



Forced labour in US food supply chains

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2 **Forced labour in US food supply chains**

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4 **A risk assessment of land-based food supply in the United States reveals a high risk of forced**
5 **labour in domestic production and processing.**

6

7 Forced labour risk in food supply chains remains a pervasive global concern despite ongoing efforts to
8 address the issue. Forced labor refers to situations where individuals are coerced or compelled to work
9 under exploitative conditions, often through threats, violence, or debt bondage¹. This exploitation is
10 prevalent in food supply chains where vulnerable workers such as migrants, seasonal workers and
11 marginalised communities are particularly susceptible to labour abuses². Labour intensive activities
12 such as farming, harvesting and processing are prone to labour abuses due to high demand, low wages
13 and a lack of transparency. Further, complex and fragmented food supply chains encompass various
14 stages from production through to distribution and are equally susceptible to forced labour risks.
15 Although low-income countries are often in the spotlight due to their high prevalence of forced labour,
16 higher income countries are also intrinsically connected through their demand of imported products –
17 and are often overlooked despite forced labour also being embedded in local supply chains.

18 The global legislative landscape is rapidly evolving and includes international trade sanctions and
19 human rights due diligence legislation. The US has for example introduced import bans to control
20 products with forced labour from reaching their markets³ and the European Parliament has recently
21 voted for new corporate due diligence legislation⁴, strengthening human rights and justice for victims⁵.
22 Although there is currently insufficient data and limited research to understand the long-term
23 effectiveness of import bans in stopping forced labour in supply chains⁶, increased public awareness
24 and advocacy have led to greater scrutiny in food supply chains.

25 In this issue of Nature Food, Blackstone and colleagues⁷ combine data on production, trade, labour
26 intensity, and qualitative risk coding to quantitatively assess the risk of forced labour embedded in foods
27 consumed in the US. This builds on their previous research investigating the risk of forced labor in the
28 US fruit and vegetable supply⁸. In their latest work, the authors contribute to thought leadership in a
29 growing stream of supply chain research, whilst helping to inform business and policy decision making.
30 Their findings demonstrate the high prevalence of forced labor risk present in US food supply and
31 highlight the need for high income countries to take decisive action to eliminate their reliance on labour
32 exploitation.

33 Blackstone and colleagues⁷ found animal-based proteins, processed fruits and vegetables, and
34 discretionary foods to be major contributors to forced labor risk. Additionally, 62% of total forced
35 labour risk originated from domestic production or processing, and high levels of risk were associated
36 with meat products produced in the US. The authors have also helped to provide a visual representation
37 of complex, large volumes of data; to achieve this, they discussed risk by country through multiple
38 supply chain stages for individual commodities. Principles derived from social life-cycle assessment
39 (S-LCA) were applied to data on production, trade and labor intensity combined with investigative
40 journalism, government, NGO and literature sources to triangulate risk.

41 Blackstone and colleagues⁷ have provided a good breakdown of the different risks, highlighting
42 geographic and commodity blind spots in supply chains by providing analysis of different food
43 categories. This shed light on how risk flows through multiple supply chain stages and countries of
44 origin to final product consumption in the US. The three primary product categories identified as having

45 a high risk of forced labour were meat, poultry and eggs (28%), other products such as sweeteners,
46 beverages, chocolate and cocoa (23%), and processed fruit and vegetables (18%).

47 Whilst there is a common assumption that most of the forced labour risk for high-income countries stems
48 from importing goods rather than from domestic supply chains, the findings reveal that more than half
49 of forced labour risk in US consumption can be attributed to domestic production or processing. This
50 substantial proportion of domestic risk is due to the US producing a large share of its consumed good.
51 Additionally, there exists a systemic and longstanding risk within food-related labour, as high-income
52 countries such as the US have a dependence on low-income vulnerable migrant workers. China and
53 Mexico emerged as the second and third highest contributors to forced labor risk in the US food supply,
54 accounting for 14% and 8% of total risk, respectively. Apple juice concentrate was responsible for the
55 largest proportion of China's risk contribution (76%) and in the case of Mexico, most of the risk
56 associated with imports was found in unprocessed fruits and vegetables, accounting for 58% of the
57 forced labor risk. This risk was linked to products such as avocados, tomatoes, chillies, and peppers.

58 Overall, findings of the US food supply revealed risk in a broader range of food products compared to
59 what is typically acknowledged in the literature, discussed in the media or by NGOs, included in
60 government indices, or used by social responsibility initiatives. Blackstone and colleagues⁷ provide an
61 opportunity for the scientific community to build on this research and further investigate novel data sets
62 to assess supply chain risk. Since this study does not include seafood, future research could investigate
63 this other high-risk sector, as the authors have highlighted both the increasing consumption for health
64 benefits and the similar characteristics to agriculture (e.g., labour intensive and migrant workforce).
65 Future research is also encouraged that explores additional stages of the supply chain, such as
66 transportation and waste management, to provide a true cradle to grave perspective. The drivers of
67 forced labour in supply chains are complex, rendering assessments of the impact of laws and regulations
68 needed as the legislative landscape continues to change to protect workers' rights.

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99 **Competing interests**

100 The author declares no conflict of interest.