainted by forced labor, coercive transfers of land-use rights from Uyghur peasants to large Chinese agribusinesses, and forced assimilation and political indoctrination of Uyghur laborers in these corporations. Especially since 2016, the Chinese state has enacted drastic measures to transform the region's agricultural sector to become increasingly industrialized, vertically integrated, and dominated by Chinese agribusinesses. Uyghur and other ethnic peasants are pressured to surrender the right to farm their land to large commercial operators and then coerced into wage labor, often in local processing bases run by these agribusinesses. Our findings show that these rights-violating policies are pervasive in scope and implicate a wide range of agricultural products including tomatoes, peppers, marigolds, and stevia.

The report has further demonstrated that several large Chinese agribusinesses not only benefit from forced labor transfers, forced agricultural production mandates and coercive land-use transfers. They are also directly implicated in aiding the state to coercive, indoctrinate and assimilate targeted ethnic groups. Agribusinesses are participating in state-mandated village-based work teams that penetrate deep into ethnic communities, enforce state policies, spy on individual households, and identify persons for re-education internment or coerced livelihood changes.

Even so, Xinjiang's agricultural products continue to taint global supply chains. They have been directly or indirectly linked to several major multinational corporations. Chinese companies have continued to export these products to Europe and the U.S., at times in direct violation of the UFLPA (Uyghur Forced Labor Prevention Act). Xinjiang's agricultural products often enter supply chains through intermediaries in other Asian countries, obfuscating their origin.

In response, all involved stakeholders need to take decisive steps:

- The European Union must act swiftly to effectively implement its new regulation prohibiting the sale, import, and export of goods made using forced labor.
- Policymakers in countries without effective legislation to ban the import of goods made with forced labor, such as Canada and the United Kingdom, need to enact laws that place a rebuttable presumption on imports of goods made in whole or in part from regions affected by state-imposed forced labor.
- The U.S. government should strengthen UFLPA implementation by including all agricultural products (not just tomatoes) as high-priority sectors for enforcement. The continued flow of agricultural goods originating in Xinjiang into the U.S. and other countries must be stopped.
- Large online shopping sites such as Alibaba must be required to enforce a strict policy of declaring product origins and of monitoring vendors for ties to Xinjiang.
- Companies that source these products and their derivatives from China should apply heightened

due diligence and closely scrutinize all suppliers down to the farm level. All suppliers should be required to fully disclose actual and potential supply chain links to Xinjiang.

- NGOs and activists should publicly challenge western companies with ties to Chinese companies implicated in rights abuses. This relates especially to companies with ongoing collaborative relationships, and entities that use Xinjiang-based agricultural goods for products sold anywhere in the world, including in China.

This report has shown that agricultural products from Xinjiang are **tainted by forced labor, coercive transfers of land-use rights** from Uyghur peasants to large Chinese agribusinesses, and forced assimilation and political indoctrination of Uyghur laborers.

APPENDIX A: Distinguishing Professional Associations from Peasant Cooperatives as Intermediaries of Agricultural Production

Both professional associations and peasant cooperatives are so-called peasant cooperative economic organizations established for the purpose of mutual aid and support, and are (in theory) self-governed by the member body.[696] Professional technical associations were the earliest forms of such entities, focused on propagating scientific and technological knowledge and providing services for its members.[697] Professional associations are therefore registered as social organizations with civil affairs departments, and do not engage in commercial operations.[698]

Peasant cooperatives, by contrast, are registered as corporate entities with commercial departments, and function as economic (business) entities. The relationship between members and the cooperative is based on joint property ownership and includes commercial activities such as joint procurement of agricultural inputs and sale of produce, involving a closer relationship between members. Typically, members of cooperatives engage in production of the same types of agricultural outputs.[699] Peasant professional cooperatives were generally established by smallholder peasants to collaborate in specific economic activities.[700] However, these cooperatives can also be created by leading enterprises or commercial farmers.[701]

In the context of state efforts to industrialize and commercialize agriculture, the distinctions between professional associations and peasant cooperatives have become less marked. Following implementation of the "Farmers' Professional Cooperatives Law" in 2006, several rural associations standardized their operations and developed in the direction of farmers' professional cooperatives, expanding their range of services to include agricultural processing, storage, transportation, and marketing.[702]

APPENDIX B: China's Evolving System of Land-Use Rights Transfer

Between 1962 and the 1980s, ownership and use of land was collectively controlled by production brigades.[703] In 1982, the CCP Central Committee issued document no.1 to institute the Household Contract Responsibility System, or simply Household Responsibility System (HRS), which replaced collective farming by allocating plots of land to individual households for partially independent agricultural production and sale.[704] Under the HRS, land ownership was separated from land use rights. Land came to be owned by the peasant collectives, and this ownership was exercised by RCEOs or similar entities, whereas use rights were contracted to households.[705] In 1986, the PRC "General Principles of Civil Law" formally codified "contracting rights" within the HRS, and adopted the Separation of Two Rights System that, based on the HRS, formally separated land ownership from contracting and land-use rights.[706]

The transfer of land-use rights to other entities was first approved at the policy level by the central government in 1984, when the Central Committee issued document no.1 on rural work. This document called for land-use rights to be gradually shifted away from smallholder subsistence farming and into the hands of larger specialized commercial operators.[707] In 2003, with enactment of the "Rural Land Control Contracting Law," Beijing began to standardize procedures for farmland transfers to legally protect farmers' contractual rights.[708] In 2014, the PRC then transitioned to the Separation of Three Rights System,

dividing rural land rights into three types: ownership right, contracting (transfer) right, and land-use right. The aim was to preserve peasants' contracting rights even when use rights had been transferred.[709] This system emerged from the intent to promote intensive large-scale land management, and stimulate long-term investment in land transfers by industrial and commercial entities.[710] It aimed to "guarantee the rights and powers of collective ownership and the farmers' practical contracting rights," enabling peasants to temporarily transfer land-use rights while retaining the ability to reclaim them by maintaining contracting rights.[711]

APPENDIX C: Harmonized System Codes and Terms for Chinese Tomato- and Pepper-Related Export Products

The tables below list Harmonized System (HS) codes and English and Chinese terms for the PRC's tomato- and pepper-related export products. English translations are from the Chinese government source.

HS Code	Commodities	Chinese
20021010	Prepared/preserved tomatoes, not by vinegar, whole/pieces, in airtight containers	番茄罐头
20021090	Prepared/preserved tomatoes not by vinegar, whole/pieces, nes	其他非醋方法制作或保藏的整个或切片番茄
20029011	Tomato paste, in airtight containers weighing not more than 5kg	番茄酱罐头重量≤5kg
20029019	Tomato paste, in airtight containers weighing more than 5kg	番茄酱罐头重量＞5kg
20029090	Prepared/preserved tomatoes, minced, not by vinegar, nes	其他非醋方法制作或保藏的绞碎番茄
7020000	Tomatoes, fresh or chilled	鲜或冷藏的番茄
21032000	Tomato ketchup & other tomato sauces	番茄沙司及其他番茄调味汁
20095000	Tomato juice	番茄汁
12099130	Tomato Seeds	番茄种子
07096000	Fruits of genus Capiscum or Pimenta, fresh or chilled	鲜或冷藏的辣椒属及多香果属的果实
09042200	Fruits of genus Capsicum/Pimenta, crushed or ground	已磨的辣椒
09042100	Dried fruits of genus Capsicum/Pimenta, not crushed/ground	未磨的辣椒干

TABLE 1: *HS Code of tomato and pepper products. Source: General Administration of Customs PRC.* http://stats.customs.gov.cn/indexEn

Xinjiang Export Commodities	Value (USD)	Quantity (kg)
Tomato paste, in airtight containers weighing more than 5kg	96.1%	97.4%
Prepared/preserved tomatoes, minced, not by vinegar	1.9%	0.5%
Tomato paste, in airtight containers weighing not more than 5kg	1.6%	1.4%
Tomatoes, fresh or chilled	0.4%	0.6%
Prepared/preserved tomatoes, not by vinegar,whole/pieces, in airtight containers	0.0%	0.0%
Tomato seeds	0.0%	0.0%

TABLE 7: *Xinjiang's tomato export commodities in 2023. Data from General Administration of Customs PRC.* http://stats.customs.gov.cn/indexEn

APPENDIX D: Supply Chain Evidence

List of all types of products implicated in forced labor and other rights abuses:

1. Tomato products:
   - Tomato paste
   - Tomato sauce
   - Knorr noodles (contain tomato flakes)
   - Tomato ketchup
   - Tomato powder
   - Tomato hot pot base
   - Concentrate tomato extract
   - Vitamin E oil
   - Tomato lycopene
2. Pepper products:
   - Vitamin E oil
   - Crushed and dried chili
   - Paprika oleoresin
   - Capsicum oleoresin
   - Spicy flavor hot pot seasoning
   - Lip make-up preparations
   - Eyeliner, eyebrow pencil
   - GlowWish Soft Radiance Vegan Bronzing Powder (not a direct Xinjiang connection)
3. Marigold products:
   - Lutein
   - Marigold oleoresin
4. Stevia
   - Stevia leaf extract
   - Steviol glycosides

Specific supply chain data:

TABLE 1: *Summary of supply chain evidence*

Supply Chains	End products	Evidence
COFCO Tunhe → Pepsico Holdings (Russia)	Tomato paste	An implicated Xinjiang company supplies Russia-based Pepsico Holdings
COFCO Tunhe → Unilever Pakistan Foods	Tomato paste	An implicated Xinjiang company supplies Unilever's Pakistan subsidiary
COFCO Tunhe → McCormick Philippines	Tomato paste	An implicated Xinjiang company supplies McCormick's Philippines subsidiary
COFCO Tunhe → Del Monte Philippines	Tomato paste	An implicated Xinjiang company supplies Del Monte Philippines
COFCO Tunhe → Nestle Vietnam, Panama, and Malaysia	Concentrated tomato extract, tomato powder, tomato paste	An implicated Xinjiang company supplies Nestle's subsidiaries in Vietnam, Panama, and Malaysia
COFCO Tunhe → Heinz subsidiaries (Russia, India, Egypt)	Tomato paste	An implicated Xinjiang company supplies Heinz's subsidiaries in Russia, India, and Egypt
COFCO Tunhe → Heinz Wattie's (NZ) → Mangals Meat (US)	Tomato sauce	An implicated Xinjiang company supplies Heinz Wattie's, which then supplies a US company
COFCO Tunhe → Unilever Pakistan → Best Food NJ, Famous Food Products (US)	Knorr noodles	An implicated Xinjiang company supplies Unilever's subsidiary in Pakistan, which then supplies a US company
COFCO Tunhe → Unilever Pakistan → Super Asia Food & Spices (Canada)	Knorr noodles	An implicated Xinjiang company supplies Unilever's subsidiary in Pakistan, which then supplies a Canadian company
COFCO Tunhe → Unilever Pakistan → Lajawab Foods (UK)	Knorr noodles, Knorr tomato ketchup	An implicated Xinjiang company supplies Unilever's subsidiary in Pakistan, which then supplies an UK company
COFCO Tunhe → Pepsico Holdings (Russia) → Krasnyi Oktyabr Inc (US)	Unconcentrated tomato juice	An implicated Xinjiang company supplies Russia-based Pepsico Holdings, which then supplies a US company
COFCO Tech Bioengineering Tianjin → Kemin Industries (US)	Natural Vitamin E Oil	An implicated Xinjiang company's sister company supplies a US company
COFCO Hebei International Trade → Five Goods (US)	Crushed chili, dried chili	An implicated Xinjiang company's sister company supplies a US company
Chenguang → Mane Kancor (India) → McCormick & Co. (US)	Oleoresin black pepper, paprika oleoresin	An implicated Xinjiang company supplies an India company, which supplies US-based McCormick & Co

Specific supply chain data (cont.):

Chenguang → Mane Kancor (India) → Nestle Lanka (Sri Lanka)	Capsicum oleoresin, aqua spice paprika, Color paprika oleoresin	An implicated Xinjiang company supplies an India company, which supplies Nestle's subsidiary in Sri Lanka
Chenguang → Mane Kancor (India) → Pacific Blends (Canada)	Paprika oleoresin	An implicated Xinjiang company supplies an India company, which supplies a Canadian company
Chenguang → Mane Kancor (India) → Mane (US)	Paprika oleoresin , Capsicum oleoresin	An implicated Xinjiang company supplies an India company, which supplies a US company
Chenguang → Synthite (India) → Unilever Lipton Ceylon (Sri Lanka)	Paprika Oleoresin	An implicated Xinjiang company supplies an India company, which supplies Unilever Lipton's subsidiary in Sri Lanka
Chenguang → IFF (US), Spicin Foods (US), Sensient Colors (US)	Paprika Oleoresin	An implicated Xinjiang company supplies US based companies
Chenguang → Chen Guang (US)	Marigold Oleoresin, tomato extract, grape seed extracts	An implicated Xinjiang company ships to its US subsidiary
Chenguang → Yihai (Shanghai) → Yihai (US)	Tomato flavor hot pot soup base, dried chili, spicy flavor hot pot seasoning	An implicated Xinjiang company supplies an Shanghai company, which ships to its US company
Chenguang → Bio-Gen Extracts (India) → Bollore → L'Oréal (US)	HS Code 3304 (cosmetic products, including makeup and skin care preparations)	An implicated Xinjiang company supplies an Indian company, which ships via a logistic company, which ships to L'Oréal US
Xinjiang Tianjiao → Akay (India) → Cosmelor (L'Oréal Japan branch) → L'Oréal (US)	Lip make-up preparations	An implicated Xinjiang company supplies an Indian company, which supplies L'Oréal's Japan branch, which ships to L'Oréal US
Xinjiang Tianjiao → Mane Kancor Ingredients (India) → McCormick & Co. (US)	Oleoresin black pepper, paprika oleoresin	An implicated Xinjiang company supplies an Indian company, which supplies McCormick & Co. in the US
Xinjiang Tianjiao → Akay (India) → Akay USA	Capsicum oleoresin, Capsifen (Blend of Capsicum Extract	An implicated Xinjiang company supplies an Indian company, which supplies Akay company based in the US
Xinjiang Tianjiao → Mane Kancor (India) → Nestle Lanka (Sri Lanka)	Capsicum oleoresin, aqua spice paprika, Color paprika oleoresin	An implicated Xinjiang company supplies an India company, which supplies Nestle's subsidiary in Sri Lanka
Xinjiang Tianjiao → Mane Kancor (India) → Pacific Blends (Canada)	Paprika oleoresin	An implicated Xinjiang company supplies an India company, which supplies a Canadian company
Xinjiang Tianjiao → Mane Kancor (India) → Mane (US)	Paprika oleoresin , capsicum oleoresin	Identified trade records of (1) Xinjiang Tianjiao to Mane Kancor, and (2) Mane Kancor to McCormick, Nestle, Pacific, Mane separately Both Xinjiang Tianjiao and Chenguang are suppliers to Mane Kancor Ingredients.
Guilin Layn → IFF (US)	Stevia leaf extract	A company sourcing from Xinjiang supplies an US company
Guilin Layn → Givaudan (US)	Stevia leaf extract	A company sourcing from Xinjiang supplies an US company
Guilin Layn → Layn USA (US)	Stevia leaf extract	A company sourcing from Xinjiang supplies an US company
Guilin Layn → MCP Foods (US)	Stevia leaf extract	A company sourcing from Xinjiang supplies an US company. Stevia, Guilin has cultivation base in XJ
Guilin Layn → Firmenich (Minnesota, California)	Steviol glycosides	A company sourcing from Xinjiang supplies US companies
Guilin Layn → Firmenich UK	Steviol glycosides	A company sourcing from Xinjiang supplies an UK company
Guannong → Yihai (Shanghai) → Yihai (US)	Tomato hot pot soup base	An implicated Xinjiang company supplies an Shanghai company, which ships to its US company. *Weak evidence
American Chalkis → Tradewinds Food (US)	Tomato paste	An implicated Xinjiang company supplies an US company
Hebei Tomato Industry → Monaco Foods (US)	Tomato paste	A company sourcing from Xinjiang supplies an US company
Hebei Tomato Industry → Golden Seeds (US)	Tomato paste	A company sourcing from Xinjiang supplies an US company
Hebei Tomato Industry → Toptropics (US)	Tomato paste	A company sourcing from Xinjiang supplies an US company
Neihuang Xinglong Agricultural Products → Taurus Spice (US)	Chili-related products	A company sourcing from Xinjiang supplies an US company
Neihuang Xinglong Agricultural Products → Jinlifu (US)	Chili	A company sourcing from Xinjiang supplies an US company
Neihuang Xinglong Agricultural Products → Rehan Spices (US)	Dry chili and chopped chili	A company sourcing from Xinjiang supplies an US company
Jinan Bright Sunshine Imp & Exp → Mythical Brands of North & South America (US)	Paprika powder	A company sourcing from Xinjiang supplies an US company
Qingdao Hairunfeng Foods → Harper Foods T/A Blind Salamande (US)	Ground paprika	A company sourcing from Xinjiang supplies an US company

TABLE 2: *Supply chain links between COFCO and subsidiaries of multinational and US markets*

Tier 2 supplier	Tier 1 supplier	Receiver	Products	Arrival Date[713]	Bill of lading/Shipment ID	Strength of evidence
Supply chain links between COFCO and Unilever subsidiaries and western markets						
COFCO Tunhe Tomato (Xinjiang) → Unilever Pakistan Foods						
n/a	COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Tomato paste	2023-8-25	{6EAA9C7D-46AA-40F4-BE51152D75C6DB7C}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
COFCO Tunhe Tomato (Xinjiang) → Unilever Pakistan Foods → US market						
COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Best Food NJ Inc. (US)	Knorr noodles	2023-4-2	MEDUPV682158	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Famous Food Products (US)	Knorr noodles	2023-4-13	MAEU225451362	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
COFCO Tunhe Tomato (Xinjiang) → Unilever Pakistan Foods → Super Asia Food & Spices Ltd (Canada)						
COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Super Asia Food & Spices Ltd (Canada)	Knorr noodles	2024-2-2	{22EF88D5-7B09-41CF-B87268A28B5E8A79}	Direct link: Canadian importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
COFCO Tunhe Tomato (Xinjiang) → Unilever Pakistan Foods → Lajawab Foods Limited (UK)						
COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Lajawab Foods Limited (UK)	Knorr noodles	2023-4-18	{F9551967-357A-4DE8-8D0E2F-78C31B8C62}	Direct link: UK importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Lajawab Foods Limited (UK)	Knorr Tomato ketchup	2023-2-7	{F0A5D74E-0740-4B48-B00700D-16D42E547}	Direct link: UK importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
COFCO Tunhe Tomato (Xinjiang)	Unilever Pakistan Foods	Lajawab Foods Limited (UK)	Knorr Tomato ketchup	2023-12-23	{C8EB6C7F-6E9C-49EE-BF8E75AC7297FC99}	Direct link: UK importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
Supply chain links between COFCO and McCormick						
n/a	COFCO Tunhe Tomato (Xinjiang)	McCormick Philippines	Tomato paste	2024-2-15	{86D32999-93AF-460F-B35389D-5C1C9E467}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
Supply chain links between COFCO and Del Monte						
n/a	COFCO Tunhe Tomato (Xinjiang)	Del Monte Phils Inc	Tomato paste	2023-10-19	{C3442BCC-050F-4E07-930E1A70073E8F6E}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
Supply chain links between COFCO and Nestlé						
n/a	COFCO Tunhe Tomato (Xinjiang)	Nestlé Vietnam Co. Ltd	Concentrated tomato extract	2023-3-30	{793FD53B-F45D-4FC0-B061B-C3ADF679C8A}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
n/a	COFCO Tunhe Tomato (Xinjiang)	Nestlé Panama S.A.	Tomato powder	2023-3-10	{91F5EE22-33F6-4D0F-84213F2F4597225F}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
n/a	COFCO Tunhe Tomato (Xinjiang)	Nestlé Panama S.A.	Tomato paste	2023-3-10	{84EE9FE4-C63F-4579-88DE50F41D0DBB00}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
n/a	COFCO Tunhe Tomato (Xinjiang)	Nestlé Products SDN BHD (Malaysia)	Tomato paste	2022-11-25	TS2NB0605900	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
Supply chain links between COFCO and PepsiCO						
n/a	COFCO Tunhe Tomato (Xinjiang)	PepsiCo Holdings LLC[714] (Russia)	Tomato paste	2023-11-21	{8EC9C2F6-AE5F-4B53-8273BB3EE7313AE2}	
COFCO Tunhe Tomato (Xinjiang)	PepsiCo Holdings (Russia)	Krasnyi Oktyabr Inc (US)	Unconcentrated tomato Juice	2023-12-5	{320B58B2-F0A9-4949-A6767E-87F46E1CB6}	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
Supply chain links between COFCO Tech Bioengineering Tianjin (China) and US markets						
n/a	COFCO Tech Bioengineering Tianjin	Kemin Industries (US)	Natural Vitamin E Oil	2024-5-9	CMDUTJN0360184	Implied: has risks due to COFCO associations and Xinjiang's market share of pepper.
Supply chain links between COFCO Hebei International Trade Co., Ltd. (China) and US markets						
n/a	COFCO Hebei International Trade Co., Ltd. (China)	Five Goods Inc. (US)	Crushed chili, dried chili, dried garlic flake, dried minced garlic...	2024-3-18	CMDUTJN0295817	Implied: has risks due to COFCO associations and Xinjiang's market share of pepper.
n/a	COFCO Hebei International Trade Co., Ltd. (China)	Five Goods Inc. (US)	Vinegar chili powder, crushed chili, preserved vegetable...	2022-8-6	ONEYTS2NC2059800	Implied: has risks due to COFCO associations and Xinjiang's market share of pepper.

TABLE 3: *Supply chain links of American Chalkis*

Tier 2 supplier	Tier 1 supplier	Receiver	Products	Arrival Date[715]	Bill of lading/ Shipment ID	Strength of evidence
Supply chain links between American Chalkis and US markets						
n/a	American Chalkis International Food	Tradewinds Food (US)	2023-7-4	Tomato paste	MSDU2907325	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
Supply chain links between Qingdao Ruby Zhongda Trade and American Chalkis						
n/a	Qingdao Ruby Zhongda Trade	American Chalkis International Food	2024-7-8	Paprika powder	EGLV140401298589	Direct link: an American subsidiary of an implicated Xinjiang-based company operates in the US

TABLE 4: *Supply chain links between Chenguang Biotech and US markets*

Tier 2 supplier	Tier 1 supplier	Receiver	Products	Arrival Date[712]	Bill of lading/Shipment ID	Strength of evidence
Supply chain links between Chenguang Biotech and US markets						
n/a	Chenguang Biotech Group	International Flavors & Fragrances (IFF) (US)	2022-8-6	Paprika Oleoresin	HLCUTS12204AUKT7	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
n/a	Chenguang Biotech Group	Spicin Foods Inc. (US)	2022-12-6	Paprika Oleoresin	SMLMTAYH2H456400	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
n/a	Chenguang Biotech Group	Sensient Colors LLC (US)	2023-1-27	Paprika Oleoresin	ONEYTS2TS0633800	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
n/a	Chenguang Biotech Group	Chen Guang Biotech Group Ltd (CA, US)	2023-5-12	Marigold Oleoresin, tomato extract, grape seed extracts	OOLU2717042390	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
n/a	Chenguang Biotech Group	Chen Guang Biotech Group Ltd (CA, US)	2023-3-6	Marigold Oleoresin, tomato extract, zeaxanthin powder, milk thistle extract, grape seed extract, marigold extract	EGLV142300216923	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
Supply chain evidence between IFF and global companies						
n/a	IFF (US)	Procter & Gamble (US)	2024-5-29	Fragrances	ONEYMEXE08064300	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.

TABLE 5: *Supply chain links between Chenguang Biotech, Indian corporations, and western multinationals and companies.*

Arrival Date	Product	Shipment Identifier	Kg	USD
Chenguang Biotech → Mane Kancor Ingredients (India)				
2023-1-7	Capsicum oleoresins	{D054484B-FDB9-4544-8FE552496E12A15D}		$41,3600
2023-1-7	Capsicum oleoresins	{DF55A31F-DA9E-4E5D-B09657C752DC098B}		$42,8160
2023-2-2	Capsicum oleoresins	{65F3A04B-127E-4D04-BF75C68EB76348D3}		$42,0640
2023-2-13	Capsicum oleoresins	{512665AE-BE0F-4356-946ED19791F4FAA5}		$41,9200
2023-2-24	Capsicum oleoresins	{4AE5E572-D1CC-4996-A396EB1C4E301D41}		$36,7040
2023-4-29	Capsicum oleoresins	{0D3F7FCC-CD28-4D9E-A913DA02EC92C68F}		$36,7168
2023-6-13	Capsicum oleoresins	{3A84993C-BB28-48D4-A9B7C06112A7B18E}		$36,7104
2023-7-22	Capsicum oleoresins	{3977C17B-A115-4568-BA0E6837BDDF7636}		$36,7104
2023-8-11	Capsicum oleoresins	{EA93E936-0F96-4613-B8DAF65CD79B4255}		$36,7104
2023-8-18	Capsicum oleoresins	{267DEB51-3E4F-4F83-9C1386B45D155206}		$36,7104
2023-9-6	Capsicum oleoresins	{7ACD940E-E011-4FC2-BE45E1D414991EBB}		$36,7104
2023-9-14	Capsicum oleoresins	{B893B1A8-8BF3-4EC4-9B3003CAC9399073}		$36,7104
2023-9-21	Capsicum oleoresins	{368CFE85-8589-413E-A3B7EB97EC9DCEF4}		$36,7104
2023-9-27	Capsicum oleoresins	{3C5382E5-9F03-49F8-BE2862BE74AE4592}		$36,7104
Chenguang Biotech → Avt Natural Products (India)				
2023-7-8	Paprika oleoresin	{1958B590-A542-400E-AF4D381648B9E36C}		$33,6730
2023-6-23	Paprika oleoresin	{FB9A5CC2-4842-4E7E-AAD4C8DCF7B2B6FD}		$18,6651
2023-6-23	Paprika oleoresin	{082ECEE8-100F-4320-892B40793BEC8AEA}		$27,9976
Mane Kancor Ingredients (India) → McCormick & Co. (US)				
2023-9-26	Oleoresin black pepper, paprika oleoresin	MEDUZW213652		
2023-11-29	Paprika oleoresin	MEDUUI646867		
2024-2-15	Paprika oleoresin	MEDUJ6476884		
2024-4-25	Paprika oleoresin	EXDO613486139		
2024-5-12	Paprika oleoresin, Capsicum oleoresin	MEDUJ7142055		
2024-5-22	Spices (HS codes 33019022: capsicum oleoresins)716	COSU6378233770		
2024-5-22	Capsicum oleoresin	MEDUJ7312062		
Avt Natural Products (India) → McCormick (UK)				
2023-12-28	Paprika oleoresin	MEDUJ6092285		
Mane Kancor Ingredients (India) → Mane Inc (US)				
2023-9-1	Capsicum oleoresin	CMDUCSN0184050	162 kg	
2023-12-31	Paprika oleoresin deodorized	ONEYCOKD05433800	829 kg	
2024-2-7	Paprika oleoresin	MEDUJ6641511	20,407 kg	
2024-5-25	Paprika oleoresin	MEDUJ6651007	18,331 kg	
2024-	Paprika oleoresins	HLCUEUR2406AOXT9	9,015 kg	
Mane Kancor Ingredients (India) → Pacific Blends Ltd. (Canada)				
2023-6-17	Paprika oleoresin	HLCUMA3230426955	4,150 kg	
Mane Kancor Ingredients (India) → Nestlé Lanka PLC (Sri Lanka)				
2023-12-12	Color paprika oleoresin	{BA079348-B33B-4716-A301EBD108508E04}	122.6 kg	$1,150
2023-12-6	Capsicum oleoresin, aqua spice paprika	{9C2BADF9-792A-4726-89C13D1EE5FA9BCF}	3.1 kg	$6
2024-1-17	Color paprika oleoresin	{868C8DD4-AAF7-4F70-8E4C2528FCFA002E}	122.6 kg	$1,150

Table 5 cont.

Arrival Date	Product	Shipment Identifier/BoL	Kg	USD
Chenguang Biotech (China) → Synthite (India)				
2023–7-2	Capsicum Oleoresin	{E97E4789-5726-4D14-8B8B0037D2912CE8}	n/a	$2,492,305
Synthite (India) → Synthite USA				
2024-2-12	Paprika oleoresin (re-fined)	DSVFMAA8106471	13,563 kg	n/a
Synthite (India) → Unilever Lipton Ceylon Ltd (Sri Lanka)				
2023-3-29	Paprika Oleoresin	{ABB786F0-AFE8-443A-B6B1E5B0D19DC270}	107.6 kg	$2,600
Synthite (India) → Givaudan Flavors Corporation (US)				
2023-3-29	Capsicum Oleoresin	MEDUIF422774	104 kg	n/a
2024-2-1	Capsicum oleoresin	BMLBHKOH23000130	377 kg	n/a
Synthite (Xinjiang) Biotech → PIASA (Mexico)				
2023-12-26	Paprika extraction oleoresins	{C5600313-2CFD-4153-A08133284AAB13A9}	3,359 kg	$69,180

TABLE 6: *Supply chain links between COFCO Tunhe and Heinz*

Tier 1 supplier	Tier 2 supplier	Receiver	Arrival Date	Prod-ucts	Shipment ID/BoL	Strength of evidence
COFCO Tunhe Tomato (Xinjiang) → Heinz Wattie's (New Zealand) → Mangals Meat (US)						
COFCO Tunhe Tomato (Xinjiang)	n/a	Heinz Wattie's Ltd (NZ)	2023-9-9	Tomato paste	23COHEF282I	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
Heinz Wattie's Ltd (NZ)	COFCO Tunhe Tomato (Xinjiang)	Mangals Meat Distribution (US)	2023-7-8	Tomato sauce	CCLLAKLS23038704	Direct link: U.S. importer receives shipments from a producer that uses an implicated Xinjiang-based company in their supply chain.
COFCO Tunhe Tomato (Xinjiang)	n/a	LLC "KraftHeinz Vostok" (Russia)	2023-11-22	Tomato paste	{83CCEE54-20B1-4980-BF51FD0204E523CF}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
COFCO Tunhe Tomato (Xinjiang)	n/a	Kraft Heinz India	2023-8-18	Tomato paste	{6772BB31-4E18-45B4-B91331F5FFF256E9}	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
COFCO Tunhe Tomato (Xinjiang)	n/a	Cairo Food Industries	2023-6-7	Tomato paste	6354037120	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.
COFCO Tunhe Tomato (Xinjiang)	n/a	PT. Heinz ABC Indonesia	2024-4-24	Tomato paste	683832651845	Direct: Subsidiary of a major multinational sourcing directly from an implicated company.

TABLE 7: *Supply chain links between Xinjiang and L'Oréal*

Date	Product	HS Code	Shipping ID
Chenguang Biotech → Akay Natural Ingredients (India)			
2024-1-13	Paprika oleoresin crude	3301.90.29	{795491D6-E704-4B23-B40D2CEBD6D072C6}
Xinjiang Tianjiao Hong'an Pigment → Akay Natural Ingredients (India)			
2024-2-26	Paprika oleoresin crude	3301.9	{0F056525-EAB5-4DBC-B15355DC151C921D}
Akay Natural Ingredients (India) → Cosmelor Ltd. (Japan)			
2024-1-16	Yuzu lemon extract	1302.19	{970DF737-AA6F-4F9D-ABE83E0BB1FF68E6}
Cosmelor Ltd. (Japan) → L'OReal USA Products Inc.			
2022.12.13	Lip make-up preparations	330410	EGLV020200422762
2023-7-1	Lip make-up preparations	330410	HLCUSEL230584624
2024-5-8	Cosmetics	330499	HDMUTYOM68140000

TABLE 8: *Supply chain links between Hebei Tomato Industry and US markets. Source: Importinfo, accessed 17 May 2024.*

Tier 2 supplier	Tier 1 supplier	Receiver	Arrival Date	Products	Bill of lading	Strength of evidence
Hebei Tomato Industry → US markets						
n/a	Hebei Tomato Industry	Monaco Foods Inc. (US)	2024-2-18	Tomato paste (Monaco Brand)	CMDUTJN0306908	Direct link: U.S. importer receives a shipment from a producer that sources tomatoes from Xinjiang.
n/a	Hebei Tomato Industry	Golden Seed LLC (US)	2023-10-30 2023-8-12 2023-5-2	Tomato paste	MAEU230731923 CMDUTJN0222635 MAEU225741998	Direct link: U.S. importer receives a shipment from a producer that sources tomatoes from Xinjiang.
n/a	Hebei Tomato Industry	Toptropics Ltd. (UK)	2022-10-29	Tomato paste	1KT667674	Direct link: UK importer receives a shipment from a producer that sources tomatoes from Xinjiang.

TABLE 9: *Shipments involving Xinjiang Tianjiao Hong'an Pigment, Akay Natural Ingredients, and Akay USA*

Arrival Date	Product	HS Code	Shipment Identifier
Xinjiang Tianjiao Hong'an Pigment → Akay Natural Ingredients (India)			
2023-4-8	Paprika oleoresin crude	3301.9	{6588206A-835F-4166-A03409E9F3DB6840}
2023-8-12			{DA3146C5-4D38-47C1-B13EE8D93B166610}
2023-10-6			{2F9CA072-EC5D-4764-A661EE2D41ECADEC}
2024-2-3			{1289B303-96F1-4E66-8CBE583533B56664}
2024-2-26			{0F056525-EAB5-4DBC-B15355DC151C921D}
Akay Natural Ingredients (India) → Akay USA LLC.			
2023-1-17	Capsifen (Blend of Capsicum Extract	1302.19	{D1C71970-1FAA-4D62-BD9A0BB436015357}[717]
2023-9-22	Capsicum oleoresin	3301.9	{DC2E5E8A-2D24-4583-A2C9FC3733D801D6}
2023-10-18	Paprika oleoresin	3301.9	{2293688E-4BA2-42C9-955B1BC4E236F59D}[718]
2023-11-4	Paprika oleoresin	3301.9	{AB25FD59-2B57-4818-A8F567A9F5CFF9BC}
2023-11-21	Paprika oleoresin	3301.9	{F6B607FB-8694-4B36-B4B5672BE95FDD9D}

TABLE 10: *Shipments from Xinjiang Tianjiao Hon'an to Mane Kancor*

Xinjiang Tianjiao Hong'an Pigment → Mane Kancor Ingredients Private Ltd (India)				
Arrival Date	**Product**	**HS Code**	**Shipment Identifier**	**USD**
2023-4-25	Capsicum Oleoresins	3301.9.22	{17C2487A-28B0-4B4F-83F384E61FC9686B}	449,120
2023-5-5	Capsicum Oleoresins	3301.9.22	{09D9FDDA-177E-435E-B9B5B10C6C74DD9B}	449,760
2023-5-26	Capsicum Oleoresins	3301.9.22	{12B0550C-0D0C-4BAE-917257CCB1F99F4C}	453,920
2023-7-8	Capsicum Oleoresins	3301.9.22	{4F5A1E88-912A-4737-A7176499B097714F}	452,960
2023-7-28	Capsicum Oleoresins	3301.9.22	{A49595B5-1028-41D6-B9CF4A31F7D346AA}	458,720
2023-7-31	Capsicum Oleoresins	3301.9.22	{64FBCEFD-8164-4EEF-BF63CBE1A861A523}	456,320
2023-9-1	Capsicum Oleoresins	3301.9.22	{5ACE66DA-181E-4C74-B808D9A13A1BAE18}	458,880
2023-11-1	Capsicum Oleoresins	3301.9.22	{7234CA15-EB4C-44EF-9697E02CBCBDA80F}	492,640
2023-11-10	Capsicum Oleoresins	3301.9.22	{A5FA77C5-B690-498D-B2851BE825E712EA}	511,040
2023-12-15	Capsicum Oleoresins	3301.9.22	{1C2D5882-071A-49FA-A98002F2568B2C98}	771,360
2024-1-20	Capsicum Oleoresins	3301.9.22	{56FFE379-D3DB-49B0-AA793177D3D02AC3}	477,920
2024-2-3	Capsicum Oleoresins	3301.9.22	{EF173A2F-11F0-4562-BDF853BC954E5345}	475,200
2024-2-27	Capsicum Oleoresins	3301.9.22	{28DC499D-8FC0-4095-832ABDB43EA50650}	479,520

TABLE 11: *Supply chain of Layn (China). Source: Importinfo, accessed 26 July 2024; Sayari Graph, May 2024.*

Tier 2 supplier	Tier 1 supplier	Receiver	Arrival Date	Products	BoL/ Shipping ID	Strength of evidence
Layn (China) → US companies						
Xinjiang farmers in production base	Layn (China)	IFF Inc. (US)	2024-5-18	Stevia leaf extract	WHLC025E569660	Direct link: U.S. importer receives a shipment from a producer that sources stevia grown in Xinjiang.
Xinjiang farmers in production base	Layn (China)	Givaudan Flavors Corporation (US)	2024-1-8	Stevia leaf extract	EGLV142302842546	Direct link: U.S. importer receives a shipment from a producer that sources stevia grown in Xinjiang.
Xinjiang farmers in production base	Layn (China)	Layn USA	2023-1-13	Stevia leaf extract	OOLU8892613090	Direct link: U.S. importer receives a shipment from a producer that sources stevia grown in Xinjiang.
Xinjiang farmers in production base	Layn (China)	MCP Foods DBA Firmenich Inc.	2023-6-15	Stevia leaf extract	COSU6356821180	Direct link: U.S. importer receives a shipment from a producer that sources stevia grown in Xinjiang.
Xinjiang farmers in production base	Layn (China)	Firmenich (California)	2022-2-2	Steviol glycosides	YMLUW236646689	Direct link: US-based company receives a shipment from a producer that sources stevia grown in Xinjiang
Xinjiang farmers in production base	Layn (China)	Firmenich (California)	2022-2-27	Steviol glycosides	EGLV142104950112	Direct link: US-based company receives a shipment from a producer that sources stevia grown in Xinjiang
Xinjiang farmers in production base	Layn (China)	Firmenich (Minnesota)	2023-5-18	Steviol glycosides	ONEYHKGD32499300	Direct link: US-based company receives a shipment from a producer that sources stevia grown in Xinjiang
Layn (China) → Firmenich Aromatics Production (India) → US, UK						
Xinjiang farmers in production base	Layn (China)	Firmenich Aromatics Production (India)	2023-8-16	Steviol glycosides	{1E92522A-FCFE-426F-936ACB5580D983D3}	Direct link: Indian company receives a shipment from a producer that sources stevia grown in Xinjiang
Layn (China)	Firmenich Aromatics Production (India)	Firmenich UK	2024-1-15	Steviol glycosides	{91950C4B-7FEE-4666-8E341DB35B588CCE}	Direct link: Indian company receives a shipment from a producer that sources stevia grown in Xinjiang

TABLE 12: *Supply chain links between Chenguang Biotech, Guannong, and Yihai (Haidilao). Source: Sayari Graph, accessed 2024 May.*

Tier 2 supplier	Tier 1 supplier	Receiver	Arrival Date	Products	Bill of lading (master)	Strength of evidence
Chenguang Biotech → Yihai (Shanghai) → Yihai (US)						
Chenguang Biotech Group Co., Ltd.	Yihai (Shanghai) Food CO., Ltd	Yihai (US) Food Inc. (California)	2024-2-21	Tomato flavor hot pot soup base, dried chili, spicy flavor hot pot seasoning	EGLV142400533611	Direct link: U.S. importer receives shipments from a producer that uses Xinjiang tomatoes.
COFCO → Yihai (US)						
n/a	COFCO Tunhe Tomato	Yihai (US) Food Inc. (California)	2020-3-23	Tomato paste, tomato ketchup	APLUSHWW013375	Direct link: U.S. importer receives shipments from a producer that uses Xinjiang tomatoes.
n/a	COFCO Tunhe Tomato	Yihai (US) Food Inc. (California)	2020-2-3	Tomato paste, tomato ketchup	APLUSHWW013144	Direct link: U.S. importer receives shipments from a producer that uses Xinjiang tomatoes.
Guannong → Yihai (Shanghai) → Yihai (US)						
Guannong (potential)	Yihai (Zhengzhou) Food Co., Ltd.	Yihai (US) Food Inc. (California)	2022-5-26	Tomato flavor hot pot seasoning	WHLC025C596035	Direct link: U.S. importer receives shipments from a producer that uses Xinjiang tomatoes.

APPENDIX E: Subsidiaries of COFCO Sugar

COFCO Sugar subsidiaries	Location	Business
COFCO Tunhe Tomato Co., Ltd. 中粮屯河番茄有限公司	Changji City, Changji Prefecture, Xinjiang	Its main business is the processing and sales of tomatoes and other fruit and vegetable products.[719] The company owns 12 tomato processing plants with an annual production capacity of 300,000 tons of large-packaged tomato paste, 5,000 tons of tomato powder, 10 tons of tomato oleoresin, 15,000 tons of chili paste, and 3,500 tons of concentrated apricot pulp.
COFCO Tunhe Manas Tomato Products Co., Ltd. 中粮屯河玛纳斯番茄制品有限公司	Manas County, Changji Prefecture, Xinjiang	Tomato processing, manufacturing and sales of tomato products, and processing and sales of other agricultural and sideline products (including peppers, and except grain and cotton).
COFCO Tunhe Emin Tomato Products Co., Ltd. 中粮屯河额敏番茄制品有限公司	Emin County, Tacheng Prefecture, Xinjiang	The main business is the production and processing of large-packaged tomato paste[720]. The daily processing capacity is 3,000 tons of fresh tomatoes, with an annual processing scale of 130,000-150,000 tons of tomatoes. The main product is cold-break 36%-38% tomato paste. The packaging specifications are 200-liter drums and 1,000-liter boxes, primarily exported to Europe, the CIS, and Southeast Asian countries.
COFCO Tunhe Wushi Fruits and Vegetables Products Co., Ltd. 中粮屯河乌什果蔬制品有限公司	Wushi County, Aksu Prefecture, Xinjiang	Fruit and vegetable processing; manufacturing and sales of tomato products and other agricultural and sideline products.
COFCO Tunhe Jimsar Tomato Products Co., Ltd. 中粮屯河吉木萨尔番茄制品有限公司	Jimsar County, Changji Prefecture, Xinjiang	Tomato processing, tomato product manufacturing; production and sales of canned food, canned fruits and vegetables
COFCO Tunhe Yanqi Tomato Products Co., Ltd. 中粮屯河焉耆番茄制品有限公司	Yanqi County, Bayingol Prefecture, Xinjiang	Sales of agricultural and sideline products, including tomatoes and peppers
COFCO Tunhe Wusu Tomato Products Co., Ltd. 中粮屯河乌苏番茄制品有限公司	Wusu City, Tacheng Prefecture, Xinjiang	Tomato processing, tomato product manufacturing; the processing of agricultural and sideline products; the processing and sales of preserved and roasted food, nut products, and fruit products.
COFCO Tunhe Chanji Tomato Products Co., Ltd. 中粮屯河昌吉番茄制品有限公司	Changji City, Changji Prefecture, Xinjiang	Production and sales of canned food (canned fruits and vegetables); wholesale and retail of prepackaged food (excluding dairy products); sales of unprocessed dried fruits, feed, fruit tea, fresh fruits, cosmetics, health products, sugar, rice, noodles, cereals, Wine, tea, meat products, chocolate, textiles; preprocessing and packaging of fruits and dried fruit products.
COFCO Xinjiang Tunhe Tomato Processing Engineering Technology Research Center (Co., Ltd). 中粮新疆屯河加工番茄工程技术研究中心（有限公司）	Changji City, Changji Prefecture, Xinjiang	Tomato processing engineering technology, R&D of new tomato varieties; R&D of new food technologies and new products, technical services such as food safety, soil, pesticides, veterinary drugs and environmental testing
COFCO Seed Industry Co., Ltd. 中粮屯河种业有限公司	Changji City, Changji Prefecture, Xinjiang	Seed industry company focused on research and development.

TABLE 1: *Subsidiaries of COFCO Sugar. Source: COFCO Sugar annual reports, Sayari Graph (accessed 2024, May 30).*

APPENDIX F: Raw Tomato Production Volume

(1,000 tons)	Xinjiang Statistical Yearbooks	智研咨询 (2021)	李凯 (2018)
2015	n/a	n/a	9,108
2016	n/a	9,180	8,418
2017	7,925.4	7,925	n/a
2018	n/a	7,920	n/a
2019	4,781.9	8,047	n/a
2020	5,869.8	8,242	n/a
2021	n/a	n/a	n/a
2022	n/a	n/a	n/a
2023	n/a	n/a	n/a

TABLE 1: *Raw Tomato Production Volume from Different Sources.* 李凯&谭丹, 2018, p.65; 新疆统计年鉴 *(Xinjiang Statistical Yearbooks) 2019 (Table 12-20), 2020 (Table 12-26); 2021 (Table 12-20);* 智研咨询 *(2021) computes the figures based on FAO China's production statistics.*

APPENDIX G: Select Company Responses to Requests for Comment

PLEASE NOTE THAT besides the information presented in this report, we could not independently verify the veracity of the claims made by companies in their replies.

Response from Del Monte Pacific Limited, received by email on November 12, 2024:

Del Monte Pacific Limited ("DMPL") and its affiliated companies, which include Del Monte Philippines, Inc., (the "Company", and with DMPL and its affiliated companies, the "Group") prohibit the practice of forced labor, child labor (under 18 years of age), and other forms of exploitation of workers as stated in the DMPL Code of Business Ethics and the Philippine Labor Code.

The Group's suppliers undergo a rigorous qualification process, which include a review of their documents and certificates, and a qualification audit. Furthermore, suppliers must adhere to the Group's Supplier Code of Conduct, which mandates respect for human rights and compliance with labor practices. Suppliers are forbidden from using forced, bonded, prison, or indentured labor of any kind, and child labor.

With regard to COFCO Tunhe Tomato Co., Ltd, each of the COFCO Tunhe Tomato manufacturers that supply to the Company, have certified that their factories and tomato farms do not employ any forced labor, and have made available their respective 2024 Sedex Members Ethical Trade Audit (SMETA) Reports in support of such statement. SMETA is a globally recognized audit methodology that assesses a company's ethical and responsible business practices. The SMETA audit is designed to help protect workers from unsafe conditions, overwork, discrimination, low pay, and forced labor. We trust that we have satisfactorily addressed your concerns.

Response from Antonio Petti Fu Pasquale, received by email on November 13, 2024:

1. Since 2020, no tomato concentrate has been purchased from XINJIANG GUANNONG Co Ltd., following U.S. regulations prohibiting commercial transactions with companies or entities suspected of human rights violations.
2. Antonio PETTI FU PASQUALE has regularly purchased tomato concentrate from "BAZHOU RED FRUIT" based on the company's declaration of compliance with labor rights standards. No transaction or related payment have been suspended, blocked, or interrupted by U.S. financial authorities, where banking transactions were processed, further confirming the regularity of these commercial relations. It should be pointed out that all imported goods are subject to inspections and verifications by the Italian Customs and Health Authorities, with duties collected in accordance with European Community regulations.
3. In light of recent media attention on suspected human rights violations by other companies in China, Antonio PETTI FU PASQUALE has determined to suspend any further commercial negotiation with China.

Response from McCormick, received by email on November 15, 2024:

Thank you for contacting me on this issue. McCormick has a strict policy that prohibits the use of forced labor of any kind within our supply chain (https://www.mccormickcorporation.com/en/responsibility/governance-and-approach/governance-and-reporting/global-supplier-code-of-conduct).

We are looking further into this matter and will contact McCormick Philippines directly.

Response from L'Oréal USA, received by email on November 15, 2024:

After a thorough internal analysis, please find below our response to the five points you've raised.

Point #1: Our investigation found that L'Oréal USA has several indirect supply chain relationships with Chenguang Biotech and Xinjiang Tianjiao Hon'an Pigment that potentially involve pepper-based extracts, indicating a risk that some of its products may contain ingredients from Xinjiang implicated in Uyghur forced labor and related rights abuses. Chenguang Biotech is located in Xinjiang and has supported and participated in coercive state policies, including labor transfer, land transfer, transforming thoughts, conducting party-building activities, and surveillance activities.

Answer: To our knowledge, L'Oréal USA is not sourcing capsicum extract from Chenguang Biotech, Xinjiang Tianjiao Hon'an Pigment, Bio-Gen Extracts, nor Akay Natural Ingredients. While our analysis has not revealed a relationship between L'Oréal USA and the named organizations regarding the specific concerns raised, we remain committed to transparency and responsible sourcing.

Point #2: Trade records show that L'Oréal USA received cosmetic products from Bollore Logistics, including makeup and skincare preparations. Bollore Logistics received these products from Bio-Gen Extracts, which is supplied by Chenguang Biotech.

Answer: As stated above, to our knowledge, L'Oréal USA has never received shipments from either Bio-Gen Extracts or Chenguang Biotech.

Point #3: L'Oréal Paris' Skincare Pure Sugar Face Scrub, sold on Amazon, includes capsicum annuum extracts as an ingredient.

Point #4: L'Oréal Paris' Pure Sugar Lip Scrub also contains capsicum annuum extract.

Answer: The production of these two products was discontinued several years ago.

Point #5: Shipment data shows that Xinjiang Tianjiao Hon'an ships paprika oleoresin to Akay Natural Ingredients, which supplies Cosmelor Ltd (Japan), a L'Oréal Group subsidiary that in turn supplies L'Oréal USA and L'Oréal Canada.

Answer: We have no record that either Xinjiang Tianjiao Hon'an or Akay Natural Ingredients are supplying L'Oréal USA with capsicum annuum extract/paprika oleoresin.

Response from Kraft Heinz Company, received by email on November 19, 2024:

We are continuing to review the information you have shared with us. Your questions are all historical in nature, and while we continue our research, we can confirm that today, we use COFCO-supplied tomato products only in our China and Central Asia operations and nowhere else globally. In particular, your question related to Heinz Wattie's implies that COFCO-supplied ingredients were shipped to the United States. This is not the case.

We take this topic seriously and hold our suppliers to industry best practices and internationally recognized standards. Those standards include the United Nations Guiding Principles on Business and Human Rights, the International Bill of Human Rights, and the principles set forth in the International Labor Organization's Declaration on Fundamental Principles and Rights at Work.

We monitor compliance across our entire supply chain through respected third-party bodies like Sedex, EcoVadis and LRQA. When an issue is flagged, we use this information to resolve it as quickly as we can.

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Endnotes

1. This report uses the term "peasants" for rural households engaged primarily in subsistence agriculture, and "farmers" to refer to those engaged in commercial agriculture, involving production at larger scale and in more industrialized forms, often producing higher-value crops for sale in non-local markets. Cf. Zhang (2012).
2. Day (2024); Luo, Andreas & Li (2016); Luo & Andreas (2020); Zhang (2012)
3. Uyghurs prefer to refer to the region as "East Turkestan" or as the "Uyghur homeland." This report uses the Chinese colonial term "Xinjiang" because of its administrative-political use in Chinese policy documents that constitute the primary evidence basis used in the report.
4. Zenz (2024a)
5. ILO (2024); Zenz (2024b).
6. Zenz (2023d).
7. See section 3.2.3.
8. Zenz (2023a), (2023c).
9. 中粮 (2020, August 28). 中粮扶贫先锋系列十一 | 西部脱贫攻坚一线传来声声"亚克西". 新浪财经. https://web.archive.org/web/20230908164542/https://finance.sina.cn/2020-08-28/detail-iivhvpwy3626308.d.html?cre=wappage&-mod=r&loc=4&r=0&rfunc=30&tj=wap_news_relate
10. Zenz (2024c).
11. See https://www.xinjiangpolicefiles.org/ and Zenz (2022a, 2022b).
12. Xinjiang Documentation Project (n.d.) *Blogging Fanhuiji: State Surveillance, Propaganda Work, and Coerced Gratitude.* https://xinjiang.sppga.ubc.ca/chinese-sources/online-sources/bloggingfanghuiju/; Zenz (2023d).
13. Seymour & Anderson (1999); Cliff (2009); Roberts (2020).
14. U.S. Treasury (2020).
15. 李晓霞 (2021). 新疆地区人口变动情况分析报告. *Xinjiang Health Commission*, January 7; Zenz (2021c).
16. Zenz (2021c).
17. Zenz (2021a).
18. Branthôme (2022, October 26). *US ban has limited effects on Chinese exports of tomato products.* Tomato News. https://web.archive.org/web/20230928045332/https://www.tomatonews.com/en/us-ban-has-limited-effects-on-chinese-exports-of-tomato-products_2_1805.html; WPTC (2023, October 31). *WPTC crop update as of 26 October 2023.* https://www.wptc.to/wptc-crop-update-as-of-26-october-2023/; 崔巍平 et al. (2022). 新疆辣椒产业发展现状及对策. 农村经济学, 13, p.195.
19. Capsicum oleoresin is synonyms for oleoresin capsicum. Paprika oleoresin is synonyms for oleoresin paprika.
20. 新疆冠农果茸股份有限公司. (2021, November 12). https://web.archive.org/web/20220320045858/http://www.moa.gov.cn/ztzl/xxhsfjd/sfjdfc/scx/202111/t20211112_6382018.htm
21. Cockayne (2022), p.81.
22. The testing was performed by Australian company Source Certain using Trace Element Analysis (TEA), which can give an indication as to where a product has come from. TEA quantifies trace levels of chemical elements present in a physical product sample. These elements are absorbed into products from the surrounding environment. The combination of these elements is unique to their origin. While the results of TEA are not definitive, they are highly indicative of the country of origin. The BBC's 69 samples were of tomato paste purchased in the UK, Germany, USA and China. Source Certain tested additional samples from six countries, including Italy and China. The testing was performed between April and August 2024.
23. See sections 6.2.2 and 6.3.4.
24. See https://www.sedex.com/solutions/smeta-audit/ and https://www.ethicaltrade.org/eti-base-code. Compare Del Monte's Sustainability Report at https://freshdelmonte.com/wp-content/uploads/2024/10/2023SustainabilityReport_v13_FINAL_DOWNLOADABLE.pdf.
25. See for example https://www.cecc.gov/media-center/press-releases/the-unreliability-of-social-compliance-audits-to-uncover-forced-labor, https://enduyghurforcedlabour.org/coalition-calls-on-industry-to-cease-audits-in-uyghur-region/,

https://uhrp.org/statement/social-audits-fail-to-identify-state-imposed-forced-labour/, and https://www.wsj.com/articles/china-closes-u-s-auditor-as-tensions-mount-over-forced-labor-allegations-11629390253.

26. See for example https://www.bsigroup.com/globalassets/localfiles/en-za/pdf/smeta-6.0-bpg.pdf and https://content.qima.com/rs/944-QDO-384/images/QIMA%20Sample%20SMETA%204%20Pillar%20Report.pdf. Compare Zenz (2024d).
27. Zenz (2024d).
28. ILO (2024); see a detailed review of this update in Zenz (2024b).
29. See https://table.media/en/china/opinion/vw-audit-a-moral-and-methodological-declaration-of-bankruptcy/.
30. Zenz (2018), (2019).
31. Zenz (2023c).
32. Zenz (2021b), (2022a).
33. Heilmann (2017), p. 313.
34. 肖长东&羊中太 (2023). 农业龙头企业与农户利益联结关系的模式与问题分析. 农业发展, 12. 18-21; He, Z. (2011). Comparison of the Three Cooperative Types of Agricultural Technology Popularization Based on the Industrialization of Tomato Industry in Xinjiang Autonomous Region. *Asian Agricultural Research*, *3*(1), 11-67; 何振. (2010). 新疆番茄产业化过程中的合作模式变迁探析. 安徽农业科学. 38(14); Zhang. (2012); 林秋平&李元辉. (2104). 新疆农产品加工企业与农户利益联结模式的研究. 农村经济与科技, 25(9); 祝宏辉 &陈勇. (2007). 新疆订单农业实践中公司与农户合作类型之比较—以番茄产业为例. 新疆农垦经济, 5, 32-35. 曾妮妮, et al. (2016). 新疆番茄供应链融资模式研究. 北方园艺, 6, 200-204; 余国新&刘维忠. (2010). 新疆贫困地区产业化扶贫模式与对策选择. 江西农业学报, 22(7), 161-163.
35. Ch: 订单型模式.
36. Ch: 中间型 Intermediary model.
37. Ch: Village committees 村委会; cooperative economic organizations 农业合作经济组织; peasant cooperatives 农民(专业)合作社; large ("big") households 大户.
38. Ch:车间型 workshop-based model; 基地 production base.
39. Ch: 生产基地.
40. E.g. 何振 (2010).
41. Note that approaches involving intermediaries have also been described as "order-based", e.g. 曾妮妮 et al. (2016); He. (2010); 余国新&张建红 (2011); 余国新&刘维忠 (2010), p.163.
42. 何振 (2010), p.7584.
43. 肖长东&羊中太 (2023). 农业龙头企业与农户利益联结关系的模式与问题分析. 农业经济, 12, 18-21.
44. XUAR Government (1996, 2001, 2006, 2011, 2016, 2021). Five-Year Plan.
45. Yan & Chen (2015), p.377.
46. 刘冬梅 et al. (2010). 合作社与农技协政策比较. 中国农民合作社, 2, 49-50.
47. 林秋平&李元辉. (2104). p. 64; Yan & Chen. (2015), p.379.
48. 郑有贵. (2008). 正确认识农民专业合作社与相关组织的联系与区别. 农村经营管理, 9, 9-12; 卜应露, et al. (2021). 安徽省农村专业技术协会转型升级路径研究. 云南农业大学学报, 15(*4*), 125-131. Professional associations can also be formed by companies as entities, where peasants become members who then share in part of the company's profits and losses based on a given metric, such as the amount of produce they sell to the company (林秋平&李元辉 (2104). p.64). Associations can establish economic entities that in turn may also be referred to as an "association," and form part of integrated production models, linking peasant households with companies and production bases by combining production, marketing and trade. For example, in 2019 in Anhui province, 43 percent of rural (peasant) associations were controlled by large operators, usually so-called leading or dragonhead enterprises, 26 percent by larger local commercial farmers, and only 31 percent were classified as being guided by grassroots entities. 大众网. (2006, November 23). 发展农技协是科协服务新农村建设的具体实践. 中华人民共和国农业农村部, https://web.archive.org/web/20240226072320/http://www.moa.gov.cn/ztzl/hzsf/200611/t20061123_726622.htm; 应露, et al. (2021).
49. See sections 4 and 5.
50. 国家统计局新疆调查总队. (2014). 新疆农民合作组织发展之研究; 王勇&倪国华. (2022). 构建新型农业经营体系的"六联"模式探索. 宁夏社会科学, 2(232), p.135-136.; 殷浩栋. (2016). 产业扶贫：从"输血"到"造血". *Agriculture Economics*, p.28; Yan and Chen. (2015), p.381; 邢悦 et al. (2022). 吉木萨尔县农地流转

意愿及其影响因素分析. 农村经济与科技, 33(5), 55-58.

51. Ch: 股份[合作]制 Shareholding [cooperative] system.

52. Liu et al. (2022); 何振 (2010).

53. Industry-based poverty alleviation was first directly mentioned in the PRC's 2011-2020 Rural Poverty Alleviation and Development Outline. See 国务院. (2001, June 13). 国务院关于印发中国农村扶贫开发纲要（2001—2010年）的通知. https://web.archive.org/web/20240221171626/https://www.gov.cn/zhengce/content/2016-09/23/content_5111138.htm; 林万龙 et al. (2018). 产业扶贫的主要模式、实践困境与解决对策——基于河南、湖南、湖北、广西四省区若干贫困县的调研总结. 经济纵横, 7, 102-108.

54. Yingjisha County Poverty Alleviation and Development Office (2015). 2015英吉沙县农村扶贫开发“十三五” 专项规划(2016-2020年); State Council. (2001, September 23). 国务院关于印发中国农村扶贫开发纲要(2001—2010年)的通知; https://web.archive.org/web/20240221171626/https://www.gov.cn/zhengce/content/2016-09/23/content_5111138.htm.

55. Ch: 土地流转.

56. Ch: 土地整合.

57. Ch: 农民集体.

58. PRC State Council (2016). 中共中央办公厅 国务院办公厅印发《关于完善农村土地所有权承包权经营权分置办法的意见》.https://web.archive.org/web/20230607192323/https://www.gov.cn/xinwen/2016-10/30/content_5126200.htm.

59. 三权分置 include 所有权, 承包权, 经营权 or 使用权.

60. The PRC Property Law stipulates that the rural land “owned by the collective of farmers of a village, the collective economic organization of the village or the villagers' committee shall exercise the right of ownership on behalf of the collective.” From PRC Property Law 2007, Article 60. https://web.archive.org/web/20230508063347/http://www.npc.gov.cn/zgrdw/englishnpc/Law/2009-02/20/content_1471118.htm

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235. Notes: The world and China's production figures are retrieved from FAO Stat, and are the combination of two items: (1) Dry and raw chillies and peppers (Capsicum spp., Pimenta spp.), and (2) green

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Chapter,perfumery%2C%20cosmetic%20or%20toilet%20preparations.

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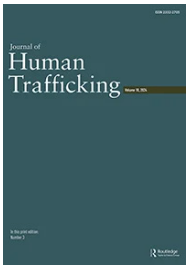

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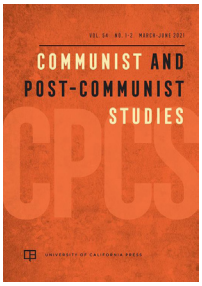

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Dr. Adrian Zenz is Senior Fellow and Director in China Studies at the Victims of Communism Memorial Foundation. His research focus is on China's ethnic policy, Beijing's campaign of mass internment, securitization and forced labor in Xinjiang, and public recruitment and coercive poverty alleviation in Tibet and Xinjiang. Dr. Zenz is the author of Tibetanness under Threat. He has played a leading role in the analysis of leaked Chinese government documents, including the "China Cables," the "Karakax List," the "Xinjiang Papers," and the "Xinjiang Police Files."

Dr. Zenz has provided expert testimony to the governments of Germany, France, the United Kingdom, Canada, and the United States. After publication of his research on forced labor in cotton picking, the U.S. government banned the import of goods made with cotton from Xinjiang. His congressional testimony on forced labor in October 2019 provided the basis for the Uyghur Forced Labor Prevention Act (UFLPA).

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I-Lin Lin is a Research Associate in China Studies at the Victims of Communism Memorial Foundation. Her work focuses on policy analysis and supply chain mapping. Ms. Lin earned a Master of Public Administration from American University, specializing in public management, science policy, and organizational analysis. She completed her bachelor's degree in political science at National Taiwan University.

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